



TSX-V: HELI  
OTCQB: FHELF  
FRA: 2MC

# DEVELOPING ALBERTA'S HELIUM-ENRICHED NATURAL GAS PLAY

JULY 2024

CORPORATE PRESENTATION

# CAUTIONARY NOTES & FORWARD LOOKING STATEMENTS

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## **Forward looking statements and cautionary notes**

This presentation contains "forward-looking information" within the meaning of the Canadian securities laws. Statements, other than statements of historical fact, may constitute forward-looking information and include, without limitation, statements about: anticipated timing and content of upcoming work programs, anticipated production timelines and cashflow, forecasted revenues, possibility of payment of dividends, future helium prices, geological interpretations, receipt of property titles, potential helium targets, potential helium recovery processes, additional drill locations, and presence of and potential relating to other commodities; anticipated dates for receipt of permits, approvals and other milestones; anticipated results of drilling programs, feasibility studies and other analyses; anticipated availability and terms of future financing; future production, operating and capital costs, operating or financial performance, completion of detailed Worsley facility engineering and design, and terms and completion of future financings. Information concerning potential contingent helium resource estimates also may be deemed to be forward-looking information.

With respect to the forward-looking information contained in this presentation, the Company has made numerous assumptions including, without limitation, that the geological, engineering, financial and economic advice that the Company has received is reliable, and is based upon practices and methodologies which are consistent with industry standards. While the Company considers these assumptions to be reasonable, these assumptions are inherently subject to significant uncertainties and contingencies. Additionally, there are known and unknown risk factors which could cause the Company's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information contained herein. Known risk factors include, among others: fluctuations in commodity prices and currency exchange rates; uncertainties relating to interpretation of drill results, production tests and the geology, continuity and quality of petroleum and helium bearing reservoirs; uncertainty relating to the acquisition of future helium targets; uncertainty of estimates of capital and operating costs, recovery rates, production estimates and estimated economic return; the need for co-operation of government agencies in the exploration and development of properties and the issuance of required permits; the need to obtain additional financing to develop properties and uncertainty as to the availability and terms of future financing; the possibility of delay in exploration or development programs or in construction projects and uncertainty of meeting anticipated program milestones; uncertainty as to timely availability of permits and other governmental approvals; increased costs and restrictions on operations due to compliance with environmental and other requirements; increased costs affecting the gas industry; increased competition in the gas industry for properties, qualified personnel and management; and Covid-19 related costs. To the extent any forward-looking information in this presentation constitutes "future oriented financial information" or "financial outlooks" within the meaning of the applicable securities laws, the purpose of such information being provided is to demonstrate the potential of First Helium and investors are cautioned that this information may not be appropriate for any other purpose. All forward-looking information herein is qualified in its entirety by this cautionary statement, and the Company disclaims any obligation to revise or update any such forward-looking information or to publicly announce the result of any revisions to any of the forward-looking information contained herein to reflect future results, events or developments, except as required by law.

# INVESTMENT HIGHLIGHTS



## Helium – The Indispensable Critical Mineral

- Steady Growth in Demand – Companies such as Google, Amazon, SpaceX, Samsung, NVIDIA, and Intel rely on it
- Price Increased by over 50% in last 3 years<sup>1</sup>
- Market demand forecasted to grow 300% by 2030<sup>2</sup>
- US, largest global producer, expected to become net importer in next 3 – 5 years<sup>3</sup>
- Irreplaceable in key applications, must explore for it



## High Quality Property Package – One of the Better Plays

- Exposure to Helium, Natural Gas, and Oil revenue streams – mitigates risk, enhances value
- Large Drill Target Inventory, become meaningful Helium supplier
- Large Resource, initial discovery independently evaluated by Sproule
- Indicative Cash Netbacks 3 – 4x that of typical Canadian natural gas producer



## Catalyst Rich

- Numerous drill targets to test
- Lower cost horizontal well test sets up large scale repeatable natural gas/helium play
- Second low cost well test potentially expands repeatable play
- Drill test of large structure identified on new 3D seismic data



## Opportunity

- Investment in First Helium alongside Management and Key Investors

Source: 1. AKAP Energy Ltd., 2. Skyquest Technology Consulting Pvt. Ltd., 3. U.S. Geological Survey (USGS).

# WHY HELIUM?

## GLOBAL DEMAND

6 bcf/year

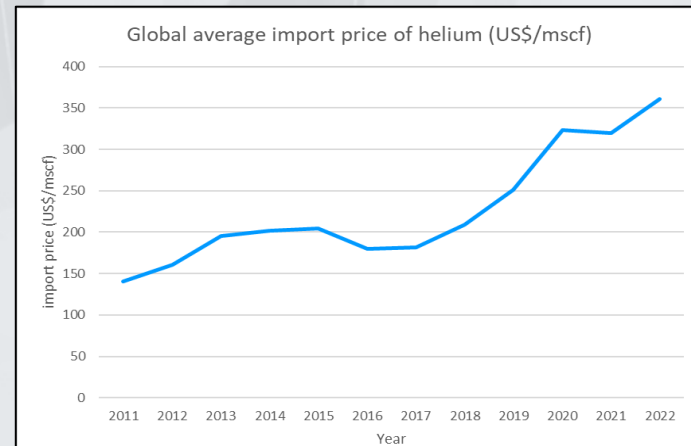
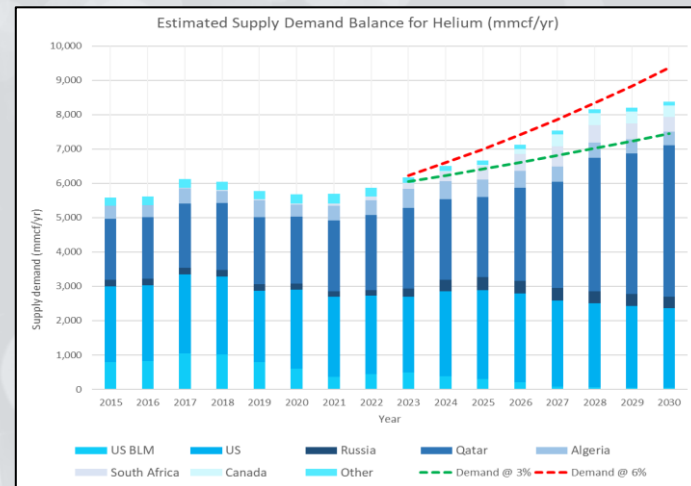
**Global Helium Market to Grow 300% by 2030**  
**\$3.94 Billion (2021) - \$13.26 Billion (2030) \$US<sup>1</sup>**

### Global Market Prices for Helium have Increased!

- **Global Helium Import Prices have grown over 53% from ~\$US 310 per mcf in January 2020 to over \$US 476 per mcf YTD from November 2023<sup>2</sup>**

### Inelastic Demand Growth

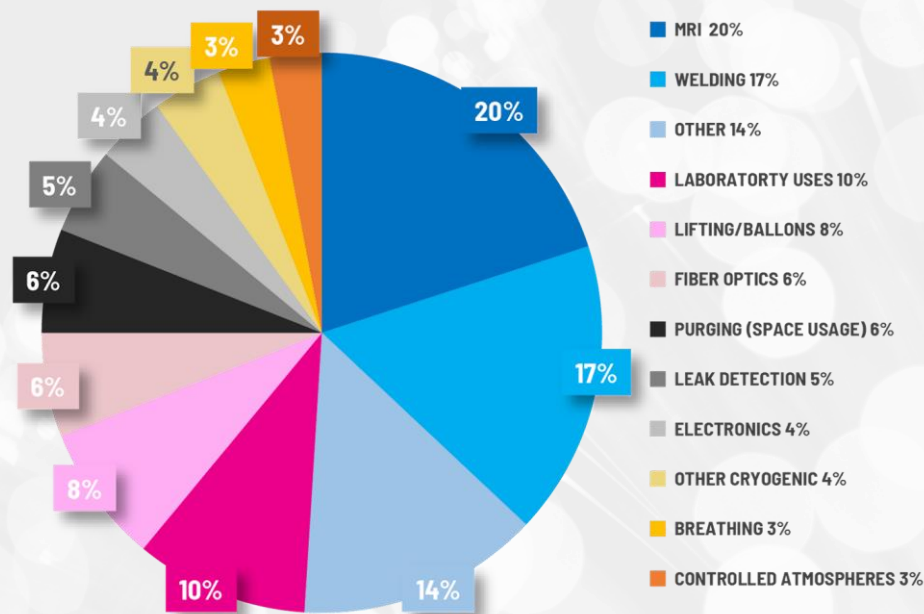
- **Growth Drivers: Semiconductor Manufacturing, Space & Defense, Life Sciences & Technology, and Cryogenics**



Source: Akap Energy Ltd.<sup>2</sup>

# MARKET FUNDAMENTALS

## HELIUM DEMAND USES



SOURCES: [Edison Investment Research \(February 2019\)](#)/ [Kornbluth Consulting](#)

amazon  
Google



NETFLIX  
facebook

Big technology companies like Amazon, Google, Facebook, NVIDIA and Netflix all depend on this one gas to keep their servers up and running around the clock. Helium has everyday applications in the tech and medical industries as well as space travel and national security.

