



HOMBRE MUERTO NORTH LITHIUM PROJECT

From Lithium Explorer to Lithium Developer

September 2023
www.lithiumsouth.com

TSX-V: LIS
OTCQB: LISMF

FORWARD LOOKING STATEMENTS AND DISCLAIMERS

The information contained herein is provided solely for the reader's general knowledge. The information is not intended to be a comprehensive review of all matters and developments concerning Lithium South Development Corporation (LIS). All information is offered on a "best intentions" basis. No securities commission or other regulatory authority in Canada or any other country or jurisdiction has in any way passed upon this information and no representation or warranty is made by LIS to that effect.

This presentation may include "forward looking statements." All statements, other than statements of historical fact, included herein, including without limitation, statements regarding exploration results, future plans, or objectives of LIS.

Some of the statements herein are forward looking statements that involve risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. LIS does not make any representations, warranties or guarantees, express or implied, regarding the accuracy, completeness, timeliness, noninfringement, or merchantability or fitness for a particular purpose or use of any information contained in presentation.

Furthermore, the information in no way should be construed or interpreted as, or as a part of, an offering or solicitation of securities. Investors are advised to discuss all of their stock purchases with a registered securities broker or personal finance professional prior to investing. No obligation, responsibility or liability shall be incurred by LIS or any of its officers, directors, employees or agents for any loss or damage whatsoever, whether incidental, special, indirect, consequential, punitive, exemplary, or for lost profits in connection with, caused by or arising from any delays, inaccuracies, errors or omissions in or infringement by, or from any use of, or reliance on such information contained in this presentation.

THE FINANCIAL PROJECTIONS PERTAINING TO THE HOMBRE MUERTO LITHIUM PROJECT ARE BASED UPON ASSUMPTIONS, EXPERIENCE AND PROPRIETARY KNOWLEDGE OF KEY LITHIUM MANAGEMENT. FURTHER EXPLORATION OF THE HOMBRE MUERTO NORTH LITHIUM PROJECT IS REQUIRED TO CONFIRM THE ASSUMPTIONS CONTAINED WITHIN THIS PRESENTATION AND TO VERIFY AND CONFIRM THE POTENTIAL OF THE FINANCIAL MODEL.

THIS PRESENTATION IS FOR DISCUSSION PURPOSES ONLY.

The production of this presentation was supervised by William Feyerabend, a Qualified Person as defined under National Instrument 43-101. Mr. Feyerabend approves the scientific disclosure contained herein.

