

# **CORPORATE PRESENTATION**

## A two-pronged strategy for growth in energy metals



- LITHIUM Seymour Lake, Wisa Lake, Root Lake & Root Bay Lithium Projects
- GRAPHITE Manitouwadge Flake Graphite Project

# **CORPORATE OVERVIEW**



ASX Code	ADV
Shares on Issue	819 million
Options on Issue (various)	26M
Share Price	\$0.028
Market Cap @ \$0.031	A\$23M (undiluted)
3-Month Range	A\$0.026 - \$0.035
Cash at Bank	\$2.0M

### **Directors**

Neil Hackett: Non Executive Chairman

Brad Boyle: Executive Director

Piers Lewis: Non Executive Director

Dr Michelle Li: Non Executive Director

Major shareholders	%
Top 20 Shareholders	24
Directors/ Management	*7





Strategy to identify and define more than 10 Million tonnes of Lithium and Graphite resources in Tier-1 jurisdictions to enhance shareholder value, focusing on commodities with a strong growth outlook...

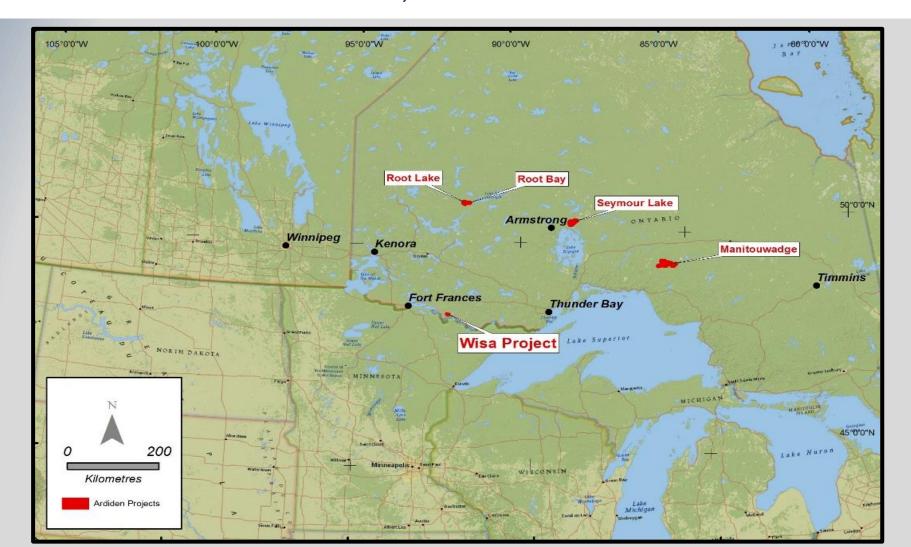




# **PROJECT LOCATIONS**



## ESTABLISHED TIER-1 MINING DISTRICT, SURROUNDED BY MAJOR MINING DEPOSITS



# **SOLID FUNDAMENTALS**



- A two-pronged strategy (Lithium and Graphite) for growth in energy metals (EV and Energy Storage)
- Excellent exploration and drilling results, to underpin maiden JORC Lithium and Graphite resources
- Ontario is an established Tier-1 mining district, with proactive development policies and support
- World class infrastructure (road, rail, power, phone and port facilitates) and direct access to rapidly expanding American and Asian EV and Energy Storage markets
- All year access to project locations
- Experienced Board, management and technical teams
- Strong provincial support from Ministry of Northern Development and Mines
- Established and good relationships with local first nations groups
- 2 x JORC Resource drilling programs already funded and underway



# SEYMOUR LAKE LITHIUM PROJECT



## EXCEPTIONAL LITHIUM GRADES CONFIRMED...

## **RESOURCE DELINEATION DRILLING PROGRAM UNDERWAY**

- Majority owned Lithium project comprises of 34 Claims with a total 7,019
   Ha
- Phase 1 of maiden resource delineation drilling program completed late 2016 with outstanding grades of up to 6.01% lithium oxide (Li<sub>2</sub>O) identified.
- 27 diamond drill holes of various lengths up to 105m were completed during Phase 1 drill program.
- Shallow spodumene-bearing pegmatites identified in diamond drill core, with collective mineralised zones up to 18m wide encountered.
- Pegmatite zones extended both west and east at the North Aubry prospect
   with the mineralisation remaining open to the east, west and at depth.
- Multiple substantial secondary sills of mineralisation identified beneath and parallel North Aubry contains high-grade lithium mineralisation
- Multiple spodumene-bearing pegmatites intersected at the Central Aubry prospect, remaining open to the north, east and at depth.