- Critical gas for manufacturing cars, high-speed internet cables, phones, tablets and computers
- Required in health sector to cool magnets in MRI machines
- Needed for space exploration
- Identified as one of a limited number of minerals crucial to United States national security

SOURCE: [artsci.wustl.edu](#)

# HELIUM MARKET OPPORTUNITY – SUPPLY ISSUES

## GLOBAL – helium supply issues and geopolitical uncertainty

- Qatar, Algeria and Russia are major suppliers<sup>3</sup>
- Russia Amur Plant start-up issues and war related trade sanctions have delayed new supply<sup>2</sup>
- Ongoing regional supply disruptions and flow of helium to market will continue to create uncertainty<sup>2</sup>

## USA – shortfall in helium supply expected

- Final Auction from U.S. Strategic Reserve (Aug 2018)<sup>4</sup> elevates uncertainty as supply depletes
- US demand is growing, concerns that US is becoming a net importer of helium and may have to consider protectionist policies<sup>1</sup>

## Canada – huge opportunity to grow helium industry to meet North American Demand

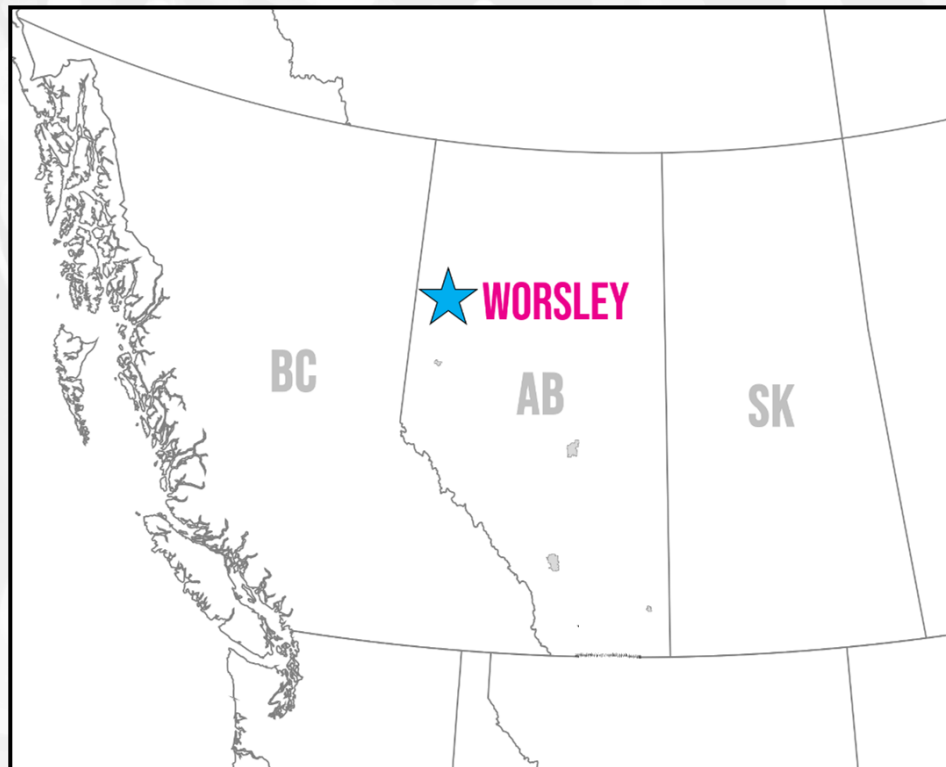
- 5th Largest Global Prospective Resource<sup>1</sup>, but < 2% of annual global production<sup>4</sup>
- Logistically well positioned to serve North American market
- Government of Canada named Helium a **Critical Mineral, strategic to Canada's transition to a sustainable future**
- **With US supply depleting, opportunity to fulfil growing Continental market demand**

Source: 1. USGS | 2. Kornbluth Helium Consulting | 3. U.S. Geological Survey (USGS), Mineral Commodity Summaries, January 2022 | 4. Statista Research



# HIGH QUALITY PROPERTY PACKAGE

- **53,000 Acres (~94 Sq. Miles) Core Project, 100%-Owned**
- **Large helium resource, independently evaluated**
- **Multi-zone drilling for helium, natural gas & oil – mitigates risk**
- **Large inventory of drilling locations**



## Units Referred to Throughout Document

mcf = thousand cubic feet of gas  
mmcf = million cubic feet of gas  
bcf = billion cubic feet of gas

bbl = barrel of oil  
\$M = thousands of dollars  
\$MM = millions of dollars

# PROJECT HIGHLIGHTS



## READY HELIUM RESOURCE – WITH VALUE ENHANCING NATURAL GAS

- Vertical Helium Discovery Well (“15-25”) is ready to be brought into production, helium and natural gas.
- Horizontal Helium Target Well (“5-27”) ready to complete & test for helium and natural gas.



## HIGHLY SCALEABLE – TWO ZONES

- Large drilling inventory on existing land base.
- 12 follow-up vertical drill targets, including one large feature opportunity, provide for substantial growth. Targeting \$100 MM revenue in 3-5 years.
- Successful testing of 5-27 in new zone adds 30+ horizontal drill locations, additional growth.



## STRONG OFFTAKE AGREEMENT | 10-Year take-or-pay helium offtake sales agreement.



## HELIUM CASH FLOW IN SIGHT | Securing helium plant financing to build plant & provide cash flow for growth.

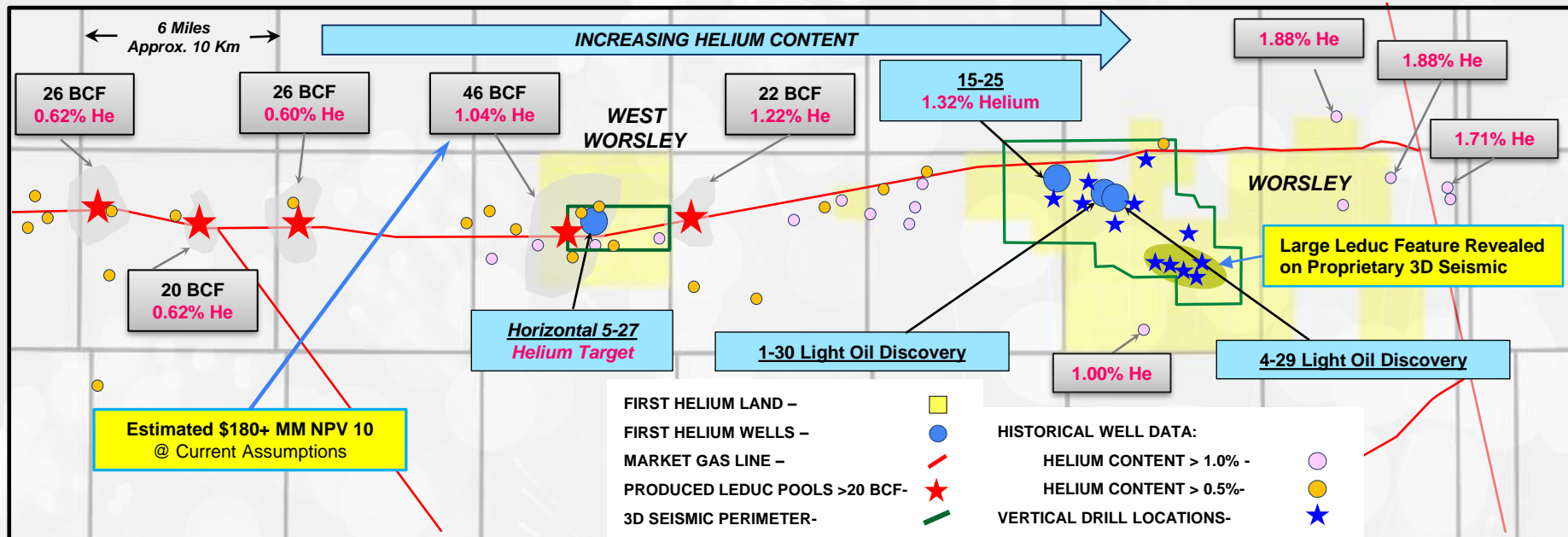


## OIL DRILLING SUCCESS ON LANDBASE | 100% on 2 wells, additional oil drilling locations provide potential for immediate ongoing cash flow.

