Friday, 28 July 2023 ASX Code : LEL

Burke and Corella Graphite Projects Testwork Update

SUMMARY

- Results of latest testwork continue to support the potential development of a vertically integrated manufacturing facility of Purified Spherical Graphite (**PSG**) (a battery anode precursor material) in Queensland, Australia.
- Burke Graphite metallurgical testwork now completed by BGRIMM in China providing excellent flake concentrate results.
- +95% total graphitic carbon (**TGC**) graphite flake concentrate achieved for Burke Graphite, allowing next step PSG development testwork to commence (by ProGraphite in Germany).
- ~500kg of Corella Graphite samples have been sent to China to commence metallurgical testwork.
- Corella metallurgical testwork programme will also seek to assess suitability as additional feedstock (supplementing Burke Graphite) for proposed PSG Plant being assessed in the Prefeasibility Study (**PFS**).
- Doubling of Graphite Inventory through the recently announced JORC Inferred Mineral Resource Estimate for Corella Project allows Lithium Energy to examine the introduction of Corella Graphite into the Company's overall graphite development objectives.

Lithium Energy Limited (ASX:LEL) (**Lithium Energy** or the **Company**) is pleased to provide a development update on the Burke and Corella Graphite Projects in Queensland, Australia.

Burke Graphite Project

Metallurgical Testwork Programme Produces Graphite Flake Concentrate

As previously announced[1]:

- The Beijing General Research Institute for Mining and Metallurgy Technology Group (**BGRIMM**) in China has undertaken and now completed a comprehensive flowsheet development metallurgical testwork programme on a ~one tonne representative sample of the Burke Graphite deposit, to assess and develop an optimised flake concentrator flowsheet.
- BGRIMM has successfully achieved key objectives of grade (>95% TGC) and recovery (>85%) using standard flotation and regrind milling technology utilising Burke Graphite.
- These grade and recovery objectives align with typical requirements of the graphite processing industry.

1 Refer LEL ASX Announcement dated 23 May 2023: Excellent Metallurgical Testwork Results at Burke Graphite Project Pave Way for Commencement of PFS

- BGRIMM has also completed the concentrator process flowsheet optimisation testwork that will be required to produce a >95% TGC graphite flake concentrate, which will be suitable as feedstock for a proposed PSG Plant.
- The key concentrator design input metrics of reagent dosing rates and types, flotation and regrind residence times and flotation cell capacity were defined for the Burke Graphite and will form part of the PFS which is currently underway for the development of a vertically integrated PSG manufacturing facility in Queensland.

BGRIMM's in-house Pilot Plant has produced sufficient 95% TGC bulk flake concentrate from the Burke Graphite samples to now conduct the PSG testwork required to support the PFS.

Purified Spherical Graphite Development Testwork

The Burke Graphite flake concentrate will be used as test feedstock material for a testwork programme to define and optimise the metallurgical and process conditions to produce PSG suitable for use in Lithium-ion battery anodes.

ProGraphite GmbH, a leading natural graphite consultancy and laboratory based in Germany, has been engaged to conduct comprehensive testwork programme on ~15kg of Burke Graphite 95% TGC flake concentrate processed by BGRIMM.

This ProGraphite testwork programme encompasses:

- Initial material characterisation;
- spherical graphite (micronising and spheronisation) testwork;
- purification of the spherical graphite; and
- electrochemical characterisation of the purified spherical graphite.

Prefeasibility Study Update

As previously announced, Lithium Energy has commenced a PFS (being undertaken by Wave International Pty Ltd and the Measured Group) for the development of a vertically integrated PSG manufacturing facility in Queensland[2].

The PFS envisages mining graphite from the Burke Graphite Deposit and producing a +95% TGC graphite flake concentrate at the mine site. The flake concentrate will then be transported to a proposed PSG manufacturing facility in Queensland for processing by firstly mechanically shaping and spheronising the flakes and then chemically purifying the spheronised graphite to form a high quality PSG product.

It is proposed that this PSG product will be sold as an anode precursor material for use in lithium-ion battery manufacturing or for battery energy storage solutions.

The Scope of Work for the PFS (expected to be completed in December 2023) encompasses three areas of investigation:

(a) Mining Study;

(b) Graphite Flake Concentrator (to be located at the Mine Site); and

(c) PSG Plant (to be constructed at another location – currently proposed to be located near Townsville in Queensland).

2 Refer LEL ASX Announcement dated 23 May 2023: Excellent Metallurgical Testwork Results at Burke Graphite Project Pave Way for Commencement of PFS

The following diagram illustrates the basic steps required to create a PSG product.

