



BUILDING A DIVERSIFIED GLOBAL LITHIUM PORTFOLIO

TSX-V: ION
FRA: ZA4
OTCQB: IONGF

January 2024

DISCLAIMER

LEGAL

This presentation includes certain statements that may be deemed "forward looking statements". All statements in this presentation, other than statements of historical facts, that address events or developments that Ion Energy Ltd. (the "Company") expects to occur, are forward looking statements. Forward looking statements are statements that are not historical facts and are generally, but not always, identified by the words "expects", "plans", "anticipates", "believes", "intends", "estimates", "projects", "potential" and similar expressions, or that events or conditions "will", "would", "may", "could" or "should" occur. Although the Company believes the expectations expressed in such forward looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results may differ materially from those in the forward looking statements. Factors that could cause the actual results to differ materially from those in forward looking statements include market prices, exploitation and exploration successes, and continued availability of capital and financing, and general economic, market or business conditions. Investors are cautioned that any such statements are not guarantees of future performance and actual results or developments may differ materially from those projected in the forward looking statements. Forward looking statements are based on the beliefs, estimates and opinions of the Company's management on the date the statements are made. Except as required by securities laws, the Company undertakes no obligation to update these forward looking statements in the event that management's beliefs, estimates or opinions, or other factors, should change. The information provided in this presentation is not intended to be a comprehensive review of all matters and developments concerning the Company and should be read in conjunction with the other disclosure documents of the Company. The information contained herein is not a substitute for detailed investigation and analysis. No securities commission or regulatory authority has reviewed the accuracy or adequacy of the information presented.

TECHNICAL

The technical information in this presentation has been approved by Khurel Lamzav, P. Geo of the Company and a Qualified Person as defined by National Instrument 43-101 – Standards of Disclosure for Mineral Projects.

CORPORATE OVERVIEW

First lithium brine
licence ever

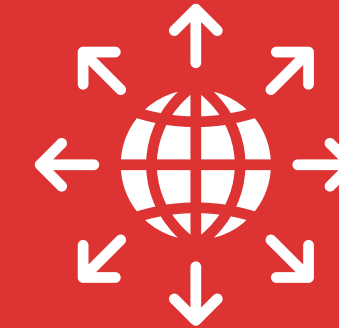


in Mongolia

Exploration is
already underway



Building a global
lithium portfolio



THE WORLD IS GOING ELECTRIC

ION Energy is ready for the 3rd wave of the clean energy
revolution & the increased Lithium demand

OUR STORY

In 2017, our co-founders, Ali Haji and Matthew Wood, identified an opportunity for lithium exploration and development while on a trip to Mongolia for another mining entity.

They recognized that our world was on the brink of a Green Revolution and that the move away from fossil fuels would create unprecedented demand for battery metals, including lithium.

Ali and Matthew started discussions with the Mongolian government about the potential for lithium in-country – and the vision for ION Energy was born!

OUR LEADERSHIP



ALI HAJI

CEO/Director

Director of Antler Hill Mining Ltd, Spirit Banner II Capital Corp. and CEO & Director of Aranjin Resources. 15+ years international experience (asset management, risk analysis and program governance). Advisor to ATMA Capital Markets Ltd and Steppe Gold TSX:STGO. BSc from University of Western Ontario.



WENDY LI

Director, Asia

18+ years of extensive commercial and business development experience in Asia, including Mongolia and China, with Noble Resources Ltd and SouthGobi Resources Ltd. BA (Hon) from Wilfrid Laurier University, in Waterloo, Canada.



ROBERT PAYMENT

CFO

16+ years as seasoned CPA with experience in finance, reporting, regulatory compliance, public company administration, equity markets, and the financing of publicly traded companies. Since 2014 has served as a CFO and consultant to a portfolio of companies listed on both the TSX Venture Exchange and the Canadian Securities Exchange (CSE). Extensive involvement across the natural resource, technology, and retail sectors. BBA from Simon Fraser University, and CPA, CA designation earned in 2009.



DR. MARK KING

Advisory Board Member

Principal Hydrogeologist of Groundwater Insight Inc. (GWI), with more than 35 years of experience in groundwater research and consulting. Dr. King has a strong and varied background in lithium brine evaluation, serving as technical lead on more than 30 brine investigations including QP for numerous NI43-101, SEC and JORC reports, including for Lithium Americas, Albemarle and NeoLithium.



PAUL FORNAZZARI

Advisory Board Member

Served as inaugural Chair of Lithium Americas, securing its initial strategic investments from Mitsubishi and Magna International. Former Director of Neo Lithium Corp. Currently, a partner with Fasken Martineau DuMoulin LLP, a member of the TSX-V's National Advisory Committee, and Director of Champion Electric Metals (formerly Idaho Champion). Holds an LLM from Osgoode Hall Law School in Securities Law and an LLB from the University of Windsor.



DON HAINS

Advisory Board Member

President of Hains Engineering Company Ltd and Principal of Hains Technology Associates. An industrial minerals geologist with +30 years of experience in exploration, development, use and analysis of industrial minerals properties and materials. Has a particular focus on critical and energy-related minerals such as lithium. Has written numerous NI 43-101 technical and due diligence reports on lithium projects across the Globe. Serves as Advisor to Lovitt Resources and Li-FT Power.



DR. KHASHBAT DASHTESEREN

Special Advisor

A PhD lithium hydrogeologist with extensive resource exploration experience in Mongolia. Served with Mongolia's Department of Urban Development and Investment, as Chief Geologist and then as CEO at Geolink LLC. Has spent many years researching laboratory analysis methods for lithium at the Akita University in Japan. A Professional Geologist accredited by the Mongolian Professional Institute of Geology and Mining, and a Professional Engineer accredited by the Mongolian Ministry of Mineral Resources and Energy.



DR. DAVID DEAK

Advisory Board Member

An entrepreneur whose expertise spans across lithium mining development, battery supply chain developments, energy storage, renewable energy, and electric vehicles. He is President of Marbex LLC, was formerly the CTO and SVP of Lithium Americas Corp., and is an alum of Tesla Inc., Ambri Inc. (MIT start-up), Lux Research Inc., and Siemens Wind Power. He was educated at the University of Toronto and Oxford University.

OUR GOVERNANCE

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MATTHEW WOOD

Chairman of the Board

Director (and former Chairman) of Steppe Gold TSX:STGO & Chairman of Aranjin Resources (TSXV:ARJN), Founding Chairman of Avanco Resources (sold in March 2018 for AUD\$440M) and Hunnu Coal (sold for AUD\$500M in 2012).