- ***Drilling of Vertical Inventory alone provides for potential revenue of over \$100 MM annually (~\$70 MM in annual cash flow) in 3 - 5 years!***
- ***E&P gas-weighted companies with annual cash flow \$50MM+ per year trade at 4 – 6x cash flow.<sup>2</sup>***



# FIRST MOVER – NORTHERN ALBERTA HELIUM NATURAL GAS PLAY



## 12 Highly Prospective Locations

- Multi-zone Helium, Oil & Gas
- Large feature opportunity identified on 3D seismic data

## 53,000 Core Acres - 100% Owned

- Area produced 315 Bcf gas & 17 mmbbl's of oil – eg. Shell, Suncor
- Well understood geology reduces exploration risk

## Reduced Risk with Abundant Data

- Area has produced over 1 Bcf of helium, not recovered
- First Helium 100% Drilling Success using 3D Seismic

# ECONOMICS OF THE “15-25” HELIUM WELL – TEMPLATE FOR GROWTH

\$ Canadian Unless Otherwise Shown

**Why We Like Helium Enriched Gas: ~ 3 - 4x the cash flow of a typical natural gas well !!**

CURRENT HELIUM MARKET			Natural Gas Producers <sup>1</sup> (No Helium)
Helium Price \$C / mcf	\$600	\$700	
Revenue per mcf of Produced Gas <sup>2</sup>	\$10.89	\$12.15	
Cash Netback per mcf of Produced Gas <sup>2</sup>	\$7.33	\$8.15	
			\$3.75
			\$2.26

**Flat Production Profile of 10+ Years Helps Fund Future Growth from Cash Flow**

## Assumptions

- On-stream production target Q4 - 2024, includes natural gas and natural gas liquids
- Well will be Produced at 2 mmcf/d Raw Gas with Flat Decline for >10 Years per independent evaluation<sup>3</sup>
- Natural Gas Pricing \$4.64 per mmbtu, based on Sproule August 2022 Price Forecast
- Note 1: Peyto Exploration Development Corp., Birchcliff Energy Ltd., Advantage Energy Ltd., Q1/2024, Unhedged Pricing per mcf. Note 2: Management Calculation, Company Helium, Natural Gas and NGL's Production at Indicated Gas Producer Pricing. 3. See First Helium's SEDAR profile at [www.sedar.com](http://www.sedar.com) for further information.

# WORSLEY PROJECT AREA SCALABILITY - **INDICATIVE ECONOMICS**

<b>Project Scale</b>	<b>One Vertical Well (Existing "15-25")</b>	<b>Ten Well Vertical Drill "Leduc" Project<sup>2</sup></b>	<b>West Worsley Repeatable Drill "Blue Ridge" Project<sup>2</sup></b>	<b>Total Project Vertical + Horizontal</b>
<b>Helium Price</b> (\$C / mcf)	<b>\$600</b>	<b>\$600</b>	<b>\$600</b>	<b>\$600</b>
<b>Total Drilling Costs<sup>1</sup></b> (\$MM)	n/a	\$33.0	\$45.4	\$78.4
<b>Total Revenue / Year</b> (\$MM)	\$8.6	\$88.4	\$95.3	\$183.7
<b>Total Project Level Cash Flow / Year</b> (\$MM)	<b>\$3.0</b>	<b>\$73.1</b>	<b>\$77.4</b>	<b>\$150.5</b>
<b>Total Before Tax NPV 10%</b> (\$MM)	\$18.1	\$500.5	\$239.4	\$739.9
<b>Construction Capital to Install 3rd Party Processing Facility<sup>3</sup></b> (\$MM)	\$9.0	\$56.0 <sup>4</sup>	\$58.5 <sup>4</sup>	\$114.5 <sup>4</sup>

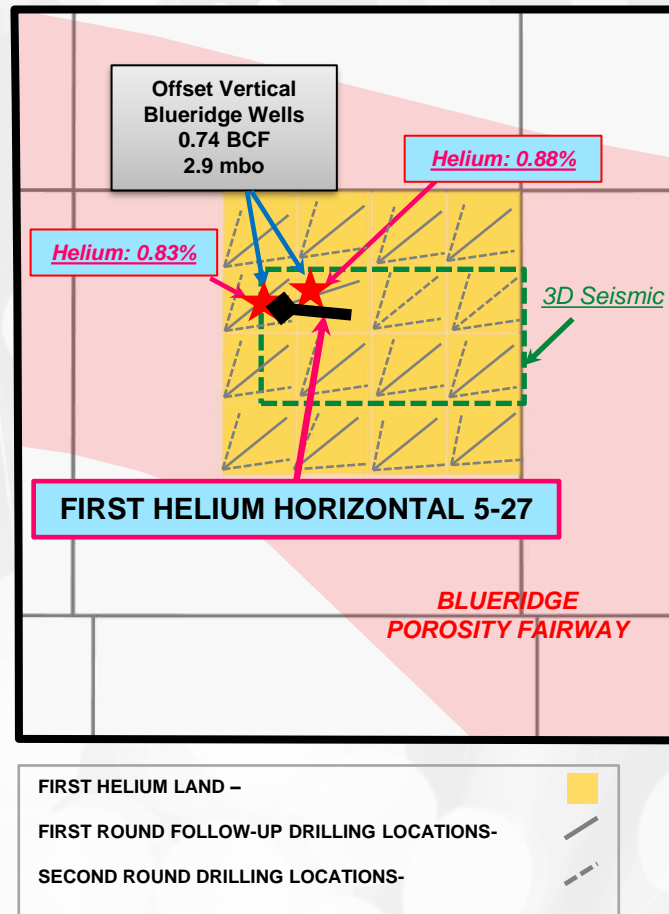
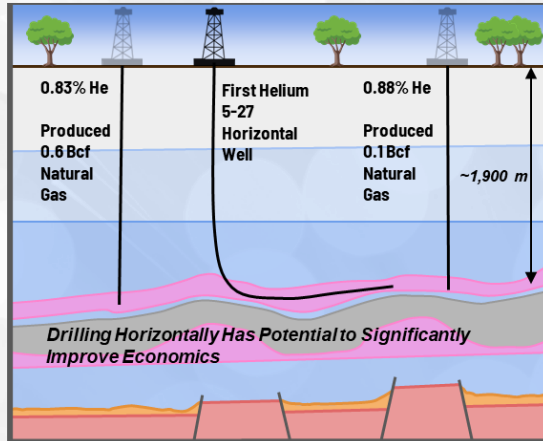
**Notes:**

1. Includes Drilling, Completion, Equipping and Tie-in.
2. Assumes no additional land acquired
3. Build Facility, additional \$7mm Capex for \$16mm total, increase single well cash flow to ~\$5mm/year.
4. Estimates assume Company Builds, Owns, and Operates vs 3<sup>rd</sup> Party processing.

# West Worsley Development Scenario

- Successful Completion & Testing of Existing Horizontal 5-27 Well Initiates West Worsley Development of Helium Enriched Natural Gas Play
- West Worsley “Upside” Revenue Estimate ~ \$90 - \$100 MM per year
- Potential Upside Development: 14 Primary Locations and 17 Follow-up’s

**PROJECT SCALE**  
**AT PEAK**  
**PRODUCTION, FULL**  
**DEVELOPMENT OF**  
**PROJECT WOULD**  
**REPRESENT ~40-50%**  
**OF CURRENT TOTAL**  
**CANADIAN DAILY**  
**HELIUM PRODUCTION**



# PATH FORWARD

June 2024

## Current

### **Project & Inventory**

- 1 Vertical Helium Well Ready to Produce<sup>1</sup>
- 1 Horizontal Helium Well Ready to Complete & Test (New Zone)
- 1 Vertical Drill Test on Large Structure Identified on 3D Seismic
- 12 Vertical Drill Locations
- 31 Potential Horizontal Well Locations
- Located on 53,000 Acres, 100% Owned

Q3-'24

## Equity Financing

### **Prove Repeatable Drilling Concept**

- Complete and test Hz Well
- Re-enter and test New Zone in 2<sup>nd</sup> Well
- Drill New Significant 3D Seismic Feature
- Potential for significant helium resource expansion
- Evaluate Large Scale Development Partners

Q4/'24 – Q3/'25+

## Facility Financing

### **Build Helium Processing Facility**

- Generate project level cash flow \$3 - 5 MM per year
- Continue Horizontal drilling play development
- Begin drilling 12 Vertical Locations

2025 - 2028+

## Target (3-5 Years)

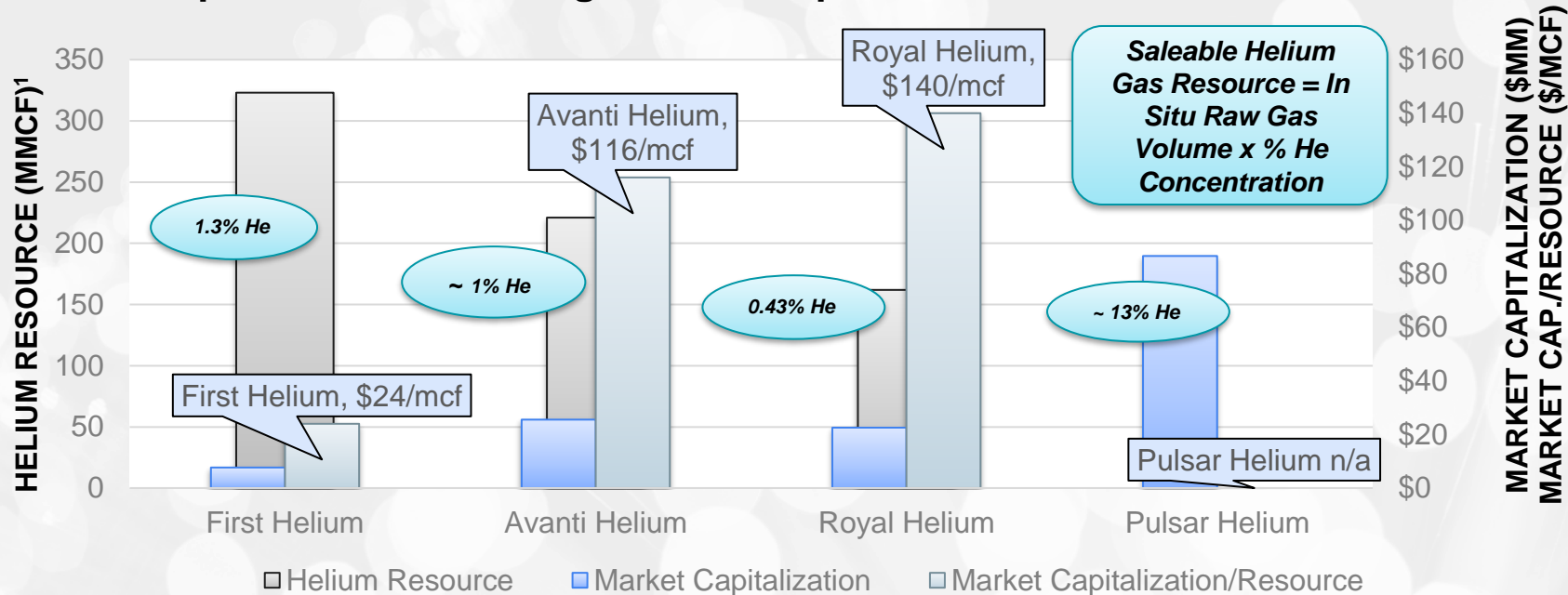
### **Established Helium Producer Positioned for Growth**