# DRILLING, EXPLORATION AND SAMPLING EXPANDS PROJECT



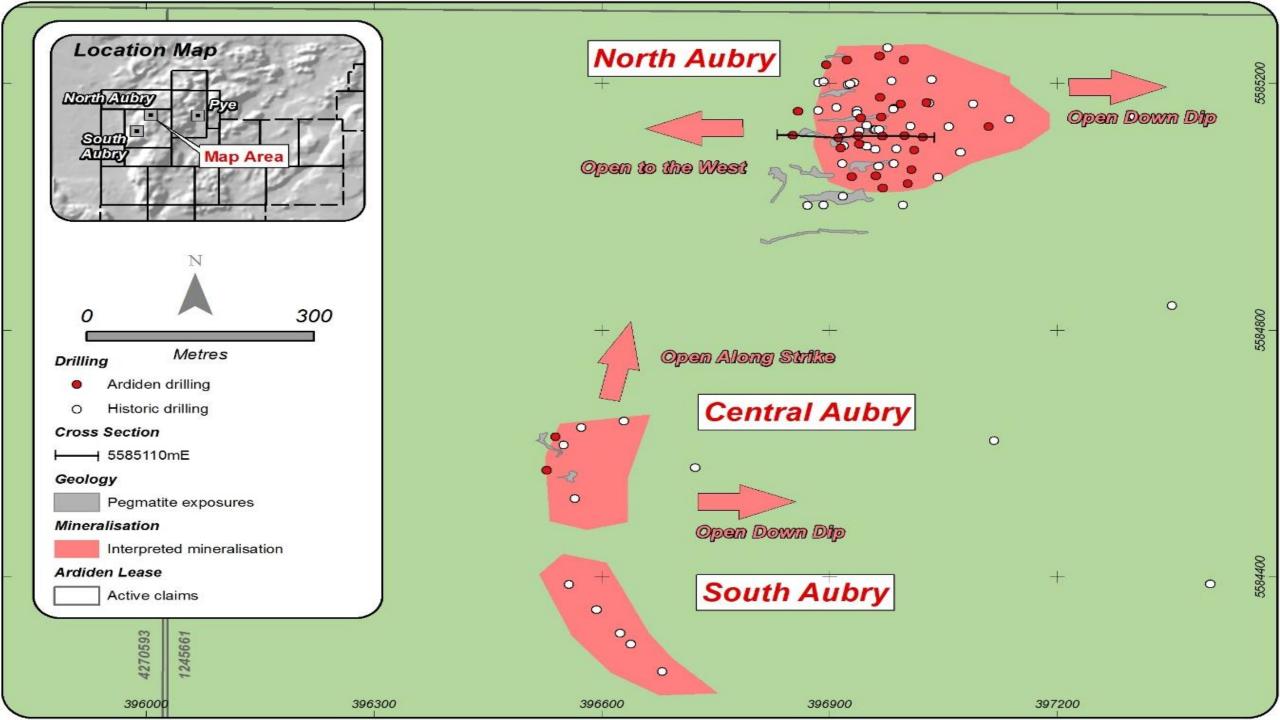
- A total of 388 drill core samples obtained in Phase 1 drill program:
  - 53% (205 samples) returned assays above 0.5% Li<sub>2</sub>O (cut-off grade) at an average grade of 1.86% Li<sub>2</sub>O; and
  - 30% (116 samples) returned assays greater than 1.5% Li<sub>2</sub>O at an average grade of 2.57% Li<sub>2</sub>O.
- Planning is now well underway for the implementation of the Phase 2 drill program, which is scheduled
  to commence at Seymour Lake after the completion of the Manitouwadge drilling program.
- Ardiden will complete a maiden Mineral Resource estimate for the North Aubry prospect at Seymour Lake, further to the drilling program completion
- Field program at Seymour Lake identifies surface exposures confirming the pegmatite swarm at or near surface of multiple pegmatite structures with visible spodumene (lithium-bearing mineral) crystals over a 5km strike length.
- Pegmatite development phases successfully classified by Ardiden and Mega Tantalite crystal zones identified at North Aubry and Pye pegmatites