ALI HAJI

CEO/Director

Director of Antler Hill Mining Ltd, Spirit Banner II Capital Corp. and CEO & Director of Aranjin Resources. 13+ years international experience (asset management, risk analysis and program governance). Advisor to ATMA Capital Markets Ltd and Steppe Gold TSX:STGO. BSc from University of Western Ontario.



BATAA TUMUR-OCHIR

Director

A Mongolian Citizen that serves as CEO and Chairman of Steppe Gold TSX:STGO. Mr. Tumor-Ochir is an advisor to the Ministry of Mining and Heavy Industry, Holds a bachelor's degree in business administration and graduate certificates in international business and marketing from Australia and Singapore.



ANEEL WARAICH

Director

EVP and Director of Steppe Gold TSX:STGO, Director of Antler Hill Mining Ltd, CEO of Spirit Banner Capital Corp, Founder of ATMA and ATMACORP with experience in investment banking at Dundee. MBA from Goodman Institute of Investment Management at John Molson School of Business.



JOSEPH GALLUCCI

Director

Senior capital markets executive and corporate director. 20+ years in investment banking and equity research focused on global mining, base metals, precious metals, critical metals and bulk commodities. Worked with BMO Capital Markets, GMP Securities and Dundee Securities. Currently Managing Director and Head of Investment Banking at Laurentian Bank Securities Inc. Holds the ICD.D designation.



**ENKHTUVSHIN
KHISHIGSUREN**

Director

Over 30 years of Mongolian mineral experience for multi-nationals. Credited for having discovered several prospective gold, molybdenum and copper deposits, including the Olon Ovoot multimillion ounce gold deposit.

ION'S MONGOLIAN ADVANTAGE

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- ✓ Management successfully operating in Mongolia for over a decade, with a combined 150+ years of mining and exploration experience
- ✓ Seasoned Mongolian nationals on the team, with commitment to best-in-class exploration practices, developing local young talent, and strong community engagement with quarterly local meetings.
- ✓ Trusted partner with all levels of government, and the Mongolian University of Science and Technology.

Hunnu Coal
AUD \$20M
IPO
2010

Hunnu Coal Exit
AUD \$500M
Cash
2012


STEPPE GOLD
CAD \$25M
IPO
2018

 ION ENERGY
CAD \$2.7M
IPO
2020

The largest exploration licence
in Mongolia:

ION ENERGY'S BAAVHAI UUL PROJECT

+81,000 hectare (almost 200,000
acre) highly-prospective site



The largest exploration licence ever granted in Mongolia:

BAAVHAI UUL PROJECT

PRE-ACQUISITION RESULTS

- All holes drilled contain **significant** levels of Lithium
- Average grade 426 ppm Lithium
- Maximum grade 811 ppm Lithium
- High evaporation and low precipitation endorheic basin, no outflow to external bodies of water

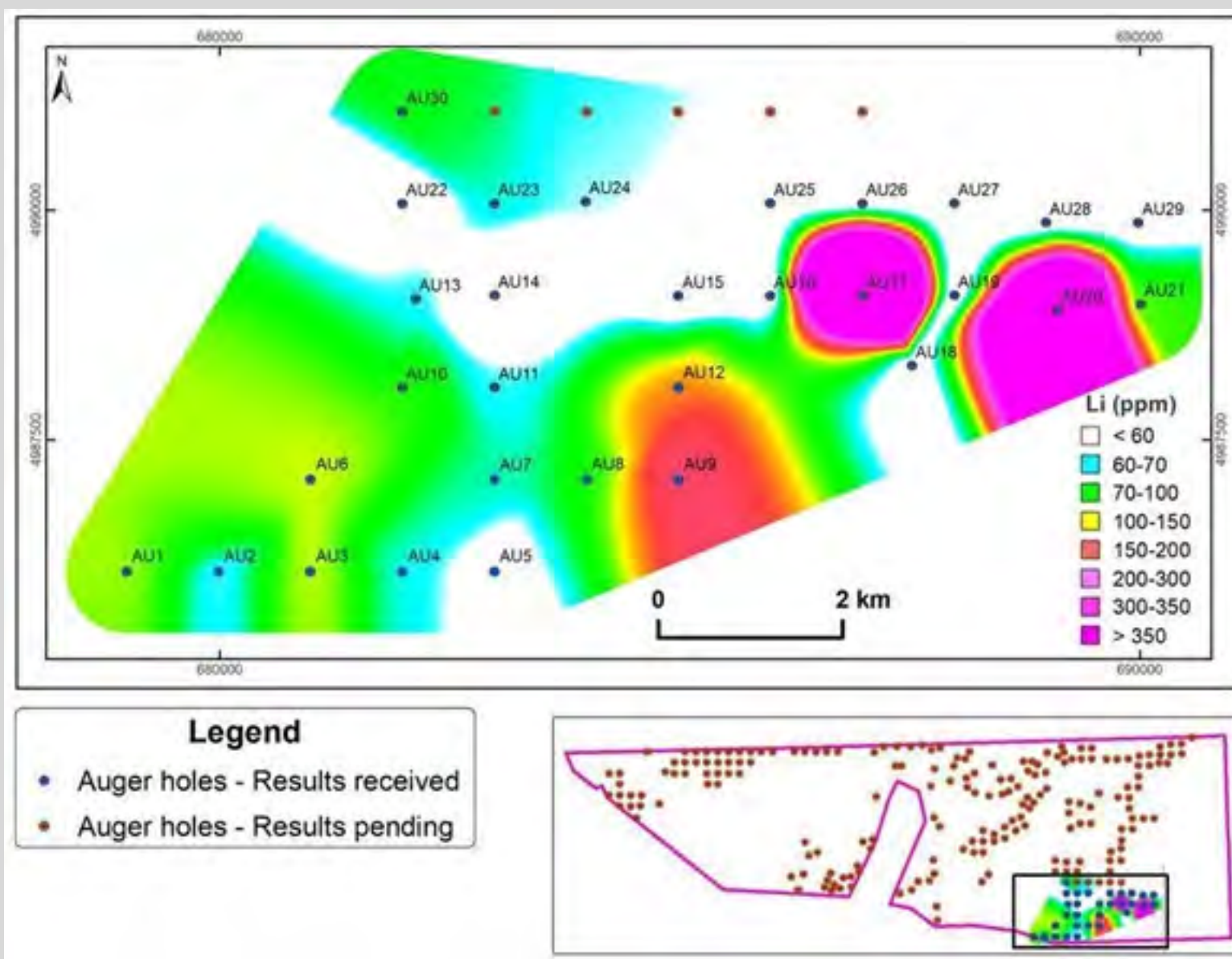


GEOGRAPHICAL PROFILE

- Low potassium and magnesium ratios: favourable for large crystal formation at license altitude and temperature
- Aquifers 20m below surface: Cretaceous volcanic and sedimentary rocks are the most suitable aquifer for the enrichment of lithium
- Brine vs hard rock sources = lower production costs
- Gobi Desert: arid environment with high evaporation rates
- 24km from the Chinese border