1.58 Mt LCE RESOURCE

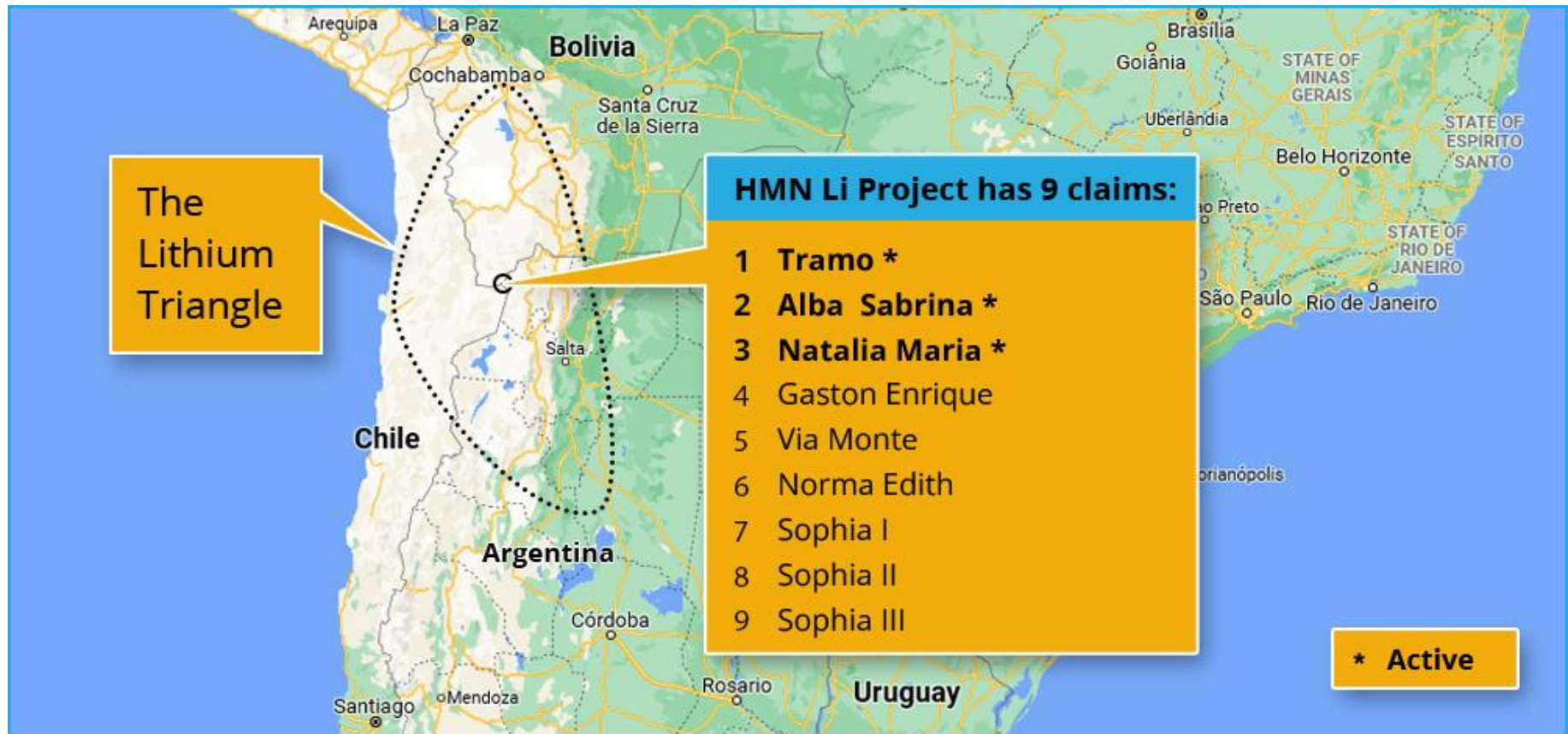
- **NEW** 1.58 million tonne lithium carbonate equivalent resource from 2023 drill program.
- 736 mg/L Lithium average with a low Magnesium to Lithium ratio of 3.2 to 1.
- A pilot plant is being designed to prove low risk evaporation technology as the recovery method.
- With recent consolidation on the salar, LIS, Galan, POSCO and the new Livent/Alkem merger are the four players.
- POSCO is spending US\$ 4 Billion to develop their lithium production adjacent to the LIS claim package. With a resource update pending, LIS could be revalued in relation to its peers.