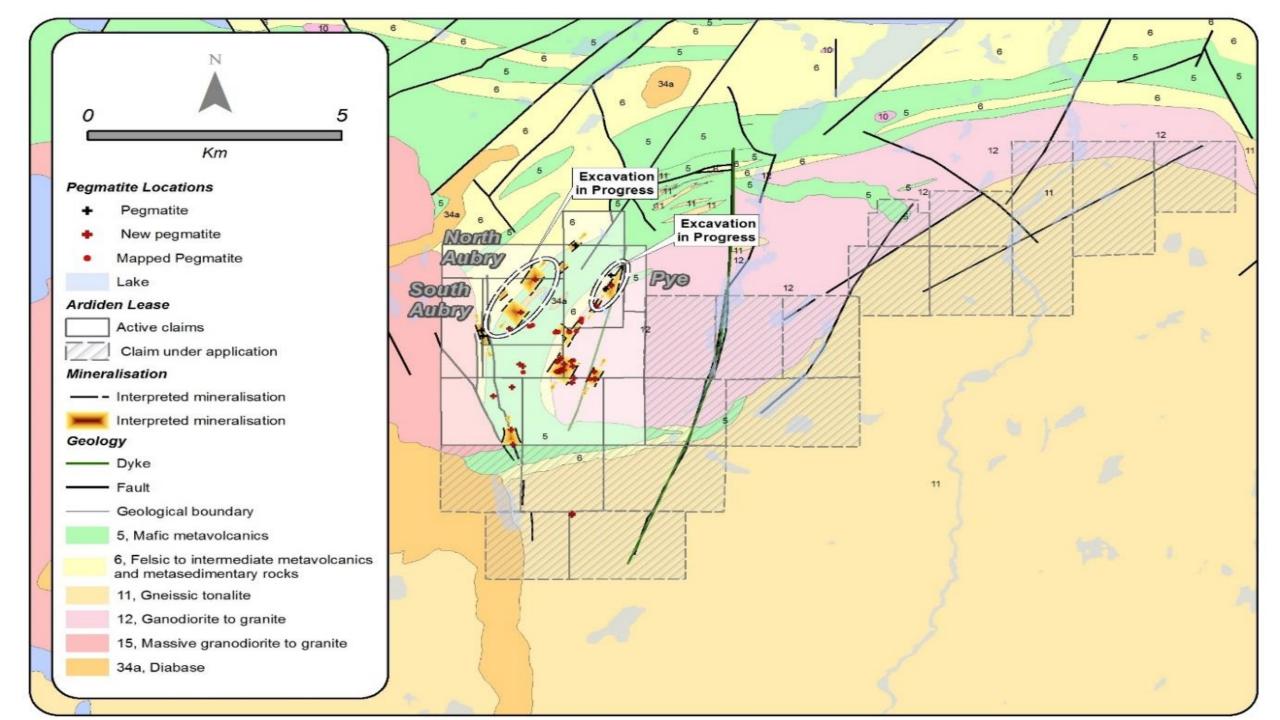
# POSITIVE METALLURGICAL RESULTS



## TESTWORK SUPPORT PROJECT'S COMMERCIAL POTENTIAL...

- Initial Heavy Liquid Separation (HLS) testwork on Seymour Lake spodumene returns excellent results, produced high grade lithium concentrate up to 7.73% Li<sub>2</sub>O.
- Preliminary tests show spodumene particles are well liberated at relatively course size.
- Production of the lithium concentrate at such a high grade well over the industry standard of 6% Li<sub>2</sub>O,
   as required by most lithium end-users.
- These preliminary testwork results are very encouraging and once again confirm the high quality of the Seymour Lake spodumene.
- Initial results indicate that there appears to be minimal gangue minerals in the concentrate, with  $Fe_2O_3$  and  $Fe_2O_3$  are specifically as a sum of the concentrate of th
- Further testwork will determine recovery rates, sizing and work is ongoing to develop a suitable processing flowsheet.







## MANITOUWADGE GRAPHITE PROJECT



## EMERGING FLAKE GRAPHITE OPPORTUNITY...

- Outstanding historic results from drilling completed in 2015 on 100% owned project:
  - High quality graphite coincident with strong EM anomalies confirmed over 10km strike length further 9.3km of strike yet to be tested
  - Widths of up to 41.6m (true width ~30m) of graphitic gneiss
  - Graphite grades up to 16.8% Total Graphitic Carbon intersected
  - Drilling to date suggests up to 80% of graphite is premium-priced jumbo/large flake size, flake sizes up to 4,200 microns identified
  - Simple, low-cost gravity and flotation beneficiation yields up to 96.8% purity for jumbo and large flake
- Exploration and geotechnical logging completed in 2016 at key Silver Star North prospect and future exploration and drilling.
- Located in an established mining province, with good access to infrastructure.

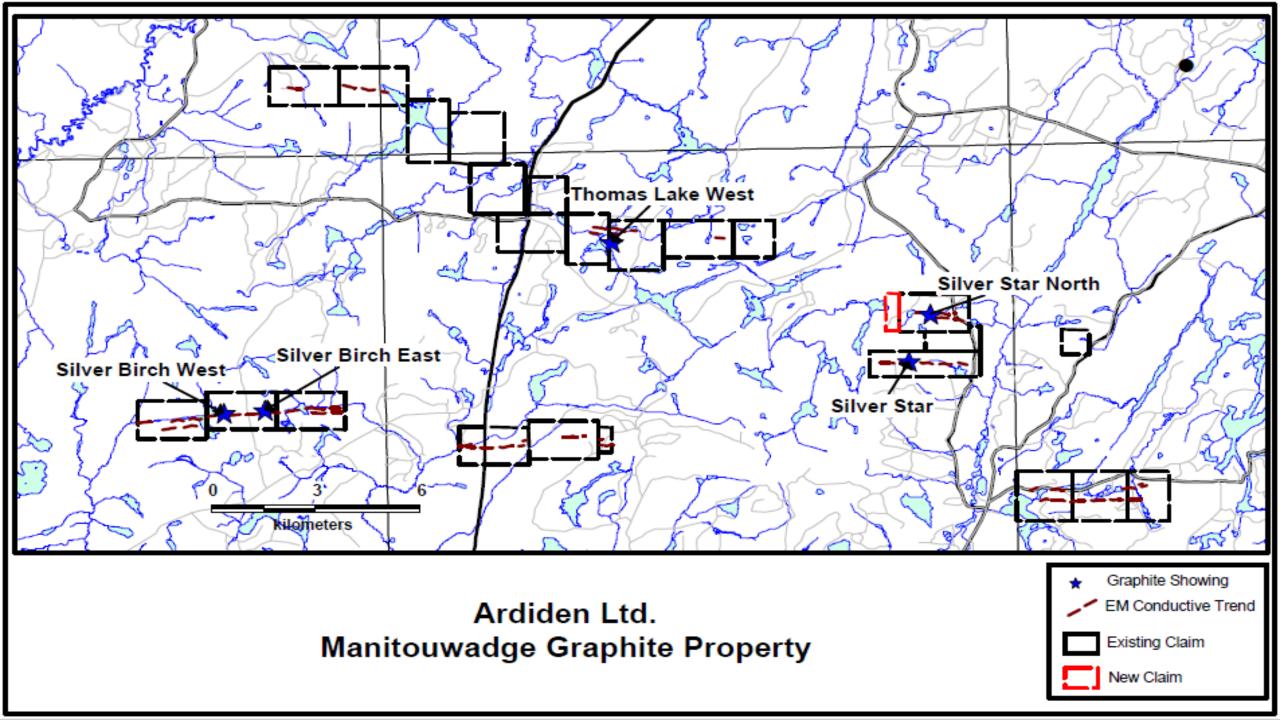
## MANITOUWADGE GRAPHITE PROJECT



PHASE 1 DRILLING...