MAIDEN DRILLING RESULTS: DECEMBER 2021

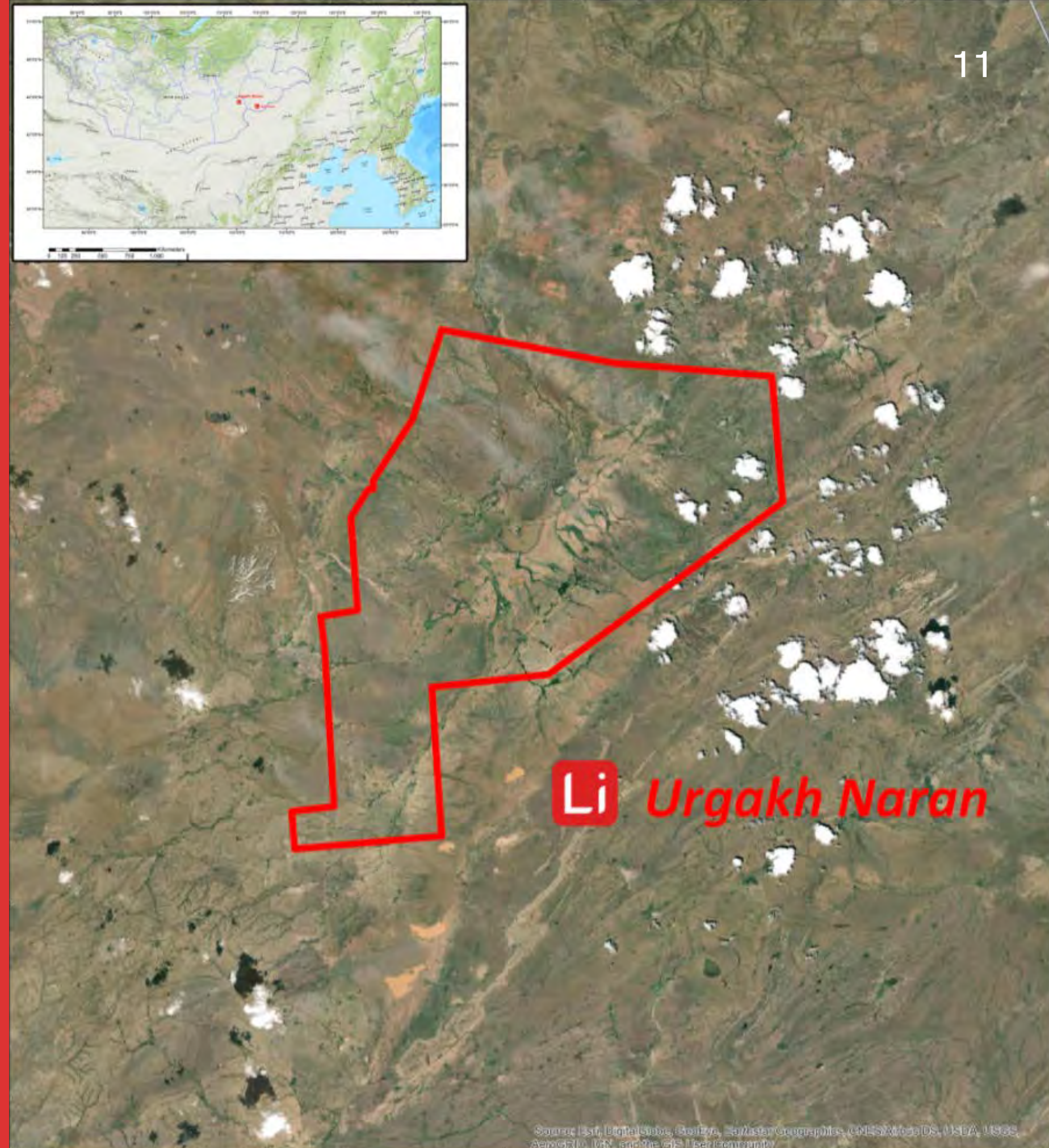


- Lithium Brines Encountered;
- Initial drilling results are highly encouraging;
- New Lithium Discovery Highlighted:
White Wolf Prospect;
- A total of 222 auger drill holes have been completed for 1304.5 metres;
- Drill hole AU-17 returned results up to 1,502ppm Lithium; and
- A new Copper and Nickel '*Victory*' discovery,
 - upto 1,252 ppm Cu & 494 ppm Ni