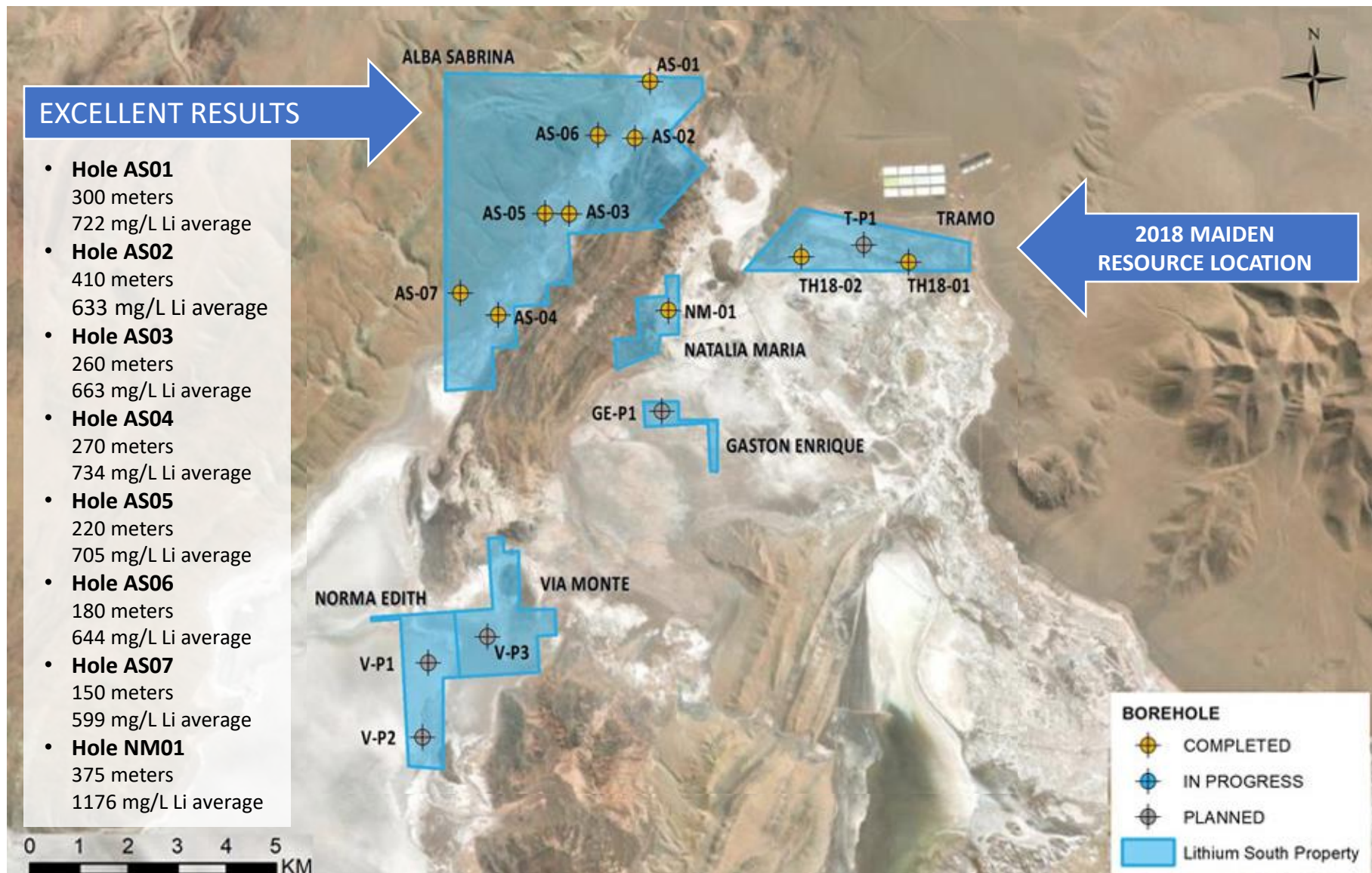
HOMBRE MUERTO SALAR – LITHIUM TRIANGLE

The **Hombre Muerto North Lithium Project** (HMN Li Project) resides within The Lithium Triangle, a region of the Andes that borders Argentina, Bolivia and Chile, known for its lithium production.

The property package of 5,687 hectares is comprised of nine mining concessions, six on the salar, and three off the salar. The project is strategically located with developed infrastructure on the renowned Hombre Muerto Salar in the Salta province of Argentina.



MAP OF DRILL TARGETS AND EXCELLENT LITHIUM RESULTS



LITHIUM BRINE SAMPLES COLLECTED FROM EXPLORATION HOLES

Well	Property	Brine Samples	Average Li concentration [mg/L]	Porosity Samples
DDH-AS22-01	Alba Sabrina	7	722	13
DDH-AS22-02	Alba Sabrina	6	633	14
DDH-AS22-03	Alba Sabrina	6	663	15
DDH-AS22-04	Alba Sabrina	10	734	15
DDH-AS22-05	Alba Sabrina	8	705	6
DDH-AS22-06	Alba Sabrina	3	644	6
DDH-AS22-07	Alba Sabrina	1	599	2
DDH-AS22-07A	Alba Sabrina	1	694	3
DDH-NM23-01	Natalia Maria	9	1176	11



RESOURCE SUMMARY BY CLAIM BLOCK

Table 1: Lithium South's updated lithium resource estimate summarized by claim block.

Parameter	Alba Sabrina			Natalia Maria	Tramo	All Sites
	Measured	Indicated	Total	Measured	Measured	Total
	Brine Volume (x10 ³ m ³)					
	217,900	31,700	249,600	12,900	141,600	404,100
	Average Concentration (mg/L)					
Lithium	696	712	698	1,103	769	736
	Tonnage					
Lithium	151,700	22,600	174,200	14,200	108,900	297,400
Lithium Carbonate	807,300	120,200	927,500	75,800	579,800	1,583,100

Notes: 500 mg/L lithium cut-off.

Lithium carbonate mass calculated as lithium mass multiplied by the equivalency factor (5.3228).

Volume and tonnage numbers are rounded, and may not add up exactly, due to rounding.

Mineral resources are not mineral reserves and do not have demonstrated economic viability.

TRAMO CLAIM BLOCK HOSTS THE MAIDEN RESOURCE CALCULATION



TRAMO CLAIM BLOCK

2018 two pumping/production wells installed.