### **RESOURCE DELINEATION DRILLING PROGRAM UNDERWAY**

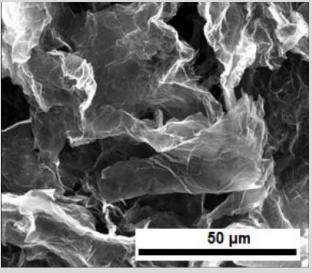
- Logging of the first 11 diamond drill holes confirms the presence of multiple thick zones of graphite mineralisation up to 61m wide (MW-16-01).
- Visible large flake graphite identified in numerous graphite domains.
- Highly encouraging visual results verify the interpreted eastern extension of the graphite mineralisation zones.
- Graphite mineralisation remains open along strike to the west, east and at depth.
- The Phase 2 drilling program will include an additional eight drill holes to the east of the current program, targeting the possible extensions of the thick and higher grade graphite mineralisation zones.
- Graphite mineralisation remains open along strike to the west, east and at depth.
- Drill core samples have been submitted to Actlabs in Thunder Bay with the first assay results expected in March.
- Expanded 30-hole resource drilling program at Manitouwadge will form the basis of a maiden JORC 2012
   Mineral Resource targeted for Q2 2017



# OUTSTANDING GRAPHENE AND EXPANDABLE POTENTIAL

A 'WONDER MATERIAL' WITH ALMOST UNLIMITED APPLICATIONS

- Successful test work confirms the graphite is expandable and graphene can be extracted from Manitouwadge ore using a number of different methods
- Graphene quality described as "outstanding" and comparable with synthetic graphene routes
- Thermal and electrochemical extraction methods most promising, both producing high-quality graphene
- Both extraction methods are rapid and scalable without the need for toxic chemicals, however further testing is required
- Graphene has significant application as an additive in manufacturing:
  - Addition of a small amount of graphene can impart exponential increases in strength and/or conductivity, facilitating production of stronger, lighter, more energy efficient products
- Major volume markets include carbon fibre composites, energy storage (batteries), anticorrosion coating and paints, conductive inks, plastics, alloys and building materials



ARDIDEN

Graphene extracted from Manitouwadge graphite

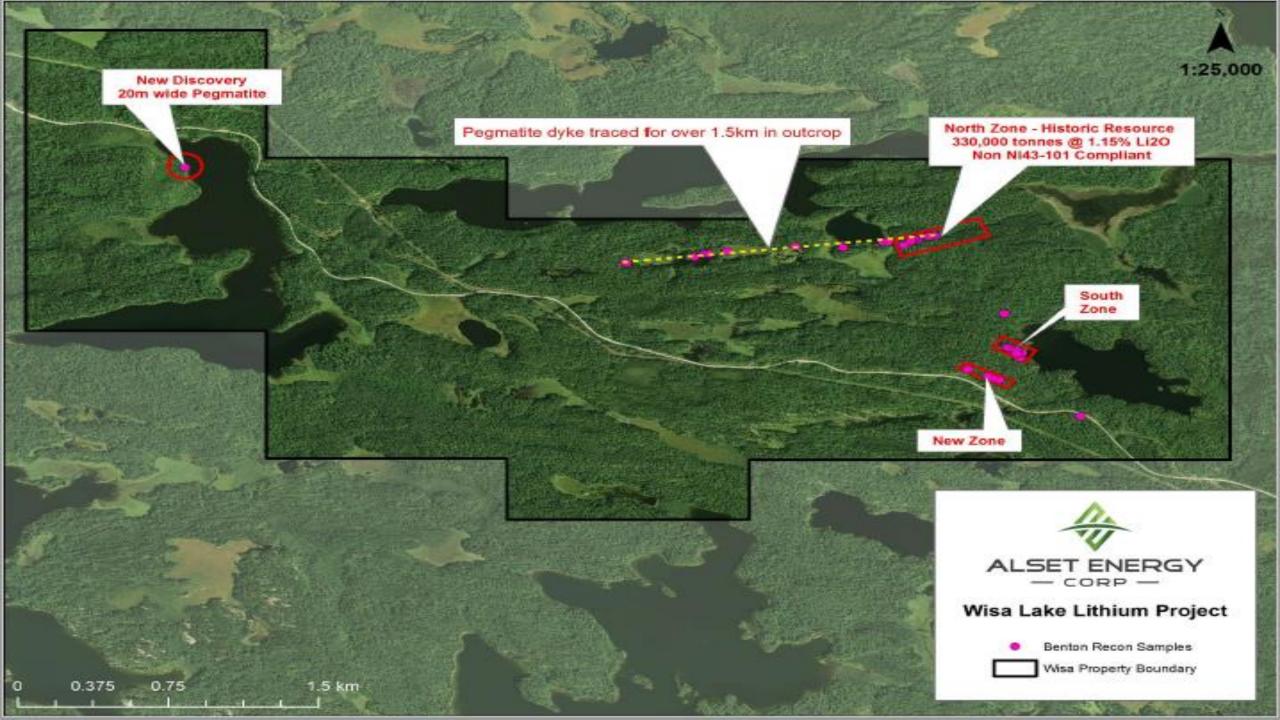


# WISA LAKE LITHIUM PROJECT



### DUE DILIGENCE UNDERWAY...

- Option to own 100% project.
- Currently under Due Diligence review
- The Wisa Lake Lithium Project consists of five claims (1,200 hectares) and covers the historical Wisa Lake lithium deposit which has a historical (non-JORC compliant) lithium resource of **330,000** tonnes grading **1.15%** Li<sub>2</sub>O.
- 2016, Alset Energy Corporation staked the project and completed a limited exploration, mapping and sampling program at the two mineralisation zones at the Wisa Lake lithium project.
- The grab samples collected from the North Zone pegmatite returned grades of up to 1.4% Li<sub>2</sub>O.
- Grab samples were collected in the South Zone pegmatite, located 900m south and parallel to the North Zone pegmatite, which returned grades of up to a very impressive 6.38% Li<sub>2</sub>O.
- Planning underway for due diligence drilling program with drilling approvals already received.
- Drilling to commence in coming weeks.