Drilling Results at Baavhai Uul

ION ENERGY'S URGAKH NARAN: RISING SUN PROJECT

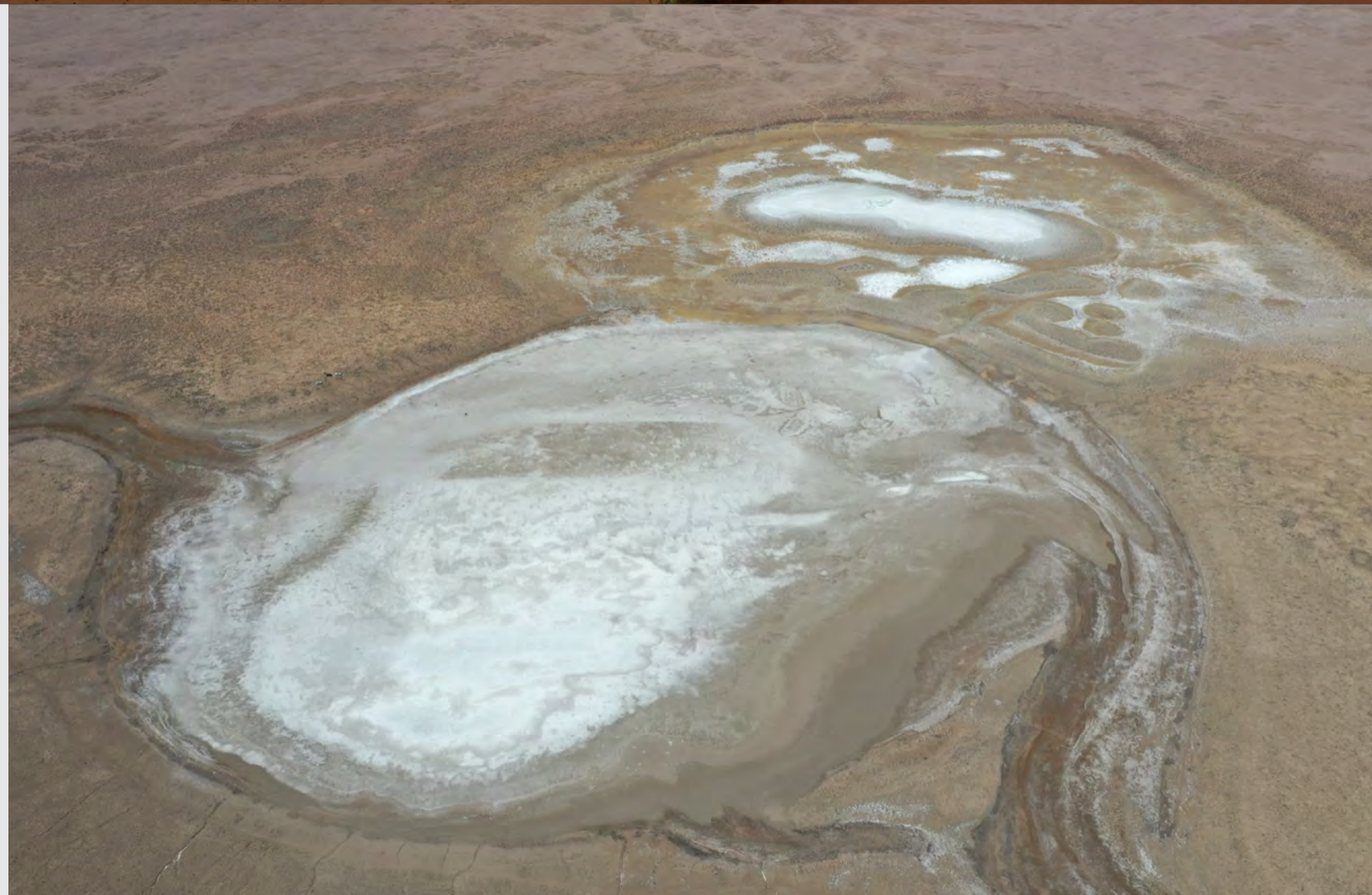
Over 29,000 hectares (+70,000 acres)
of highly prospective lithium terrain



URGAKH NARAN LITHIUM BRINE PROJECT

SIGNIFICANT BRINE DISCOVERY

- Situated in the arid and infrastructure rich region of the South Gobi Desert.
- The brine sample was collected at surface from a shallow pool and assayed **918 mg/L** Lithium.
- The highest grade lithium brine known to have ever been collected in Mongolia.





SENIOR TECHNICAL TEAM CONDUCTS STRATEGIC SITE VISITS - APRIL 2022

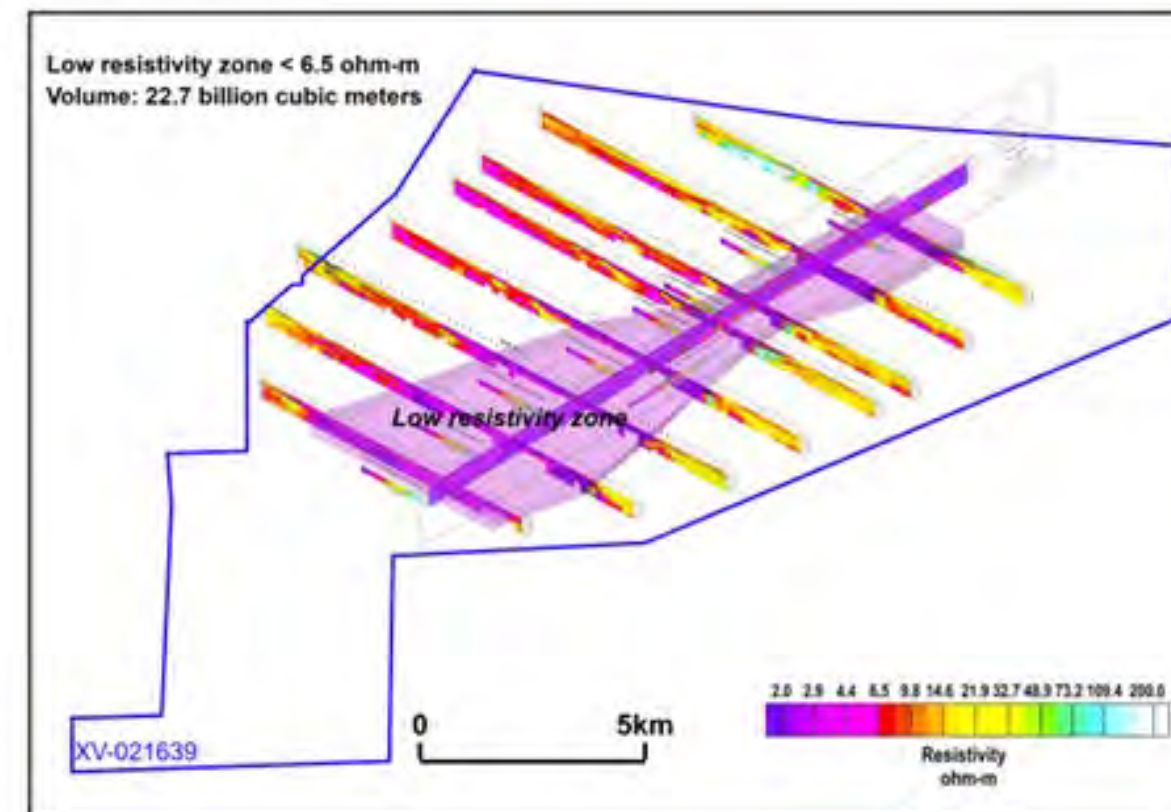
...The geology and morphology of the property is highly prospective, with some parallels to Nevada playa basins and South American salars. It was heartening to see some artisanal salt harvesting in the surface evaporite layers, contained in the low-lying dry ponds and lakes: a good indication of brine presence.

Dr. Mark King, PhD, P.Geo ”



2022: ION ENERGY AGGRESSIVELY PURSUING ITS EXPLORATION VISION

- In 2022, ION's team successfully completed almost 100 kms of TEM survey, indicating strong conductivity and low resistivity that is typical of a significant brine aquifer.
 - A shallow, auger drilling program (73 holes during April and May);
 - An 82 line-km TEM geophysical survey (results announced in July (which defined a large low resistivity zone); and
 - A follow-up 16-km TEM survey (which confirmed the continuity of the low resistivity zone).
- The TEM surveys outlined a 22.7 billion m³ brine aquifer with a cut off of <6.5ohm.
- Drawing similarities to assets in the Lithium triangle.