- Horizontal Regional Play in production
- Initial Vertical well and additional locations in production
- \$100+ MM in Revenues

# HELIUM PEER GROUP COMPARISON HIGHLIGHTS

*As "HELI" nears helium production, peer comparison suggests potential for 5 - 6x growth in Enterprise Value.*

## Implied Helium Trading Value Comparison - \$/mcf He Resource

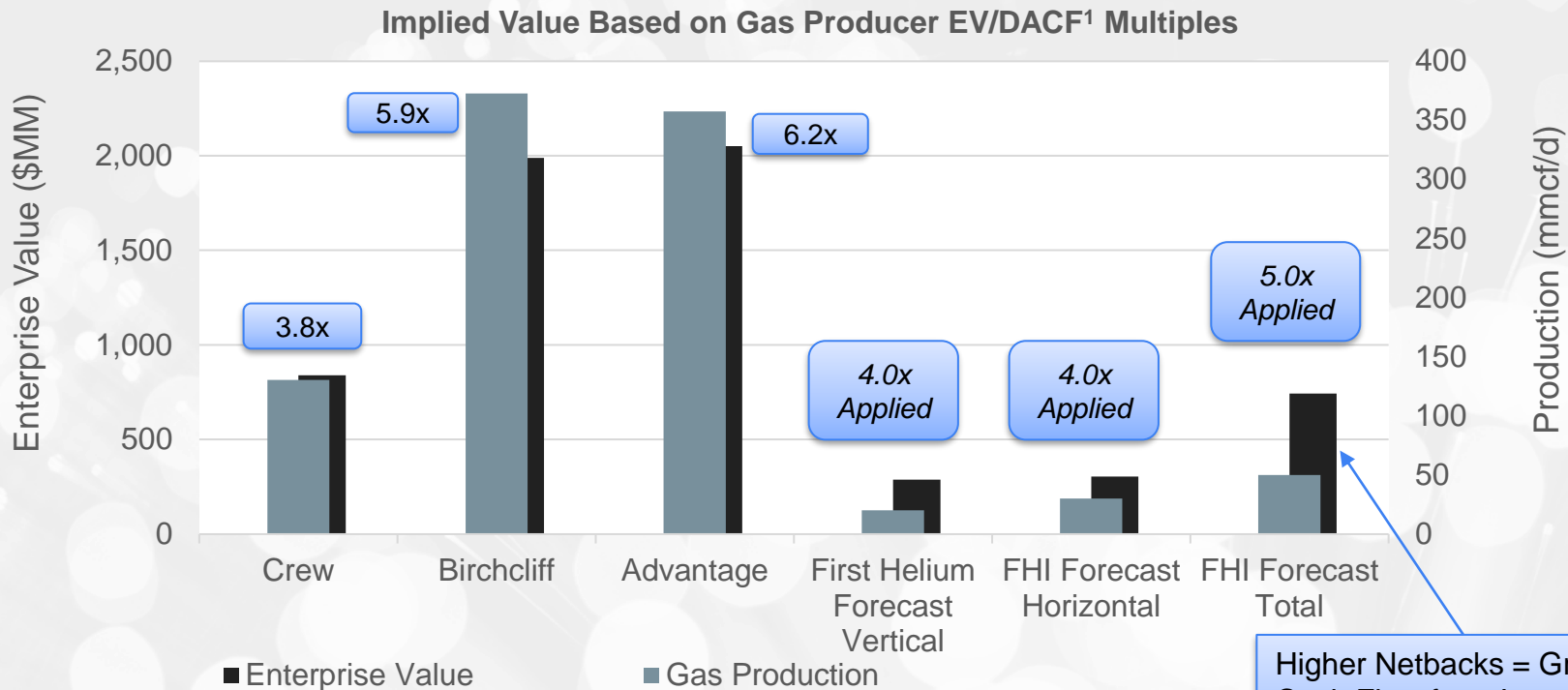


*Note: 1. Based on publicly disclosed independent resource evaluation, "Best Estimate, Un-risked Contingent Resource Estimate".*



# GAS WEIGHTED PRODUCERS COMPARISON

*Oil & Gas Producer Trading Multiples Reflect Well on HELI's Project Forecasts*



Note: 1. "EV/DACF": Enterprise Value/ Debt-Adjusted Cash Flow Multiple

# NEXT STEPS | 12 Months

## Immediate Activities



- Complete and Test Hz Well to add potential helium production and establish repeatable play.
- Complete second well to extend play.
- Drill new Leduc 3D seismic feature.



Secure Financing, Select Facility Fabricator, and Order Equipment.



Construct Facility and Commence Helium Production.

## Next Activities



Proceed with Development of Potential Regional Play in New Zone



Position for Further Leduc Exploration Drilling at Worsley 12 Locations



Evaluate Potential Partnership/Acquisition Opportunities to Facilitate Development of Assets

# THANK YOU

**Contact us for more information on this investment opportunity!**

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# APPENDIX

## Table of Contents:

Share Capitalization	19
Management & Directors	20 - 21
Helium “101”	22 - 26
Worsley Project – Additional Information	27 - 32



# SHARE CAPITALIZATION

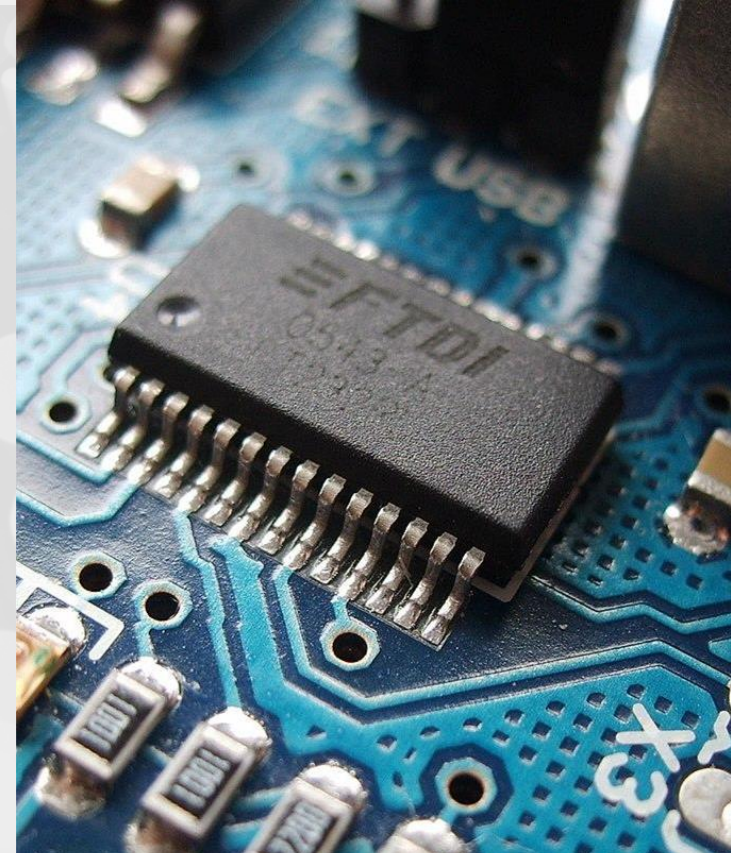
COMMON SHARES OUTSTANDING AS AT May 1, 2024

**Stock Symbol: TSXV - "HELI" & OTCQX - "FHELF"**

<b>Basic</b> (MM)	<b>153.2</b>
<b>Options</b> (Exercise Price \$0.35) (MM)	<b>5.9</b>
<b>Warrants</b> (Wtd. Avg. Ex. Price \$0.11, Proceeds \$8.7 MM) (MM)	<b><u>79.2</u></b>
<b>Fully-Diluted</b> (MM)	<b>238.3</b>



**Management, Directors, Advisors and Key Shareholders collectively own or control ~43% of the Company's outstanding common shares**



**NOTE: All \$ figures throughout presentation are in Canadian Dollars unless otherwise specified  
"M" = Thousands, and "MM" = Millions**



# CORPORATE BENCH DEPTH

*First Helium* boasts a seasoned management team, board and advisory group with successful track records and experience in oil and gas exploration and production, capital markets and finance, helium project development, construction and project management, and mining exploration and development.