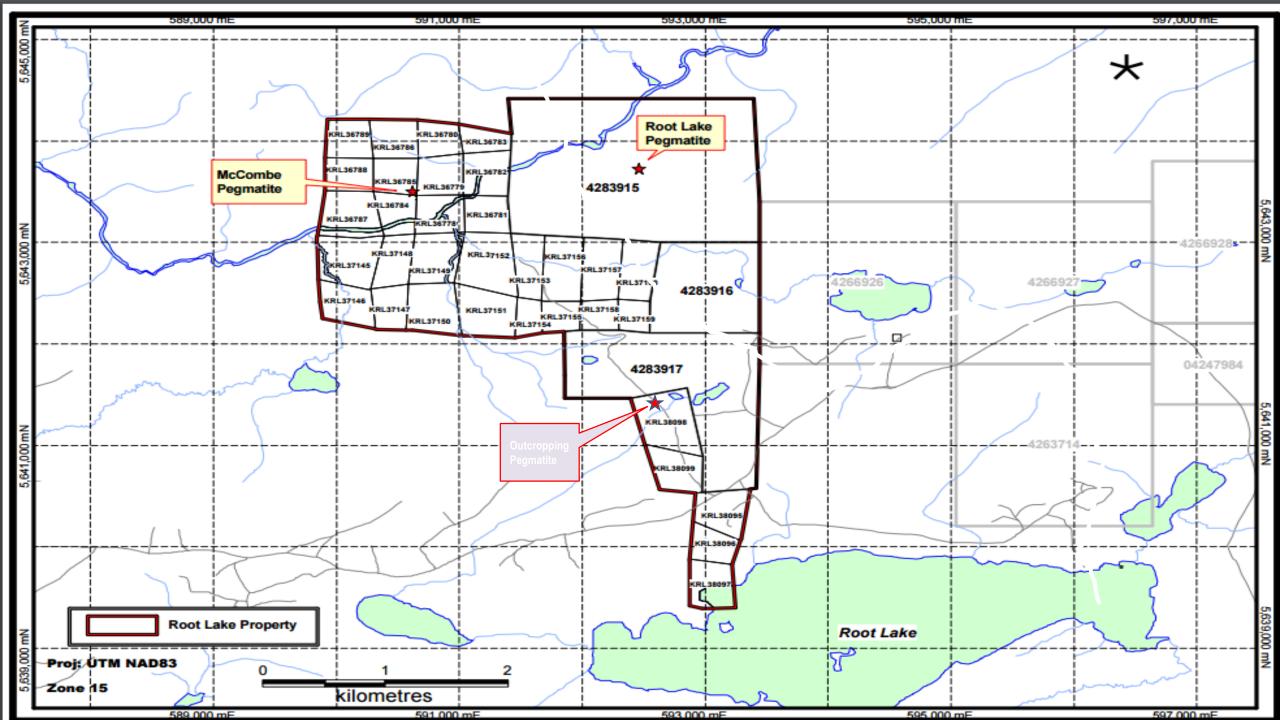


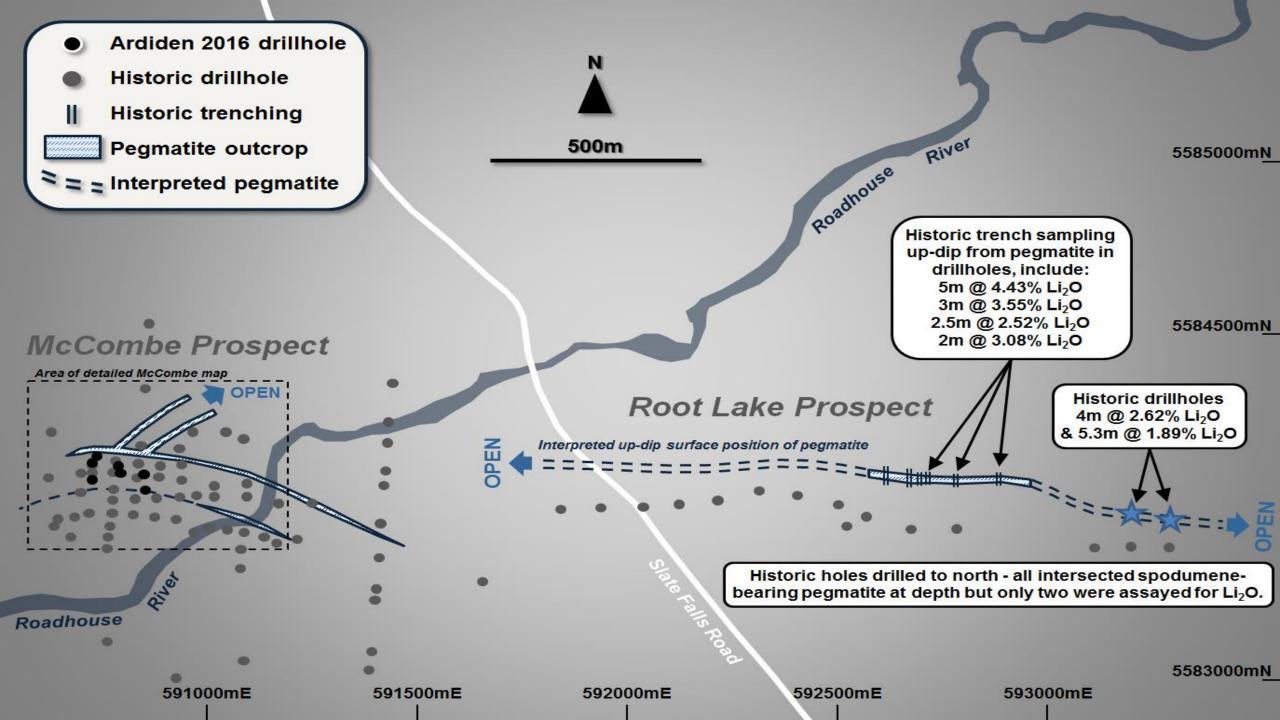
# **ROOT LAKE LITHIUM PROJECT**



## OUTCROPPING PEGMATITE CONFIRMED...

- 100% owned project.
- Outstanding grades of up to 3.8% lithium oxide (Li<sub>2</sub>O) returned from analysis of 151 core samples from due diligence diamond drilling program at McCombe prospect.
- Significant grades of Li<sub>2</sub>O returned in all samples with an overall average lithium grade at 1.3% Li<sub>2</sub>O.
- Hole RL-16-06 intersected 70 metres (Down Dip) of continuous Li2O mineralisation with an average grade of 1.7% Li2O.
- Exploration, mapping and sampling program completed at Root Lake prospect.
- Extensions of known pegmatite structures and the discovery of new pegmatite exposures.
- Assay results from 50 channel samples confirmed several broad zones of lithium mineralisation, up to 4m wide average grade of 2.49% Li2O.