Low resistivity zone volume at Urgakh Naran

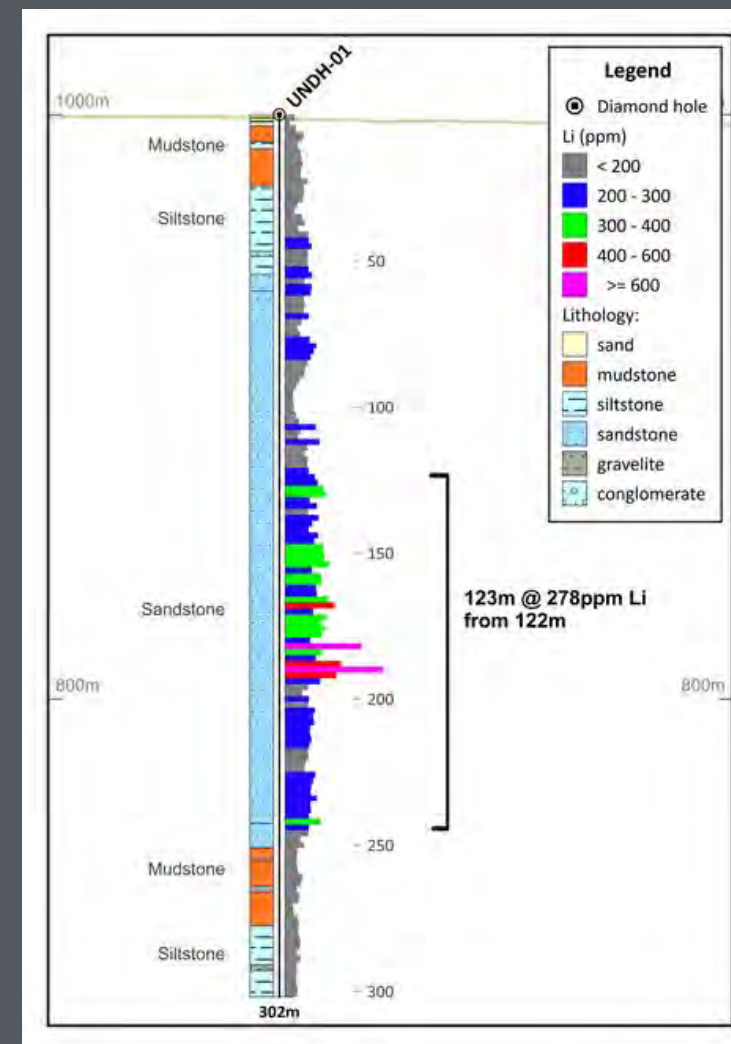


COMPLETION OF DIAMOND CORE & WATER WELL DRILLING

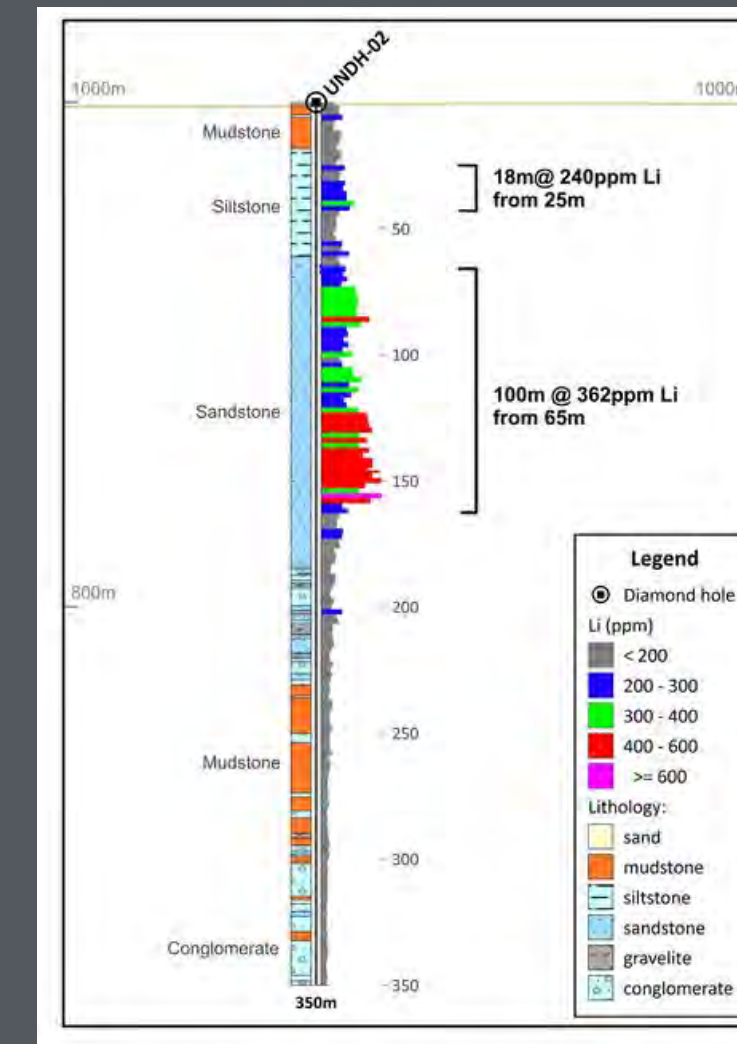
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- Successfully completed the drilling of three lithological diamond core drill holes for a total depth of 954m, showing an average grade of +320 ppm Li, on average, over 100m intercepts.
- Notable two metre drill core results Include:
 - UNDH-01: 123m at 278ppm lithium from 122m, with maximum lithium reported at 832ppm over 2m;
 - UNDH-02: 100m at 362ppm lithium from 65m, with maximum lithium at 601ppm over 2m; and
 - UNDH-03: 71.4m at 360ppm lithium from 3.6m with maximum lithium at 911ppm over 2m.