## Ed Bereznicki

*P.Eng., MBA – President, CEO, Director*

15 years of Corporate Finance, Capital Markets, and Financial Advisory Expertise as Senior Energy Investment Banker with Raymond James and GMP, and 10+ years in O&G Sector.

- Over \$20 Billion of equity and convertible debt raised for Energy Sector, including successful start-up's and IPO's.
- Over 30 successful M&A transactions totaling more than \$4.5 Billion in value.
- Seasoned Energy Executive with E&P, risk management, operations, and pipelines experience, domestic and international.

## Robert J. Scott

*CPA, CA, CFA – CFO & Director*

20+ Years Professional Experience In Accounting and Corporate Compliance, Corporate Finance, and Merchant and Commercial Banking.

- Senior Management and Board Positions with a number of TSX-V Listed Issuers.
- Raised Over \$200mm in equity capital for growth companies.
- Hands-on background in IPO's, RTO's, Corporate Re-Structuring, M&A, and Cost-Effective Operations.

## Shaun Wyzykoski

*P.Eng. – Vice-President Engineering*

25+ years experience in the Canadian Oil and Gas Industry.

- Extensive background in Operations, Engineering, Acquisitions and Divestitures, Finance/Capital Markets.
- Former COO, Orlen Upstream Canada, Officer, Fairmount Energy and TriOil Resources.
- Member of Founding Engineering group at Crescent Point Energy.

## Marc Junghans

*P.Geol. – Geology & Asset Development Advisor*

40+ years Geology experience in the Western Canadian Sedimentary Basin and U.S. in Senior and Executive level roles at both Public and Private Companies.

- Co-founded and sold two successful, private equity funded junior Oil & Gas companies, holding VP Exploration role in each.
- As VP Exploration, Compton Petroleum, grew production from 2,500 boed to 34,000 boed. Senior Level Geologist at Husky Oil, Anderson Exploration, Canterra Energy and Tundra Oil & Gas.
- Drilled over 170 Horizontal Wells across Alberta, Saskatchewan, & Manitoba.



# INDEPENDENT DIRECTORS

## Todd Holmstrom

**B. Sc.**

33+ years in leadership roles in Oil & Gas, Mining, Wireless Communications, and Medical Devices

- Held the position of President within a \$200MM+ company (Lockerbie & Hole, a division of AECON) and Vice President in two \$1 Billion+ operating companies (Flint Energy Services & Stuart Olson).
- Extensive experience developing business strategy & leading the successful execution of \$1 Billion+ EPC projects worldwide.
- B.Sc. Mechanical Engineering and Executive Leadership Programs at Ivey School of Business and University of North Carolina-Kenan Flagler School of Business.

## Cal Watson

**P. Eng.**

35 years Oil and Gas experience

- Multiple roles across Operations, Production, and Reservoir Engineering, Gas Marketing, and Business Development.
- Devon Canada- Foothills Region Business Development Manager.
- General Manager, Technical Engineering, reservoir, business development, and operations for Jackfish, Thermal SAGD.
- VP Thermal Ops and VP Production Ops for all Devon Production Ops and Production Support, 105,000 bbls/d with an annual opex budget of \$1.2 Billion.
- Anderson Exploration- Central & Southern Plains Exploration Manager.
- Husky Oil and Ulster Petroleum- Production and Reservoir Engineering; Gas Marketing, responsible for up to 650 wells.

# HELIUM: UNIQUE, RARE AND VALUABLE

Helium is essential in modern high-tech, medical, scientific and industrial applications because of its exceptional physical properties. There are a lack of substitutes for helium in many applications.



## QUICK DIFFUSION

Helium gas diffuses quickly

**Example:** Vehicle Airbags



## SMALL MOLECULAR SIZE

Used to find the smallest of leaks

**Examples:** Ship Hulls, Vehicle Air Conditioning



## NON-TOXIC

Can be used in many applications without posing a health and wellness risk

**Examples:** "Heliox" mixtures for respiratory ailments, Deep Sea Diving



## ULTRA-HIGH THERMAL CAPACITY

Enables Super-conductivity

**Examples:** Welding



## SUPERFLUID

Frictionless

**Examples:** Scientific Research - Quantum Mechanics driving Lasers, Transistors, and Superconductors



## INERT

Provides a non-reactive, protective atmosphere for making fibre optics and semiconductors, and for arc welding

**Examples:** Safe Cleaning of Rocket Fuel Tanks, Fibre Optics Manufacturing, and Semiconductors



## LOW-DENSITY

Rises in atmosphere

**Examples:** Decoration Balloons, Weather Balloons, and Airships



## LOWEST BOILING & MELTING POINT -272°C

Liquid at ultra cool temperatures enables super cooling

**Examples:** MRI Machine Cooling, Scientific Research - Hadron Collider

# A COMMON YET FINITE RESOURCE



**Helium** is the **second** most prevalent element in the universe, but relatively uncommon on Earth.



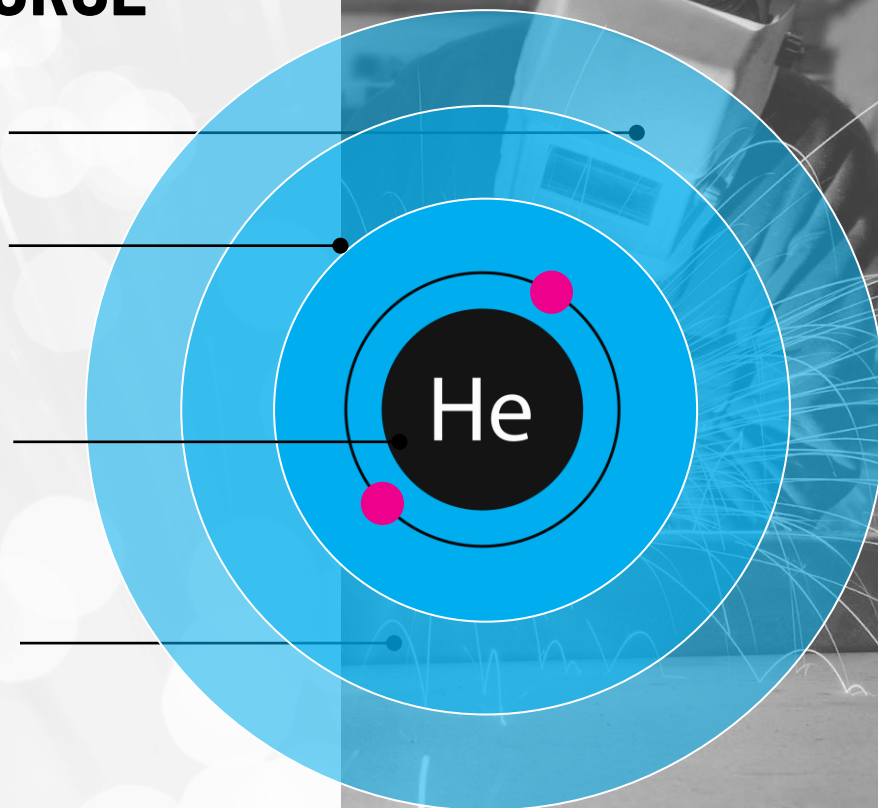
However, **helium is very difficult to trap and store** – due to its lack of density, it quickly rises and dissipates into the atmosphere. The majority of atmospheric helium is lost as it escapes the atmosphere into space.



This **essential element** is the product of decaying thorium and uranium, among other elements. Helium will accumulate in the subsurface along with other inert gases and hydrocarbons. Analysis on gas wells in Alberta have shown helium content from trace to over 4%. First Helium's initial discovery well contains 1.3%.



Production in the U.S. is projected to **decline** over the next decade, and Canada is well-positioned to be the next North American producer of helium.



SOURCES: [cnbc.com](https://www.cnbc.com)>> | [financialpost.com](https://www.financialpost.com)>> | [Edison Research](https://www.edisonresearch.com)>> | U.S. Geological Survey

# MARKET FUNDAMENTALS OF HELIUM

**CRITICAL MINERAL** | Helium has been identified as a critical mineral by Canada and Europe. It is receiving renewed attention by the US Government as US supply depletes and it moves toward becoming a net importer. Scarcity of supply for such applications as Medical Imaging have caught the attention of the medical community.