- Further exploration planned for the 2017 field season.





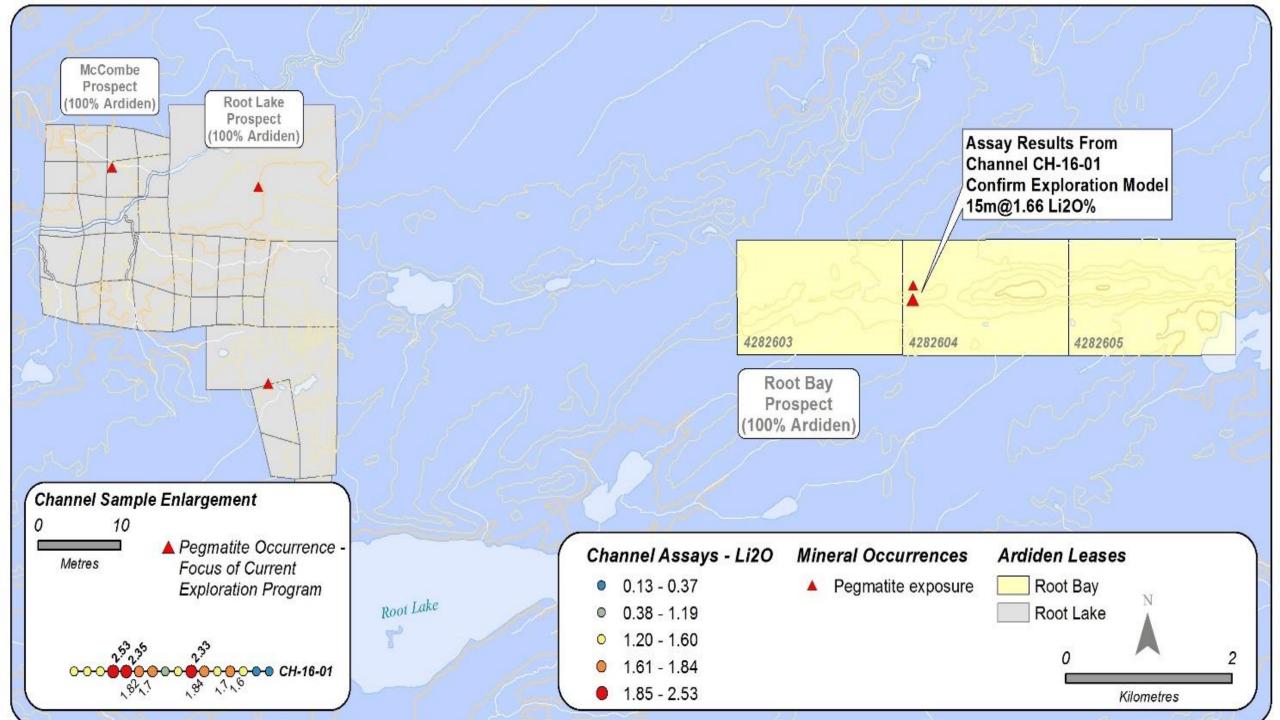


## **ROOT BAY LITHIUM PROJECT**



## FURTHER LITHIUM POTENTIAL...

- A reconnaissance exploration and sampling program completed at 100% owned project.
- All channel samples have been analysed with outstanding grades of up 2.54% Li<sub>2</sub>O returned from the maiden program.
- All channel samples confirmed the strong presence of lithium mineralisation, including the identification of 13m zone across the pegmatite exposure averaging 1.77% Li<sub>2</sub>O.
- The mapping and sampling program has also confirmed the orientation of the pegmatite structure, which will assist with drill targeting.
- The next phase of exploration will target the strike and dip continuity of the primary pegmatite structure and allow additional local pegmatite exposures to be mapped and sampled.
- Further exploration planned for the 2017 field season.