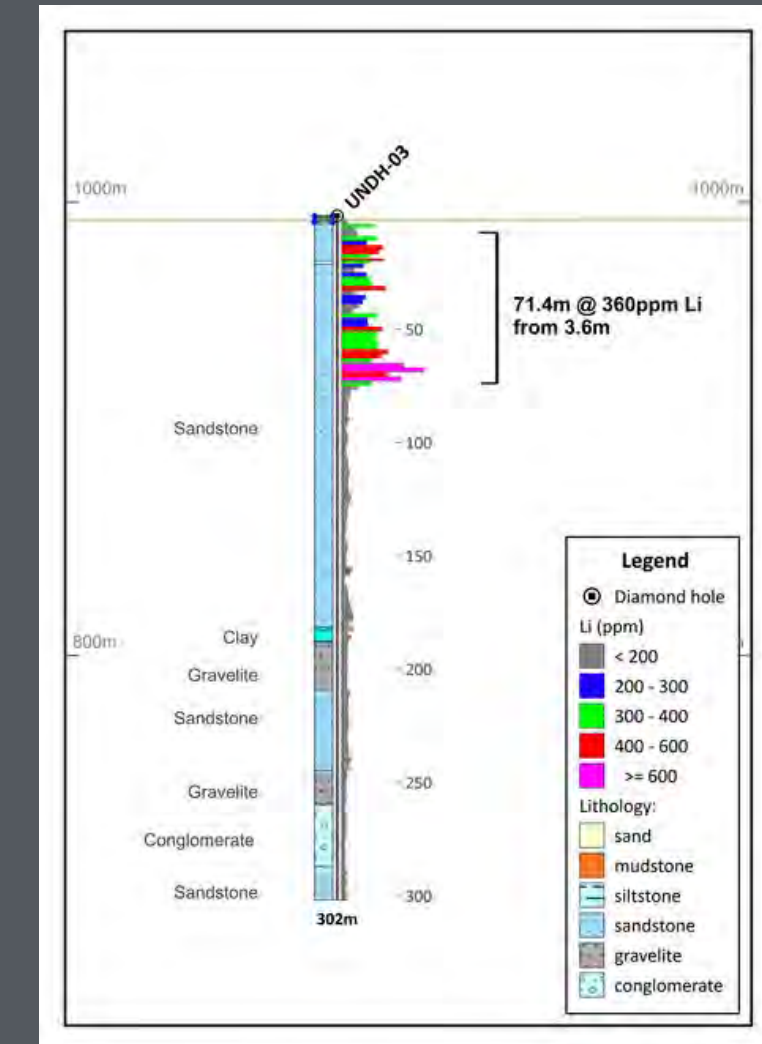
Three hydrogeological test wells (or water wells) have been drilled, to observe the aquifer's hydrogeology to determine the flow rates and average grades so that an early lithium resource indication can be calculated.



UNDH-01 Lithium Results



UNDH-02 Lithium Results



UNDH-03 Lithium Results



Waterwell rig at UNWH-01, Urgakh Naran

Diamond core drilling at UNDH-02



Q2 2023: ION On Path Towards Inferred Calculation

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- Deployed Solinst pumps, bailers and various hydrogeological testing equipment on site;
- Hydrogeological testing will be the foundation for upcoming NI 43-101 resource estimates and is expected to advance Urgakh Naran to a position in which an inferred resource can be calculated.



BUILDING OUT A DIVERSIFIED GLOBAL PORTFOLIO: ION ENERGY's CANADIAN ASSETS

CANADA'S EXCITING LITHIUM HARD ROCK POTENTIAL IN YELLOWKNIFE

- Canada is one of the most exciting jurisdictions for hard rock lithium pegmatite exploration;
- Pegmatites are a host material for lithium, and are an exceptionally coarse grained igneous rock, similar to granite, with interlocking crystals, formed by the consolidation of magma that intruded into other rock, and is usually found as dykes, lenses or veins;
- Numerous pegmatites were discovered within a 100-km radius east, northeast and southeast of Yellowknife. Historic (pre NI 43-101) inferred tonnage for eight of those deposits varied from 2.3 million tonnes (grading 1.5% Li₂ O) to 13.9 million tonnes (grading 1.2% Li₂ O)¹;
- The Yellowknife Pegmatite Province is the one of the original Canadian lithium pegmatite districts.

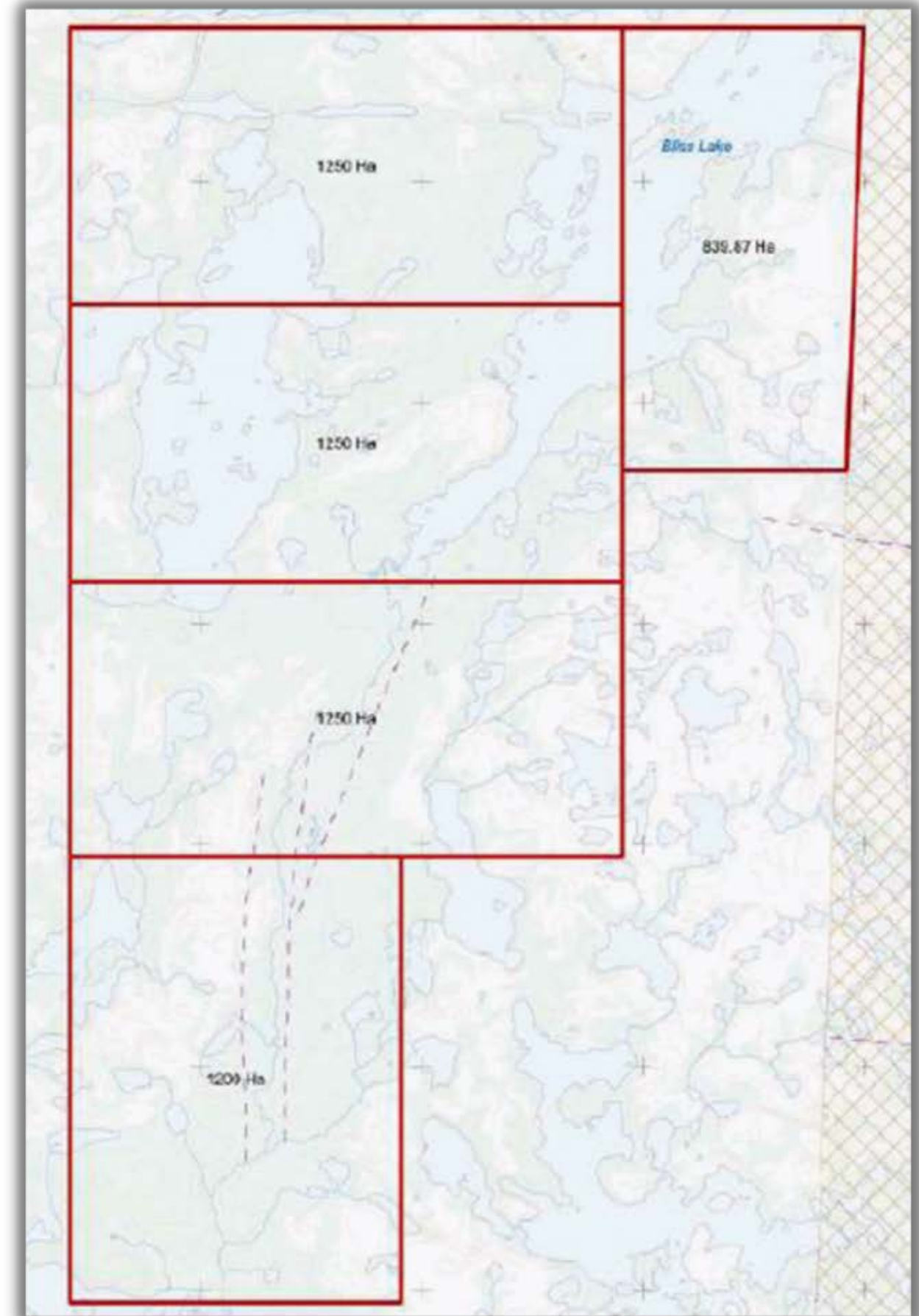
¹ Government of Northwest Territories, 'Investment Opportunities', Lithium-Li Fact Sheet