*"Without an adequate supply of liquid helium, many MRI magnets located in Canadian healthcare institutions are at risk of a "quench", which effectively shuts them down. This would lead to delays in early disease detection and diagnosis, added healthcare costs and ultimately compromise patient outcomes. Canada needs to invest in a sustainable national helium supply chain."* Dr. Ania Kielar, President, Canadian Association of Radiologists

## LARGEST GLOBAL PRODUCERS OF HELIUM

Air Liquide, Linde Plc, Exxon Mobil, Gazprom, Qatargas, Air Products & Chemicals, Iwatani Corporation, Matheson Tri-Gas Inc., Messer Group GmbH, Gulf Cryo

## GLOBAL PRODUCTION OF HELIUM | 2022 Global helium production summary by Country<sup>1</sup>:

	<i>Million m<sup>3</sup></i>	<i>Billion ft<sup>3</sup></i>
<b>USA</b>	75	2.6
<b>Qatar</b>	60	2.1
<b>Algeria</b>	9	0.3
<b>Russia</b>	5	0.5
<b>Australia</b>	4	0.1
<b>Canada</b>	2	< 0.1
<b>China</b>	1	< 0.1
<b>Poland</b>	1	< 0.1
<b>Sub Total (Rounded)</b>	160	6.0

# ECONOMICS OF HELIUM VS NATURAL GAS

**SUPPLY & DEMAND** | Certain considerations will continue to drive the global supply demand balance for helium.

- Demand expected to grow from 6 Bcf per year by ~8% through 2026
- Additional supply from Russia subject to technical issues and geopolitical uncertainty
- Declining US supply and increasing domestic demand from health and high-tech sectors driving US toward net importer status
- SE Asia demand continues to grow due to high-tech sector

**HELIUM PRICING** | Global helium pricing

- No publicly traded market or published pricing for helium
- Pricing dictated by arms-length contracts among producers and end-users of helium
- Large global helium producers and industrial gas distribution companies control the market

**CAPITAL INTENSITY** | Typical helium projects

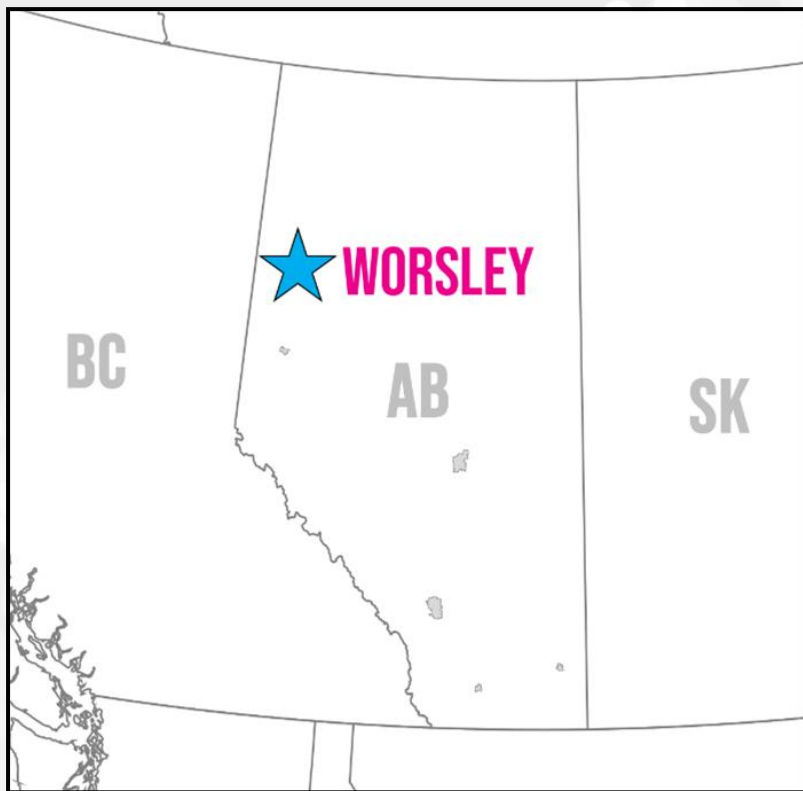
- Individual wells vary from shallower, lower volume and deliverability wells to deeper, higher pressure and volume deliverability wells - per well cost would vary from a low 100's of thousands to over \$2 MM for a deep vertical well
- Field level processing of raw gas is required to extract helium for sale to market - Capex will depend on raw gas chemistry, methane component and volume throughput, typical smaller plants range from ~\$5MM to larger throughput plants up to ~\$30MM
- Specialized technology to extract helium is "off-the-shelf" and proven - used equipment market sporadic, new fabrication of equipment currently 9 months to 12 months lead-time from continental manufacturers
  - **Cash flow within 12 months of drilling success, sooner if existing modular plant expansion capacity is available**
- Field level processed helium is typically << Grade 4 helium - this "crude" helium is gathered and further processed and/or liquefied into higher Grades of helium for sale to end user, large "merchant" processing/liquefaction facilities located in the US

# MARKET FUNDAMENTALS OF HELIUM - Helium Grading System<sup>1</sup>

<b>Grade 6</b> (99.9999% Purity) “6 Nines”	The closest to 100% pure helium, 6.0 helium is used in the manufacturing of semiconductor chips. It's also used in laboratories for scientific research, laser cutting, MRI machines, and as a carrier gas in gas chromatography.
<b>Grade 5.5</b> (99.9995% Purity)	Like 6.0 helium, 5.5 ultra pure helium gas is typically considered “research grade,” also used in chromatography and semiconductor processing, as well as lab research, MRIs, as a shielding gas in welding, a cooling gas for fiber optics, and other industries that require a fine purity helium gas.
<b>Grade 5</b> (99.999% Purity) “5 Nines”	High purity grade helium is widely used for gas chromatography, mass spectrometry, and specific laboratory research when higher purity gases are not necessary, also for weather balloons and blimps.
<b>Grade 4.8</b> (99.998% Purity)	The highest of the “industrial grade” heliums, 4.8 grade helium is often used by the military.
<b>Grade 4.7</b> (99.997% Purity)	A “Grade-A” industrial helium, 99.997% helium is mostly used in cryogenic applications and for pressurizing and purging, but is also used as a control atmosphere in manufacturing, as a cover gas during welding, in breathing mixtures for divers, and leak detection.
<b>Grade 4.6</b> (99.996% Purity)	Grade 4.6 industrial helium is used for weather balloons, blimps, in leak detection, as a shielding gas for welding, a coolant in rockets and medical applications, and as a carrier gas in the analysis of residues.
<b>Grade 4.5</b> (99.995% Purity)	Often the grade most commonly referred to when people say “industrial grade,” 99.995% helium is most commonly used in the balloon industry, but is also used as a push gas in MRI applications.
<b>Grade 4 and lower</b> (99.99% Purity)	Any helium that is 99.99% and down into the high 80 percents is within the range of purities referred to collectively as “balloon grade helium.”



# WORSLEY AREA EXPLORATION



- Historically active region for hydrocarbon exploration and development
- Multi-commodity presence enhances value proposition and mitigates helium exploration risk
- In late 1990's, discovery of high-nitrogen, helium-rich natural gas, which did not meet sales pipeline specifications, stalled Natural Gas Exploration Drilling in area
  - *Creates helium exploration opportunity*
- Discovery Well 15-25 Drilled in 1999 for Natural Gas and Shut-In, contained 1.3% Helium and ~26% Nitrogen content

# WORSLEY HELIUM PROJECT



## HELIUM DISCOVERY WELL "15-25" UNDERPINS PROJECT DEVELOPMENT

- Ready to produce helium gas, pending installation of scalable, modular, processing facility.
- Helium sales offtake agreement in place, first 5 years fixed pricing, take-or-pay, 20% of production available for direct or alternative sales strategies.



## SCALABLE DEVELOPMENT ON ADJACENT HELIUM PROSPECTIVE LANDS

- Historically active oil & gas exploration area with attractive helium levels across Trend.
- 12 additional multi-zone, multi-commodity prospective Leduc target drill locations and exploration upside potential across 100%-owned land base.
- New, large structural Leduc feature identified on recent 3D seismic.
- Highly prospective, untested Leduc helium potential on eastern side of land base.



## HELIUM PRODUCTION GROWTH VISIBILITY

- Preliminary engineering on helium processing facility completed, evaluating financing alternatives.
- On-stream 9-12 months from funding and kick-off.
- Natural gas gathering infrastructure in place to expedite on-stream timing.
- 5-27 Horizontal Well in Blairmont zone, potential helium target, cased for completion and testing. Sets up for regional, repeatable play.

# FIRST HELIUM CONTINGENT RESOURCES REPORT | “15 – 25” Discovery Well

Prepared by Sproule Associates Ltd. March 31, 2021<sup>1</sup>

VOLUMES		
Helium mmcf	Natural Gas mmcf	Natural Gas Liquids mbbl
323	12,632	372

NET PRESENT VALUES		
0% \$MM	5% \$MM	10% \$MM
\$78,282	\$32,158	\$15,243

## Sproule Report Unrisked Best Estimate Contingent Resources

- Capital required: \$10.5MM for single well facility to produce Discovery Well
- Helium pricing: constant \$340/mcf adjusted for transportation
- Other product pricing: Sproule March 31, 2021 forecast

## Sensitivity to Helium Pricing

NPV 10%				
\$300/mcf \$MM	\$340/mcf \$MM	\$400/mcf \$MM	\$500/mcf \$MM	\$600/mcf \$MM
\$12.1	\$15.2	\$19.9	\$27.7	\$35.5

BASE CASE

CURRENT HELIUM MARKET

## Sproule Unrisked Best Estimate Contingent Resources

- Sensitivity to helium pricing prepared by First Helium
- Helium pricing in Canadian Dollars

## Sproule Risked Contingent Resource Estimates

- Low Estimate Helium 156 mmcf
- Best Estimate Helium 258 mmcf
- High Estimate Helium 325 mmcf

1. See First Helium's Final Prospectus dated June 28, 2021, filed on First Helium's SEDAR profile at [www.sedar.com](http://www.sedar.com) for additional information.