High Quality, Low Impurities Brine

>750 mg/L Li, low Mg/Li ratio 2.6:1

RESOURCE EXPANSION COMPLETION

The 2023 program will likely allow the expansion of the resource and the revaluation of the production potential to greater than the current 5,000 TPA.



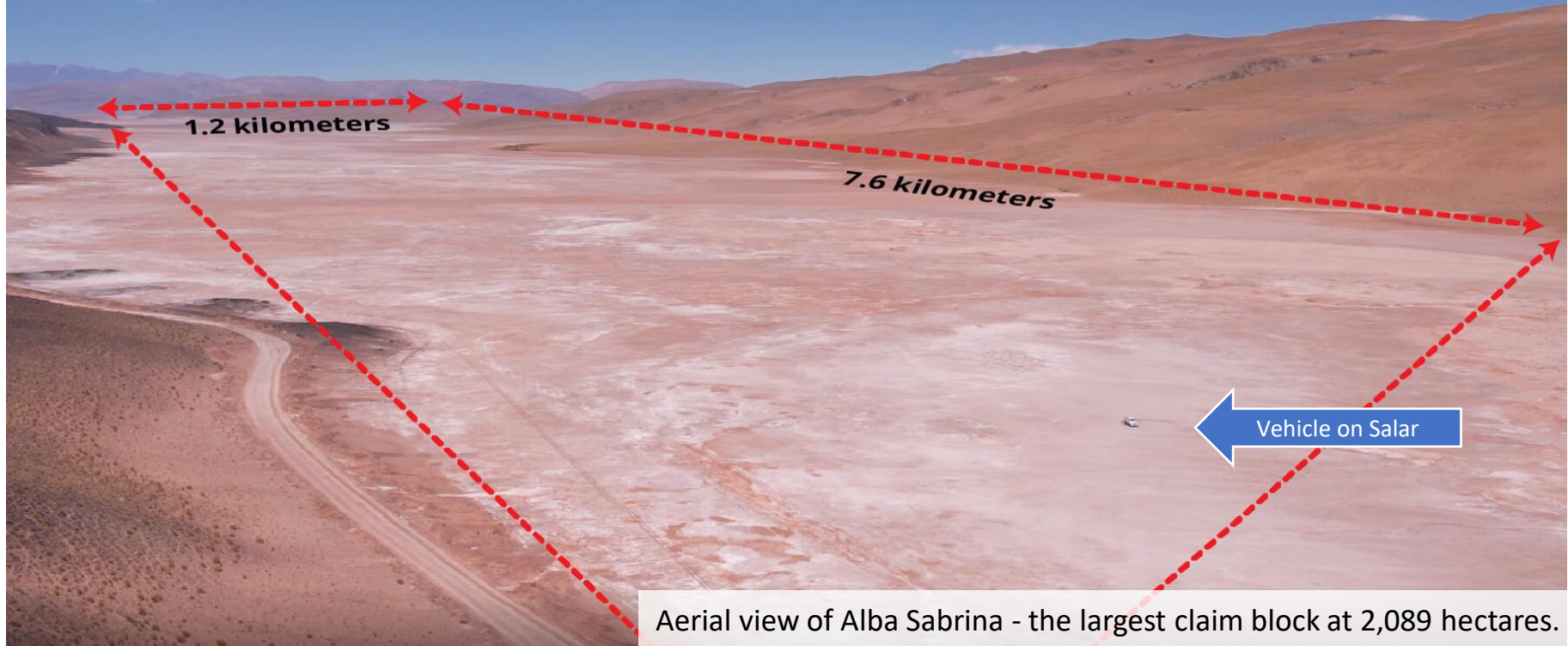
DRILL PAD ON ALBA SABRINA CLAIM BLOCK
8-hole drill program complete. Results indicate a high-grade, low magnesium brine zone.