ION ENERGY'S CANADIAN ACQUISITION:

BLISS LAKE LITHIUM PEGMATITE PROJECT

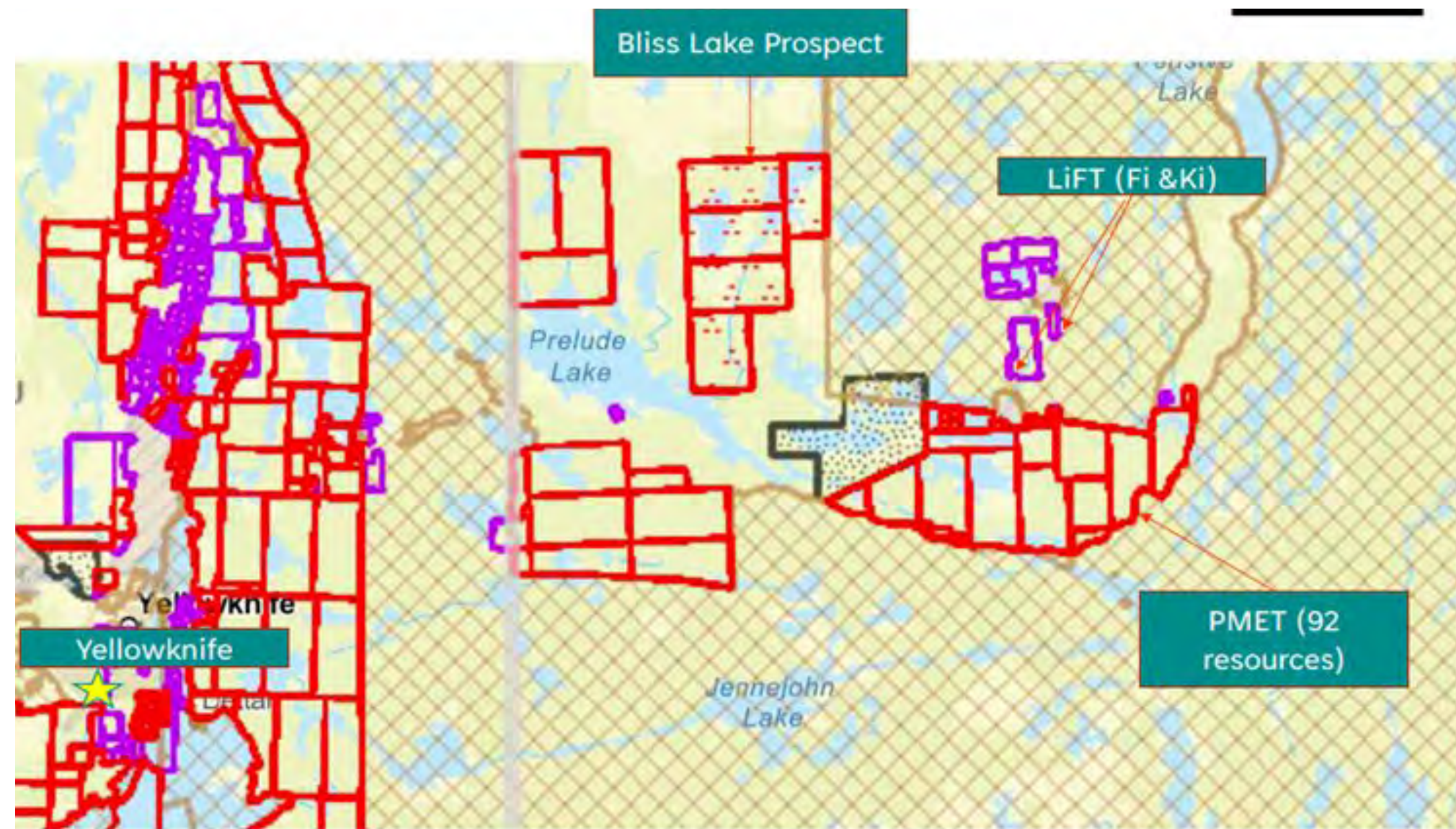
Within kilometers from other proven pegmatite fields, allowing ION Energy to build out a diversified global lithium portfolio in strategic jurisdictions.



Bliss Lake Tenements, North West Territories

BLISS LAKE LITHIUM PEGMATITE PROJECT

- Bliss Lake Lithium Project is 5,798 hectares in area and totals five contiguous licences;
- Less than 15km from Li-FT Power Ltd's "Road Access Group" where numerous lithium bearing pegmatites have been identified and sampled with over 1% Li₂O;
- Numerous pegmatite occurrences identified from Landsat images on the Bliss Lake Project the largest of which is interpreted to be over 300 metres in strike length;
- 30 kms from Yellowknife, 5 kms from road networks; and
- Exploration to commence immediately.