# STRATEGIC HELIUM OFFTAKE SALES AGREEMENT

## **LONG TERM SUPPLY AGREEMENT** | Major Global Industrial Gas Supply Company as Purchaser

- Ten year “take-or-pay” agreement with firm pricing over the first 5 years
- Purchase up to 80% of helium production from 15-25 well at Worsley, with ability to potentially purchase 100% of production
- Subject to maximum monthly and annual volume quantities
- Depending on pace of helium production growth at Worsley, Agreement worth up to \$US 100 MM in potential revenue over first 5 years

## **HELIUM PRICING** | Priced in the context of the term market for < Grade 4 crude gaseous helium

- Firm pricing for first 5 years, takes advantage of near to mid-term helium pricing environment
- Robust project level economics
- Price redetermination windows after 5 years with floor pricing
- Flexibility to market 20% of helium production on a potentially more lucrative “spot” sales or merchant liquefaction contract basis

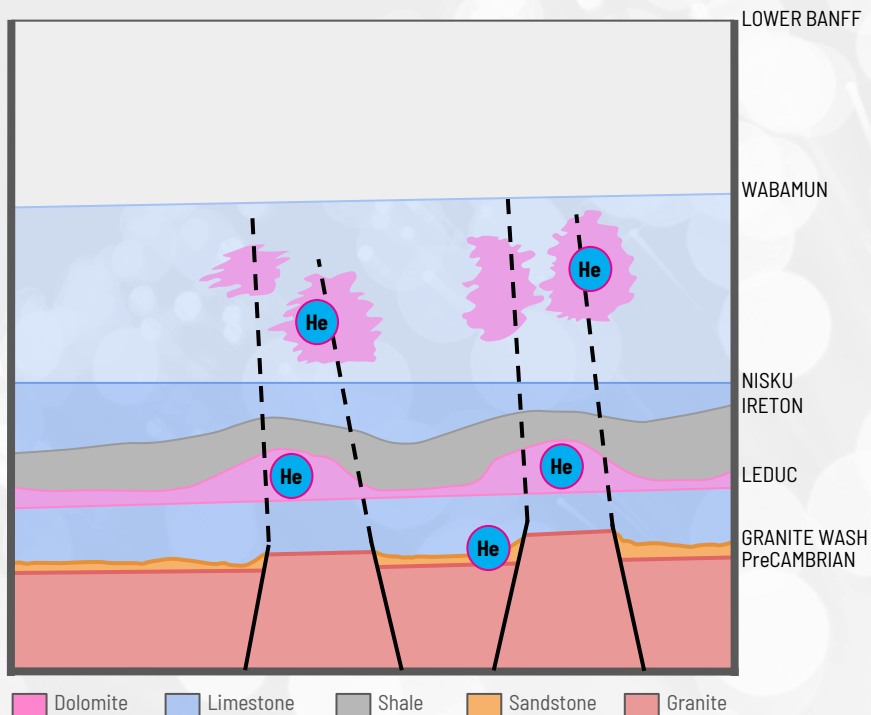
## **LOGISTICS** | Offtake partner manages logistics for pick up and transport of its helium purchases

- Crude processed helium delivered to Offtake Partner at plant gate of Company’s Planned Worsley Helium Processing Facility
- Subject to minimum helium percentage of 95% or greater, by volume

## **SUPPLY & DEMAND** | Certain considerations will continue to drive the global supply demand balance for helium.

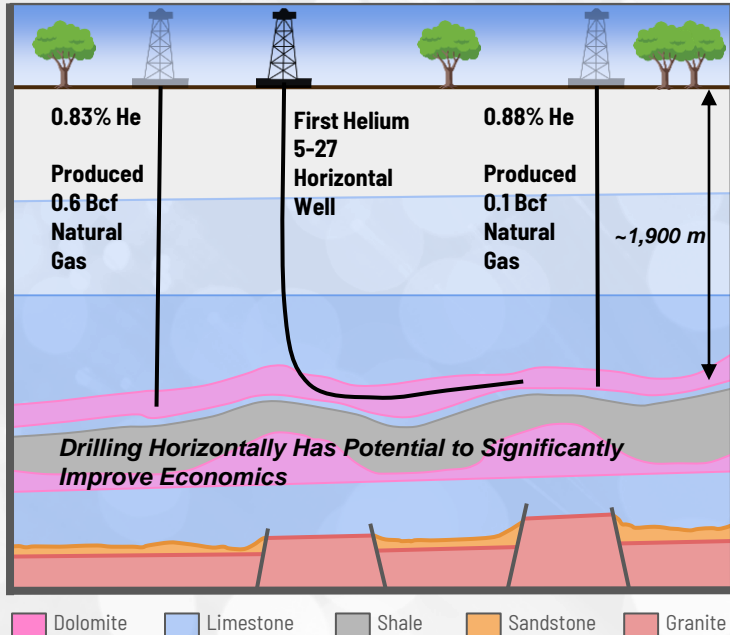
- Demand expected to grow from 6 Bcf per year by ~8% through 2026
- Additional supply from Russia subject to technical issues and geopolitical uncertainty
- Declining US supply and increasing domestic demand from health and high-tech sectors driving US toward net importer status
- SE Asia demand continues to grow due to high-tech sector

# WORSLEY AREA REEF TREND



- Deep-seated Faulting within the Basement
- Reef Build-up Associated with Faulting and Pre-existing High
- Hydrothermal Fluids Creating Dolomite around Fault Conduits
- Helium Generated in the Basement and Migrated through Existing Fault Systems, Trapping in Existing Reservoirs with Hydrocarbons
- Multiple Potential Targets in the Granite Wash, Leduc and Wabamun

# "5-27" HORIZONTAL WELL HELIUM TARGET – WEST WORSLEY



- "5-27" Well successfully drilled and cased August 2022 (*Prior ID "14-23"*)
- Strategically targets reservoir with known historical natural gas production and helium concentrations of 0.83% and 0.88%
- Sets up for potential regional development play on Company held lands – 14 primary and 17 follow up additional drill locations



# RISK FACTORS

Readers should carefully consider the risks and uncertainties described below and in First Helium's Final Prospectus dated June 28, 2021, filed on First Helium's SEDAR profile at [www.sedar.com](http://www.sedar.com) before deciding whether to invest in First Helium's securities. These risk factors do not necessarily comprise all of the risks to which First Helium is or will be subject.

## **First Helium is an exploration stage company**

First Helium is an exploration stage company. The exploration and development of helium, natural gas and oil properties is highly speculative in nature and involves a high degree of financial and other risks over a significant period of time, which even a combination of careful evaluation, experience and knowledge may not eliminate. Such risks include under-capitalization, cash shortages, limitations with respect to personnel, financial and other resources and lack of revenues. Natural gas, oil and helium exploration involves significant risk, since few properties that are explored contain reserves that would be commercially economic to develop into producing wells. There can be no assurance that First Helium's existing or future exploration programs will result in the discovery of commercially viable reserves. Further, there can be no assurance that even if resources are located, that they can be commercially produced.

## **First Helium has limited production history**

First Helium has limited operating history and limited historical financial performance. First Helium currently has one oil property, comprised of the 1-30 and 4-29 oil wells, in production. First Helium has applied to the appropriate regulators for approval of a water disposal scheme to optimize production and reduce operating costs. This plan includes the conversion of an abandoned well, the 13-20, for water disposal purposes. While First Helium has received an independent NI 51-101 evaluation of its oil property, which includes the water disposal scheme operation, there can be no assurance of the oil property's future economic performance. The future development of any additional properties found to be economically feasible will require the construction and operation of wells and related infrastructure. There is no guarantee that First Helium's properties will be economically feasible. As a result, First Helium is and will continue to be subject to all of the risks associated with establishing new operations. The costs, timing and complexities of developing First Helium's properties may be greater than anticipated. Cost estimates may increase as more detailed engineering work is completed on a project. It is common in natural gas, oil and helium operations to experience unexpected costs, problems and delays during construction and development. In addition, delays in the early stages of natural gas, oil and helium production often occur. Accordingly, First Helium cannot provide assurance that its activities will result in profitable natural gas, oil and helium operations at its properties or that First Helium will successfully establish new or additional operations.

## **Permits**

First Helium's current and anticipated future operations, including further exploration and, if warranted, development and commencement of production on its properties, require permits from various governmental authorities. Obtaining or renewing governmental permits is a complex and time-consuming process. The duration and success of efforts to obtain and renew permits are contingent upon many variables not within First Helium's control. First Helium cannot provide assurance that all permits that it requires for its operations will be obtainable or renewable on reasonable terms, or at all. Delays or a failure to obtain such required permits, or the expiry, revocation or failure to comply with the terms of any such permits that have been obtained, would adversely affect its business.