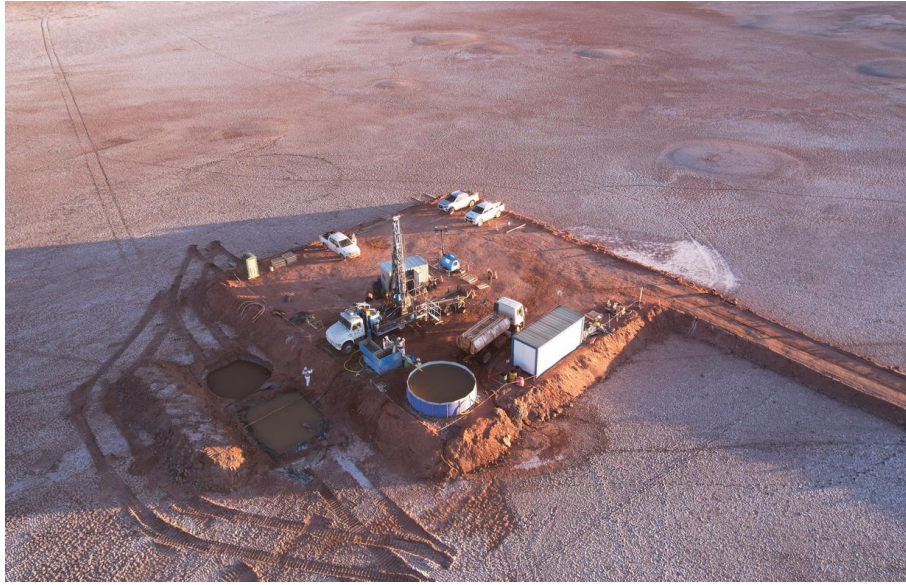
Lithium Resource Expansion

2022-23 drill program to define a larger resource to support a larger lithium plant

Drill program has delineated a brine-containing sub-basin approximately 1.2 kilometers wide by 7.6 kilometers in length.



ALBA SABRINA CLAIM – ADDING TO A HIGH QUALITY RESOURCE



2019 OUTSTANDING RESULTS based on US\$12,420 per tonne LCE pricing

National Instrument 43-101 calculated Resource Estimate

Resource Category	Brine Volume (1000m ³)	Li Grade (mg/L)	Li (tonnes)	Li ₂ CO ₃ Equivalent (tonnes)	K Grade (mg/L)	K (tonnes)	KCl Equivalent (tonnes)
Measured	119,862	797	96,000	509,000	7,039	844,000	1,609,000
Indicated	21,936	534	12,000	62,000	5,517	121,000	231,000
M&I	141,798	756	107,000	571,000	6,803	965,000	1,840,000

The resource estimate was prepared in accordance with the requirements of National Instrument 43-101 and uses best practice methods specific to brine resources, including a reliance on core drilling and sampling methods that yield depth-specific chemistry and effective (drainable) porosity measurements. The resource estimation was completed by independent qualified person Mr. Michael Rosko, M.Sc., C.P.G. of the international hydrogeology firm E.L. Montgomery & Associates (M&A). Tonnages are rounded off to the nearest 1,000. Cut-off grade: 500 mg/L lithium, but no laboratory results were less than the cut-off grade. The conversion used to calculate the equivalents from their metal ions is based on the molar weight for the elements added to generate the equivalent. The equations are $\text{Li} \times 5.3328 = \text{lithium carbonate equivalent}$ and $\text{K} \times 1.907 = \text{potassium chloride equivalent}$. The reader is cautioned that mineral resources are not mineral reserves and do not have demonstrated economic viability.

Preliminary Economic Assessment

After-tax net present value (8% discount rate)	\$217 million
After-tax internal rate of return (IRR)	28%
CAPEX capital expenditures	\$93.3 million
OPEX cash operating costs (per metric tonne of lithium carbonate)	\$3,112
Average annual production (lithium carbonate)	5,000
Mine life	30 years
Payback period (from commencement of production)	2 years 5 months

The PEA was prepared by Knight Piesold Consulting (KP) and JDS Energy and Mining (JDS), both of Vancouver, in accordance with the standards set out in National Instrument 43-101 Standards of disclosure for Mineral Projects (NI 43-101), and CIM's Best Practice Guidelines for Mineral Processing (BPGMP). NI 43-101 PRELIMINARY ECONOMIC ASSESSMENT REPORT for the HOMBRE MUERTO NORTE PROJECT SALTA PROVINCE, ARGENTINA Prepared by: Knight Piésold Ltd. 1400 - 750 W Pender St. Vancouver, BC V6C 2T8 JDS Energy & Mining Inc. Suite 900, 999 W Hastings St. Vancouver, BC V6C 2W2 Qualified Persons Company Richard Goodwin, P.Eng. JDS Energy and Mining Inc. Alex Mezei, P.Eng. Ken Embree, P.Eng. Knight Piésold Ltd. Knight Piésold Ltd. Mike Rosko Montgomery and Associates 2019.