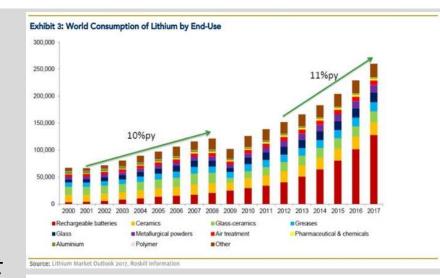


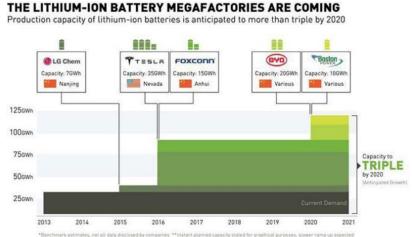
# GREEN POWER STORAGE – A MAJOR MARKET



ARDIDEN PROJECT'S STRATEGICALLY LOCATED TO KEY INDUSTRY PARTICIPANTS

- Demand for graphite and lithium across the globe is being driven upwards by green technology – lithium ion batteries used in electric car batteries, smart phones/ tablets and home and industrial storage
- California-based electric car manufacturer, Tesla, has recently launched a home storage battery – Powerwall
  - Tesla's 2016 production of its lithium-based Powerwall sold out in August 2015
- Tesla has said it will aim to source raw materials locally in North America to reduce its environmental footprint
- Manitouwadge, Seymour Lake and Root Lake are located in close proximity to the large American and Asian markets, exciting potential opportunities for Ardiden

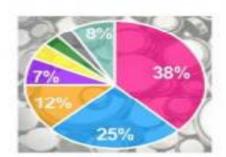




# DEMAND FOR LITHIUM CARBONATE EQUIVALENT

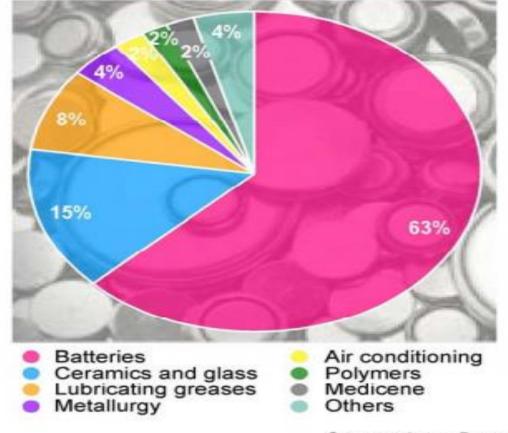


Lithium Demand by Application - 2014 (200,000t of LCE)



- Batteries
   Ceramics and glass
   Lubricating greases
- Air conditioning
  Polymers
  Medicene
- Metallurgy Others

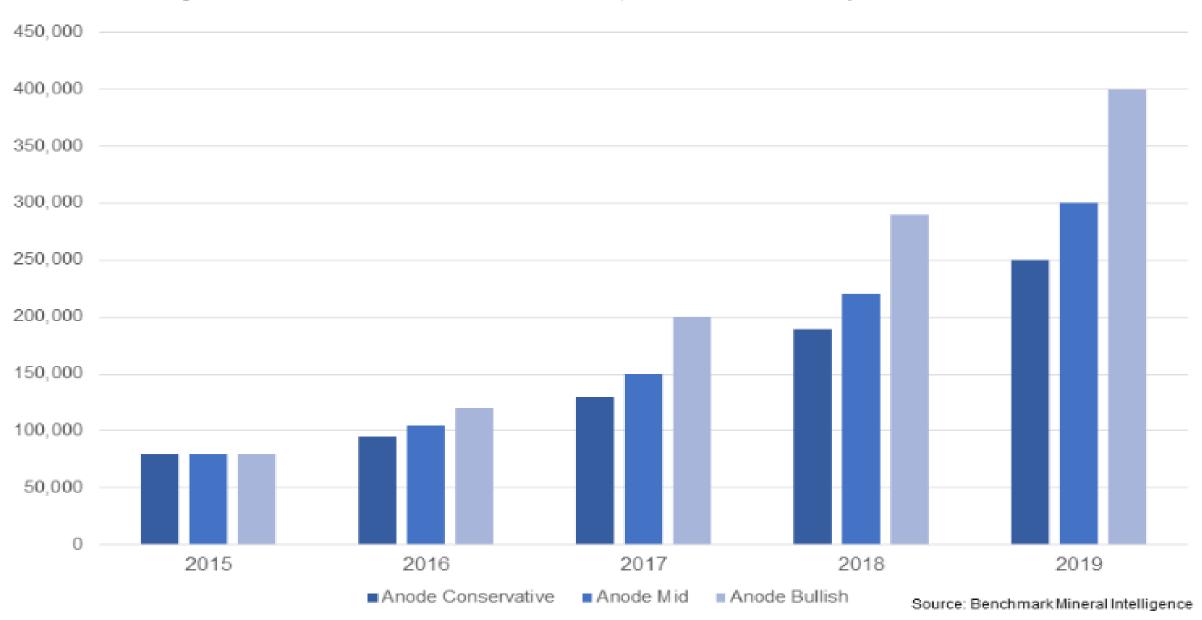




Source: signumBox estimates

## Battery anode market forecast (tonnes/year)

Battery anode material is sourced from: natural spherical graphite 65%; synthetic graphite material 33%; and the remaining 2% from other alternatives such as lithium titanate, silicon and tin used in very small amounts.



# **SUMMARY – WHY INVEST IN ARDIDEN**



## AN EXCITING NEW PHASE OF GROWTH

- Strong new asset portfolio focused on the supply of materials to the rapidly growing lithium-ion battery market
- Potential acquisition of further project areas/acreage with strong geological potential
- Commodities with strong market fundamentals and growth outlook
- Projects located in Tier One mining jurisdictions, with great access and infrastructure and strong support from First Nations and Ontario Government
- Further results from Resource and Due Diligence drilling and metallurgical test work from Seymour Lake, Wisa Lake and Manitouwadge projects, leading to strong upcoming news flow with near-term catalysts for share price growth
- JORC Resource drilling underway at Seymour Lake Lithium and Manitouwadge Graphite projects.
- Strong board and management team

Strategy to identify and define more than 10 Million tonnes of Lithium and Graphite resources in Tier-1 jurisdictions to enhance shareholder value, focusing on commodities with a strong growth outlook...