## **Government rules and regulations**

First Helium's operations are subject to various levels of government controls and regulations including matters relating to land tenure, drilling, production practices including hydraulic fracturing of wells, government-directed future use of reservoirs for carbon capture uses, environmental protection, marketing and pricing policies, royalties, various taxes and levies including income tax, foreign trade and investment and government approval of lease and licence transfers and other regulatory approvals that are subject to change from time to time. First Helium cannot predict what additional legislation or amendments may be proposed that will affect First Helium's operations or when any such proposals, if enacted, might become effective. There is no certainty regarding obtaining government approvals. Changes in government policy or laws and regulations could adversely affect First Helium's results of operations and financial condition. Failure to comply with applicable laws, regulations and legal requirements may result in enforcement actions thereunder, including orders issued by regulatory or judicial authorities causing operations to cease or be curtailed and may include corrective measures requiring capital expenditures, installation of additional equipment or remedial actions which could have an adverse effect on First Helium's business, financial condition or operations.

## **Exploration, development and production risks**

Natural gas, helium and oil operations involve many risks that even a combination of experience, knowledge and careful evaluation may not be able to overcome. The long-term commercial success of First Helium will depend on its ability to find, acquire, develop and commercially produce helium, natural gas, and oil reserves. Without the continual addition of new reserves, any existing reserves First Helium may have at any particular time and the production therefrom will decline over time as such existing reserves are exploited. A future increase in First Helium's reserves will depend not only on its ability to explore and develop any properties it may have from time to time, but also on its ability to select and acquire suitable producing properties or prospects. Future helium, natural gas or oil exploration may involve unprofitable efforts. Completion of a well does not assure a profit on the investment or recovery of drilling, completion and operating costs. In addition, drilling hazards or environmental damage could greatly increase the cost of operations, and various field operating conditions may adversely affect the production from successful wells. These conditions include delays in obtaining governmental approvals or consents, shut-ins of connected wells resulting from extreme weather conditions, insufficient storage or transportation capacity or other geological and mechanical conditions.

# RISK FACTORS

There is no assurance that further commercial quantities of helium, natural gas or oil will be discovered or acquired by First Helium.

Helium, natural gas and oil exploration, development and production operations are subject to all the risks and hazards typically associated with such operations, including hazards such as fire, explosion, blowouts, cratering, sour gas releases and spills, each of which could result in substantial damage to helium, natural gas or oil wells, production facilities, other property and the environment or in personal injury. In accordance with industry practice, First Helium will not be fully insured against all of these risks, nor are all such risks insurable. Although First Helium will maintain liability insurance in an amount that it considers consistent with industry practice, the nature of these risks is such that liabilities could exceed policy limits, in which event First Helium could incur significant costs that could have a material adverse effect upon its financial condition.

## **Competition**

Helium, natural gas and oil exploration is intensely competitive in all its phases and involves a high degree of uncertainty with respect to the impact of such competition. First Helium will compete with numerous other participants in the search for, and the acquisition of, helium, natural gas and oil properties and in the marketing of helium, natural gas and oil. Competitors include helium, natural gas and oil companies that have substantially greater financial resources, staff and facilities than those of First Helium. Competitive factors in the distribution and marketing of helium, natural gas and oil include price and methods and reliability of delivery. First Helium may also be subject to competition from the alternative fuel industry.

## **Environmental**

All phases of the helium, natural gas and oil business present environmental risks and hazards and are subject to environmental regulation pursuant to a variety of federal, provincial and local laws and regulations in Canada and any foreign jurisdictions where may First Helium operate. Compliance with environmental legislation regarding the production of helium, natural gas or oil can require significant expenditures and a breach may result in the imposition of fines and penalties, some of which may be material. The discharge of natural gas, oil or other pollutants into the air, soil or water may give rise to liabilities to governments and third parties and may require First Helium to incur costs to remedy such discharge.

## **Price volatility, markets and marketing**

The marketability and price of helium, natural gas and oil that may be acquired or discovered by First Helium will be affected by numerous factors beyond its control. First Helium's revenues, profitability, future growth and the carrying value of any helium, natural gas or oil properties that it may hold, provided such properties yield production, are substantially dependent on prevailing prices of helium, natural gas and oil. First Helium's ability to borrow and to obtain additional capital on attractive terms is also substantially dependent upon natural gas and oil prices. Gas and oil prices are subject to large fluctuations in response to relatively minor changes in the supply of and demand for gas and oil, market uncertainty and a variety of additional factors beyond the control of First Helium. Any substantial and extended decline in the price of helium, natural gas or oil would have an adverse effect on First Helium's carrying value of its proved reserves, borrowing capacity, revenues, profitability and cash flows from operations.

## **Additional funding requirements**

First Helium's cash flow from its reserves, once developed, may not be sufficient to fund its ongoing activities at all times. From time to time, First Helium may require additional financing in order to carry out its gas acquisition, exploration and development activities. Failure to obtain such financing on a timely basis could cause First Helium to forfeit its interest in certain properties, miss certain acquisition opportunities and reduce or terminate its operations. First Helium may require additional equity and/or debt financing that may not be available or, if available, may not be available on favourable terms.

## **Availability of drilling, hydraulic fracturing and other equipment and access**

Helium, natural gas or oil exploration and development activities are dependent on the availability of drilling, hydraulic fracturing and other related equipment in the particular areas where such activities will be conducted. Demand for such limited equipment or access restrictions may affect the availability of such equipment to First Helium and may delay exploration and development activities.

## **Insurance**

First Helium's involvement in the exploration for and development of helium, natural gas and oil properties may result in it becoming subject to liability for pollution, blow-outs, property damage, personal injury or other hazards. Such risks may not in all circumstances be insurable or, in certain circumstances, First Helium may elect not to obtain insurance to deal with specific risks due to the high premiums associated with such insurance or other reasons. The payment of such uninsured liabilities would reduce the funds available to First Helium. The occurrence of a significant event that First Helium is not fully insured against, or the insolvency of the insurer of such event, could have a material adverse effect on First Helium's financial position, results of operations or prospects.

# RISK FACTORS

## **Reliance on key personnel**

The success of First Helium will depend in large measure on certain key personnel and management. The loss of the services of such key personnel could have a material adverse effect on First Helium. The competition for qualified personnel in the helium, natural gas and oil industry, is intense and there can be no assurance that First Helium will be able to attract and retain all personnel necessary for the development and operation of its business.

## **Transportation costs**

Disruption in or increased costs of transportation services could make helium, natural gas or oil a less competitive source of energy or could make First Helium's helium, natural gas or oil less competitive than other sources. The industry depends on rail, trucking, ocean-going vessels, pipeline facilities, and barge transportation to deliver shipments, and transportation costs are a significant component of the total cost of supplying helium, natural gas or oil. Disruptions of these transportation services because of weather related problems, strikes, lockouts, terrorist activities, delays or other events could temporarily impair the ability to supply helium, natural gas or oil to customers and may result in lost sales. In addition, increases in transportation costs, or changes in transportation costs for helium, natural gas or oil produced by competitors, could adversely affect profitability. To the extent such increases are sustained, First Helium could experience losses and may decide to discontinue certain operations forcing First Helium to incur closure and/or care and maintenance costs, as the case may be.

## **Dependence on its current natural gas, oil and helium properties**

In the absence of additional material properties, First Helium will be solely dependent upon its current natural gas, oil and helium properties for its revenue and profits, if any. Should the exploration and development of its current properties, turn out to be not possible or practicable, for political, engineering, technical, economic or any other reasons, First Helium's business and financial position will be significantly and adversely affected.

## **First Helium may incur losses for the foreseeable future**

First Helium expects to incur losses unless and until such time as its current natural gas, oil and helium properties generate sufficient revenues to fund continuing operations. The exploration and, if warranted, development of its properties will require the commitment of substantial financial resources that may not be available. The amount and timing of expenditures will depend on a number of factors, including the progress of ongoing exploration and development, the results of consultants' analyses and recommendations, the rate at which operating losses are incurred, the execution of any joint venture agreements with strategic partners and the acquisition of additional property interests, some of which are beyond the First Helium's control. First Helium cannot provide assurance that it will ever achieve profitability.

## **COVID-19**

First Helium faces risks related to COVID-19, which could significantly disrupt its business and may materially and adversely affect its business and financial conditions. In December 2019, a novel strain of the coronavirus emerged in China, and the virus has now spread globally, including Canada, resulting in a global pandemic. The extent to which COVID-19 will impact First Helium's business, including its operations, will depend on future developments, which are highly uncertain and cannot be predicted at this time, and include the duration, severity and scope of the outbreak and the actions taken to contain or treat the coronavirus outbreak. In particular, the continued spread of COVID-19 globally could materially and adversely impact First Helium's business, including, without limitation, employee health, workforce productivity, increased insurance premiums, limitations on travel, the availability of industry experts and personnel, and other factors that will depend on future developments beyond First Helium's control, which may have a material and adverse effect on the its business, financial condition and results of operations. There can be no assurance that First Helium's personnel will not be impacted by these pandemic diseases and ultimately see its workforce productivity reduced or incur increased medical costs/insurance premiums as a result of these health risks. In addition, a significant outbreak of COVID-19 could result in a widespread global health crisis that could adversely affect global economies and financial markets resulting in an economic downturn that could have an adverse effect on the helium industry and First Helium's future prospects.