The Preliminary Economic Assessment is preliminary in nature, there is no certainty that the Preliminary Economic Assessment will be realized. The economic analysis is based upon mineral resources that are measured and indicated, but are not mineral reserves, and have not demonstrated economic viability.

PROVEN EVAPORATION TECHNOLOGY

- The high quality of the HMN Li brine allows for excellent evaporation recovery
- Using the large solar resource available at 15,000 feet altitude, evaporation will require less energy
- Proven technology with a successful operating history within the industry.



Lithium South is completing construction of a pilot plant to test lithium evaporation characteristics. Test work is underway on the Tramo claim block.

PRODUCTION WELL INSTALLATION UNDERWAY

UP TO FIVE PRODUCTION WELLS SCHEDULED FOR INSTALLATION



MANAGEMENT & DIRECTORS

Adrian F. C. Hobkirk

PRESIDENT
CHIEF EXECUTIVE OFFICER

Adrian has 32 years of experience in the mining and venture capital industry. He is the co-discoverer of the Dublin Gulch Gold Deposit (Yukon) and the Yarnell Gold Mine (Arizona). He has explored for precious metals around the world and is currently developing the 1.5-million-ounce AuCuEq Groete Gold Copper Project in Guyana. He is the founder of Lithium South Development Corp., having acquired the HMN Lithium Project and managed its development to date. Mr. Hobkirk has extensive experience working in Argentina.

Christopher P. Cherry

CHIEF FINANCIAL OFFICER AND
DIRECTOR

Mr. Cherry has over 20 years of corporate accounting and audit experience. Formerly an auditor with KPMG, Mr. Cherry has extensive corporate experience and has held senior-level positions for several public mining companies. He is a certified general accountant and a chartered accountant.

Yi Hua Dai

DIRECTOR

Yi Hua (PhD) founded Chemphys in 1998 to focus on battery quality and high purity lithium processing. He is a certified Technical and Economic Expert of Sichuan Province and China Non-ferrous Metals Industry Association Expert. Yi Hua has a proven record of leading the development of lithium manufacturing techniques with 24 patents valid and under application. .

Alison Dai

DIRECTOR

Ms. Dai has 9 years of experience in the lithium industry and is responsible for business development and is a director for Chengdu Chemphys Chemical Industry Co., Ltd. In her role at Chemphys, Ms. Dai has been involved in developing strategic partnerships, international markets and procurement. Prior to joining Chemphys, Ms. Dai was an investment banking analyst at J.P. Morgan Australia in the mining and metals team. Ms. Dai holds a double degree in Bachelor of Laws and Bachelor of Commerce from the University of Western Australia.

Jan Urata

CORPORATE SECRETARY

Ms. Urata brings over 20 years experience in public company corporate finance and securities related matters including her years as a paralegal at McMillan. She also serves as a Corporate Secretary to other TSX Venture issuers.

LITHIUM SOUTH TEAM IN ARGENTINA & CHINA

Fernando E. Villarroel

VICE PRESIDENT &
DIRECTOR PROJECT DEVELOPMENT

Mr. Villarroel has 12 years of experience in the mining industry in Argentina with a focus on Lithium process development. From 2009 to 2013 he worked with Lithium Americas Corp. (Minera Exar S.A.) as Project Manager which included construction management and commissioning of the initial pilot evaporation facilities and laboratory at the Cauchari Olaroz Lithium Project. He has also acted as a consultant to Neo Lithium and International Lithium Inc. He holds a degree in Industrial Engineering and has specialized training in Data Modeling & Analysis for Business and Engineering from M.I.T.

Gerardo Ismael Martinez

MINING ENGINEER AND DRILL
PROGRAM MANAGER

Mr. Martinez has vast industry experience in managing and supervising large drilling programs both in Guyana and Argentina. He holds a mining engineer degree from the National University of San Juan located in San Juan, Argentina. He is proficient at managing the technical operations of planning and executing drill programs for proper and successful mineral and resource extraction.

Vijay Mehta

TECHNICAL CONSULTANT AND
QUALIFIED PERSON

A recognized expert in lithium mining and processing, Dr. Mehta (PhD) brings almost five decades of experience to LIS. His experience includes evaluating the technological and economic feasibility of lithium brine projects around the world. He was the Product and Process Technology Development Leader of FMC Corporation (NYSE: FMC) for 30 years and was one of the founding developers of FMC's lithium plant at the Hombre Muerto Salar, Argentina, which has been in production since 1998. He holds 12 lithium related U.S. patents and has published over 50 technology reports and ten academic papers.