Bliss Lake Prospect Staked Area

LITTLE NAHANNI CLAIMS, NORTHWEST TERRITORIES

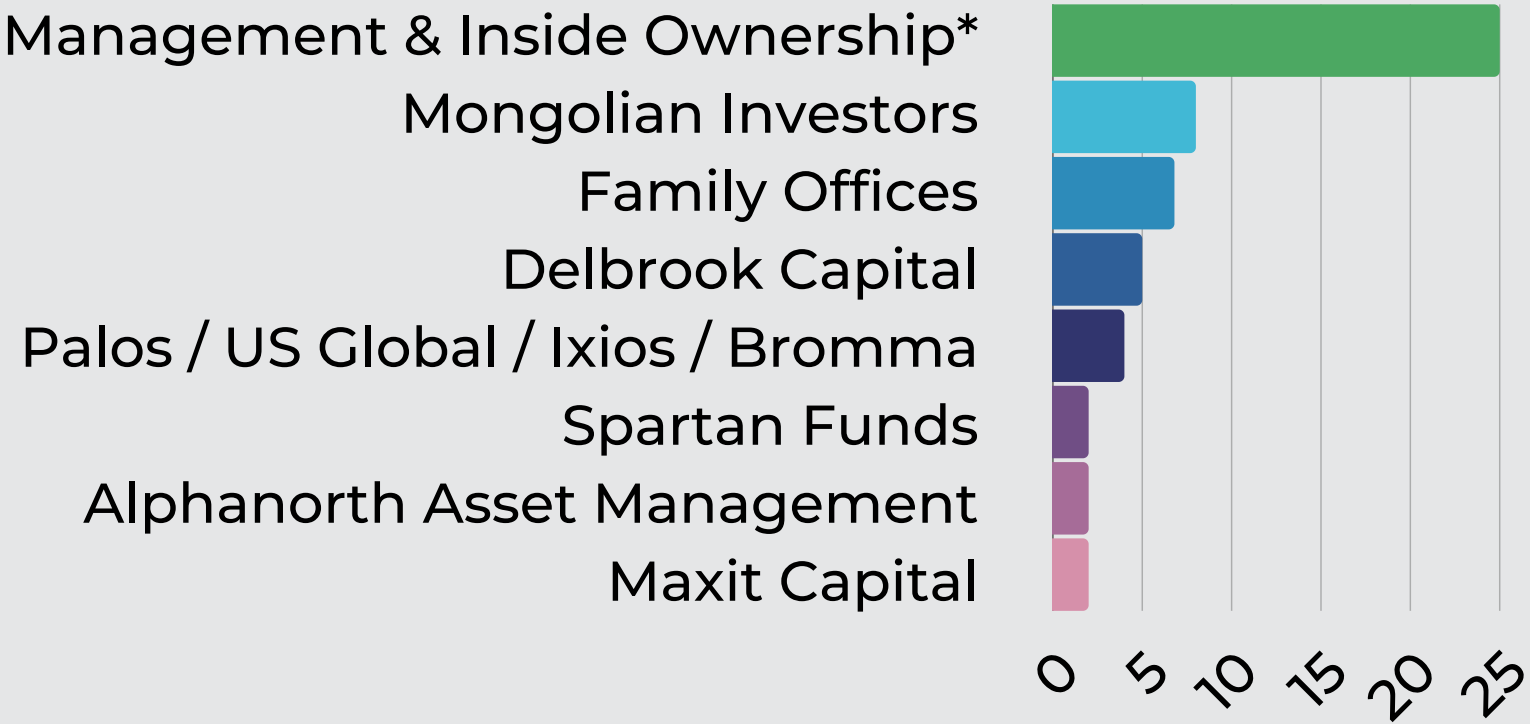
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- Little Nahanni acquisition announced in August 2023, and covers approximately 900 hectares;
- Situated in a pegmatite-rich area, with pegmatites first identified in 1961;
- In close proximity to Lake Winn Resources Corp and Li-FT Power assets, where significant results of lithium have been identified;
- Underexplored opportunity for lithium discovery and positive partnerships with regional stakeholders; and
- Will complement ION's current lithium exploration activities in Northwest Territories.



BASIC COMMON SHARES OUTSTANDING	65,387,462
WARRANTS @40C (EXP. JULY 20, 2024)	4,000,000
WARRANTS @50C (EXP. APR 13, 2024)	690,000
WARRANTS @70C (EXP. APR 13, 2024)	11,500,000
OPTIONS @30C (EXP. FEB 3, 2025)	2,072,000
OPTIONS @32C (EXP. OCT 21, 2025)	3,000,000
OPTIONS @55C (EXP. DEC 1, 2023)	100,000
FULLY DILUTED SHARES OUTSTANDING	81,329,605
SHARE PRICE (JANUARY 4)	USD \$0.09 CAD \$0.11
MARKET CAPITALIZATION (C\$)	USD \$5.7 M CAD \$7.2 M

OWNERSHIP



PRICE SUMMARY



OUR CATALYSTS

DELIVERING ON AGGRESSIVE GROWTH



OUR STRATEGIC ADVANTAGE

Company	Location	Stage	Hectares	Enterprise Value (C\$)	EV/ Hectare (C\$)
Ion Energy Ltd.	Mongolia	Exploration	111,528	\$ 16,455,112	\$ 148
Enertopia Corp.	U.S.	Exploration	1,760	\$ 6,932,883	\$ 3,939
Wealth Minerals Ltd.	Chile	Exploration	59,227	\$ 118,475,456	\$ 2,000
Lithium Chile Inc.	Chile	Exploration	132,778	\$ 126,929,384	\$ 956
Alpha Lithium Corp.	Argentina	Exploration	32,500	\$ 141,794,458	\$ 4,363
Argentina Lithium & Energy Corp.	Argentina	Exploration	67,482	\$ 32,092,549	\$ 476
Arena Minerals Inc.	Argentina & Chile	Exploration	20,000	\$ 257,044,884	\$ 12,852
Vision Lithium Inc.	Canada	Exploration	53,060	\$ 26,099,803	\$ 492
Average					\$ 2,807
Average (excl. outliers)					\$ 1,551

*We consider Arena Minerals as an outlier

Source: Couloir Capital, Public Disclosures

Price target \$0.94 for TSX-V: ION
- October 2023 - **Couloir Capital**

Comparable companies and the implied valuations offer a wide range from C\$286 EV/Hectare to C\$20,810 EV/ Hectare with a median of C\$3,715. This compares to ION Energy at C\$174 EV/Hectare.

Stonegate Capital

Price target \$ 1.18 for TSX-V: ION
- June 2022 - **FRC**

INVESTMENT SUMMARY

When you invest in ION Energy, you can count on our team with over 150 years of combined in-country, mining and lithium-specific experience.

Since listing on the TSX Venture Exchange in 2020, we have rapidly forged ahead in following through on our strategic objectives, including a strategic exploration alliance with an emerging copper explorer, a \$5.75 million public offering to support ION's aggressive exploration & growth strategy, and an acquisition in Canada's Yellowknife lithium pegmatite province.

INFERRED RESOURCE

Imminently expected as brine samples assayed

STRATEGIC LOCATIONS

Superior geographic locations in Mongolia and promising early results

WE'RE EXPERIENCED

Strong team with proven track record

RISE IN DEMAND

Lithium is a commodity with high global demand

MARGINS

Low cost production profile

INVESTMENT

Well-positioned to create shareholder value

CONTACT US



Contact our Chief Executive Officer,
Ali Haji, to discuss your investment.



Ali@IONEnergy.ca



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