## **CONTACT DETAILS**



## For further information:

**Investors:** 

Brad Boyle Executive Director Ardiden Ltd

Tel: +61 (0) 8 6555 2950

**About Ardiden** 

Media:

Nicholas Read - Read Corporate

Mobile: 0419 929 046

- rdiden Limited (ASX: ADV) is an emerging international strategic metals company which is focused on the exploration, evaluation and development of five Lithium and Graphite projects located in the established mining jurisdiction of Ontario, Canada.
- Majority owned Seymour Lake Lithium Project comprises 7,019 Ha of mining claims and has over 4,000m of historic drilling. Mineralisation is hosted in extensive outcropping spodumene-bearing pegmatite structures with widths up to 26.13m and grades of up to 2.386% Li2O.

  These high-grade pegmatite structures have been defined over a 5km strike length. Maiden JORC resource drilling program underway.
- The 100%-owned Root Lake Lithium Project is located in Ontario, Canada. The project comprises 1,013 Ha of mining claims and has over 10,000m of historic drilling. Mineralisation is hosted in extensive outcropping spodumene-bearing pegmatite structures with widths up to 19m and grades of up to 5.10% Li2O. In addition, tantalum grades of up to 380 ppm were intersected.
- The 100%-owned Root Bay lithium project is strategically located approximately 5km to the east of the recently acquired Root Lake Lithium Project and consists of three claim areas, totalling 720 hectares. The project was staked by Ardiden as part of its regional exploration focus in and around the Root Bay spodumene-bearing pegmatite. Initial observations of the exposed pegmatite are characterized by coarse white albite, grey quartz and pale grey-green spodumene crystals up to 10cm long.
- The 100%-owned Manitouwadge Jumbo Flake Graphite Project covers an area 5,300 Ha and has a 20km strike length of EM anomalies with graphite prospectivity. Following systematic field exploration programs, Ardiden is planning to commence its maiden resource drilling program in November 2016 to underpin economic development studies. Maiden JORC resource drilling program underway
- Previous preliminary metallurgical testwork indicated that up to 80% of the graphite at Manitouwadge is high value jumbo or large flake graphite. Testwork also indicated that simple, gravity and flotation beneficiation can produce graphite purity levels of up to 96.8% for jumbo flake and 96.8% for large flake. With the proven caustic bake process ultra-high purity (>99.95%) graphite can be produced. The graphite can also be processed into high value expandable graphite, high quality graphene and graphene oxide.
- Wisa Lake Lithium project (under option to acquire 100% ownership). The Wisa Lake Lithium Project consists of five claims (1,200 hectares) and covers the historical Wisa Lake lithium deposit which has a historical (non-JORC compliant) lithium resource of 330,000 tonnes grading 1.15% Li2O and grades up to 6.38% Li2O reported from a grab sample on the project. Due Diligence underway.
- All projects located in an established mining province, with good access to infrastructure (road, rail, power, phone and port facilitates) and local contractors and suppliers

## **DISCLAIMER**



#### **Competent Person Statement**

The information in this report that relates to exploration results on the Seymour Lake project is extracted from the reports entitled ASX Release "Seymour Lake: Preliminary Testwork Shows Potential To Produce High-Grade Lithium Concentrate Grading up to 7.73% Li2o" created 9 February 2017, ASX Release "Further High-Grade Results at Seymour Lake Lithium Project From Final Drill Assays", created 8 February 2017, ASX Release "December 2016 Quarterly Activities Report" created 23 January 2017 and is available to view on www.ardiden.com.au The reports were issued in accordance with the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in this report that relates to exploration results on the Manitouwadge project is extracted from the reports entitled ASX Release "Ardiden Expands Resource Drilling Program at Manitouwadge Graphite Project" created 9 February 2017, ASX Release "December 2016 Quarterly Activities Report" created 23 January 2017 and is available to view on www.ardiden.com.au The reports were issued in accordance with the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in this report that relates to exploration results on the Wisa Lake project is extracted from the reports entitled ASX Release "December 2016 Quarterly Activities Report " created 23 January 2017, ASX Release "Ardiden Expands Canadian Lithium Portfolio" created 19 December 2016 and is available to view on www.ardiden.com.au The reports were issued in accordance with the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in this report that relates to exploration results on the Root Lake project is extracted from the reports entitled ASX Release "September 2016 Quarterly Activities Report" created 28 October 2016, ASX Release "Ardiden Exercises Option To Acquire 100% Of Root Lake Lithium Project, Canada" created 11 July 2016, ASX Release "New Lithium Exploration Programs Commence At Root Lake, Canada" created 25 July 2016, ASX Release "Completion Of Acquisition Of The Root Lake Lithium Project And Appendix 3B", ASX Release "Lithium And Graphite Projects — Exploration Update" created 19 October 2016 and is available to view on www.ardiden.com.au The reports were issued in accordance with the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in this report that relates to exploration results on the Root Bay project is extracted from the reports entitled ASX Release "September 2016 Quarterly Activities Report" created 28 October 2016, ASX Release "Ardiden Secures A Third Lithium Project In Ontario, Canada" created 13 July 2016, ASX Release "Outstanding High Lithium Grades From Maiden Exploration Program At Root Bay Project, Canada" created 7 September 2016 and is available to view on www.ardiden.com.au. The reports were issued in accordance with the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

#### **Forward Looking Statements**

This announcement may contain some references to forecasts, estimates, assumptions and other forward-looking statements. Although the company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions, it can give no assurance that they will be achieved. They may be affected by a variety of variables and changes in underlying assumptions that are subject to risk factors associated with the nature of the business, which could cause actual results to differ materially from those expressed herein. All references to dollars (\$) and cents in this presentation are to Australian currency, unless otherwise stated. Investors should make and rely upon their own enquires and assessments before deciding to acquire or deal in the Company's securities.