Chemphys

DIRECT LITHIUM EXTRACTION &
PROCESSING TEAM

Chemphys have an 11-member technical team working full time on development of the Direct Lithium Extraction Technology. Founded in 1998, Chemphys is recognized as one of the world's leading lithium processing and technology companies with over 22 patents (valid and under application) developed in-house.

Dr. Mark King

QUALIFIED PERSON (QP)

Dr. King is the Principal Hydrologist and President of Groundwater Insight, Inc (GWI). Dr. King has more than 30 years of experience in groundwater research and consulting. His resource and reserve estimation experience on major lithium brine projects is arguably the most extensive of any geologist, hydrogeologist, or engineer in the world.

Shares Issued & Outstanding

97 million

Fully Diluted Shares Issued & Outstanding

163.3 million

Cash (June 30, 2023)

CDN\$4.6 million approx.

Fully Diluted Cash Position

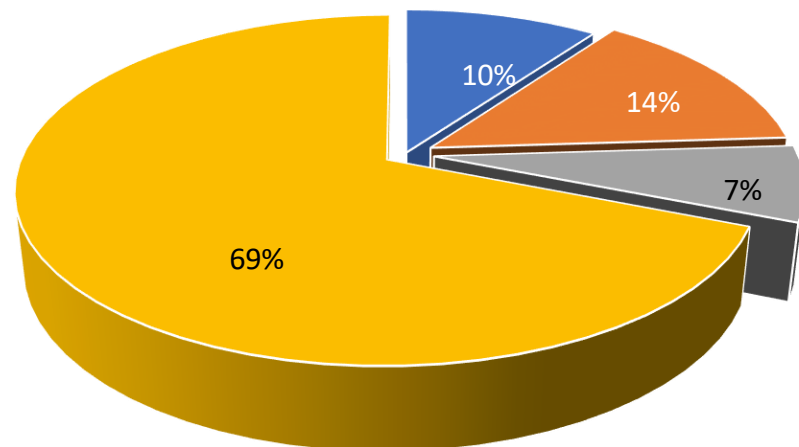
CDN\$42.6 million

Market Capitalization

CDN\$43.2 million

No Debt and HMN Li Project is owned 100%

Shareholder Structure



■ Financial Groups
■ Key Investors

■ Management and Key Associates
■ Public Float

開飛 CHEMPHYS



a high-end lithium refinisher with decades of experience in the lithium industry.

Chemphys of Chengdu China, an early investor holds 6% and holds a conditional offtake agreement for the project ¹. Chemphys provides technical assistance and lithium market expertise.

1. Offtake conditional on Company meeting 80% initial design capacity by 2029.



BASED UPON RESULTS TO DATE MANAGEMENT BELIEVE LIS COULD BE SUBSTANTIALLY REVALUED

1. HMN Li Project owned 100% on Hombre Muerto Salar
2. Located in Salta Province adjacent to POSCO \$ 4 Billion development
3. Completed very successful resource expansion drill program
4. New updated NI 43-101 lithium resource pending
5. Pilot plant and pumping wells next phase



US \$4 Billion lithium development next door

Recent Lithium Acquisitions – Hot M&A Market



Millennial sold to Lithium Americas for **US \$400 million**



Lithea Inc. sold to Gang Feng for **US \$962 million**



Neo Lithium sold to Zinjin Mining for **CAD \$960 million**



Galaxy sold to Posco for **US \$280 million**



Rincon Mining sold to Rio Tinto for **US \$825 million**



Arena Minerals sold to Lithium Americas for **US \$227 million**

The background of the slide is a landscape photograph of a dry lake bed with cracked earth in the foreground and distant mountains under a blue sky with light clouds. The company name is centered at the top, followed by the contact information in the middle, and the address and stock symbols at the bottom.

Lithium South

DEVELOPMENT CORPORATION

CONTACT US

Adrian F.C. Hobkirk
President & Chief Executive Officer
1-855-415-8100
info@lithiumsouth.com
www.lithiumsouth.com

1681 Chestnut St. Suite 400
Vancouver, BC, CANADA, V6J 4M6

TSX-V: **LIS**
OTCQB: **LISMF**