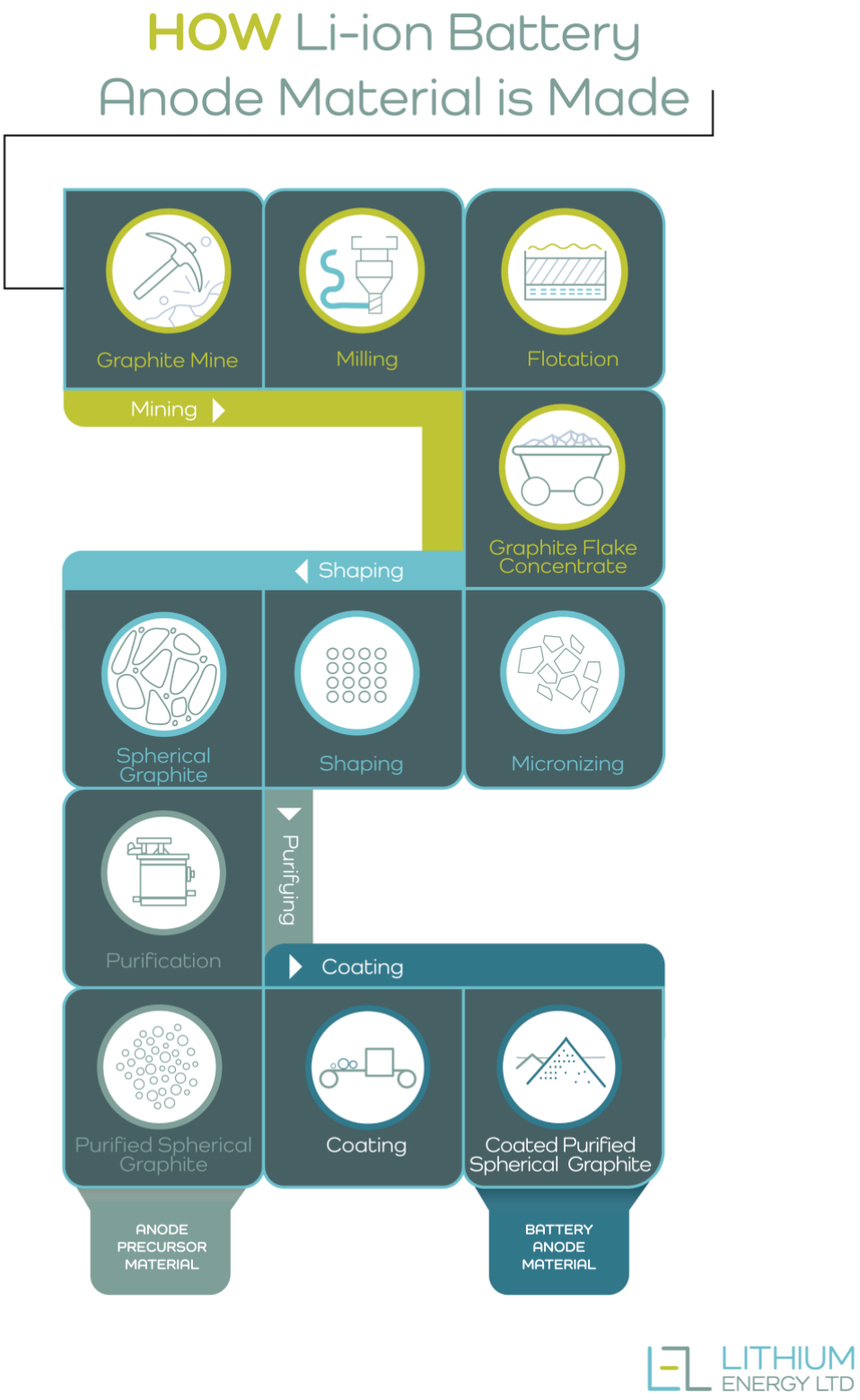

Figure 1: Illustrative Vertically Integrated Operations from Graphite Mine to Production of PSG (Anode Precursor Material) and Coated PSG (Battery Anode Material)

Corella Graphite Project

Metallurgical Testwork Programme

Lithium Energy's total Graphite Inventory (across the Burke Graphite Deposit[3] and the Corella Graphite Deposit[4]) has doubled to **2.6Mt of contained graphite,** following the recent delineation of a JORC Inferred Mineral Resource Estimate for graphite at the Corella Graphite Project.

The significant increase in the total Graphite Inventory has now allowed the Company to explore the suitability of Corella Graphite as additional feedstock to supplement Burke Graphite at the proposed PSG Plant currently being examined under the PFS.

As the first step in this process, a ~500kg sample of Corella Graphite has been sent to BGRIMM to undergo the same type of metallurgical testwork and flake concentrate production as the recently completed Burke Graphite testwork programme.

Key aspects will be to initially test the Corella Graphite performance in the flowsheet developed for the Burke Graphite, to determine whether the same or a similar flowsheet methodology can be used for graphite sourced from Corella.

Similarly, bulk flake concentrate produced by BGRIMM from the Corella Graphite will be sent to ProGraphite to undergo PSG testwork.

The outcomes of this critical metallurgical and PSG testwork will form the basis of an assessment of the PSG production capacities of the combined Burke and Corella Graphite Deposits.

The Corella flowsheet development and assessment and bulk flake concentrate testwork is anticipated to be completed by BGRIMM by October 2023, after which the PSG testwork programme will commence, with completion by ProGraphite anticipated in January 2024.

3 Refer LEL ASX Announcement dated 5 April 2023: Burke Graphite Mineral Resource Upgrade Delivers Significant Increases in Size and Confidence

4 Refer LEL ASX Announcement 16 June 2023: Maiden Corella Graphite Mineral Resource Delivers Doubling of Graphite Inventory

Burke and Corella Graphite Projects Background

Lithium Energy is developing (100% owned) graphite projects on granted Exploration Permits for Minerals (**EPM**) located in the Cloncurry region in North Central Queensland, where there is access to well-developed transport infrastructure to an airport at Mt Isa (~122km) and a port in Townsville (~783km) (refer Figure 2):

(1) The **Burke Graphite Deposit** comprises EPM 25443 (the **Burke Tenement** or **Burke**) (of ~6.58km^2), located 125km north of Cloncurry adjacent to the Mt Dromedary Graphite Project held by Novonix Limited (ASX: NVX); and

(2) The **Corella Graphite Deposit** comprises EPM 25696 (the **Corella Tenement** or **Corella**) (of ~19.74km^2), located 40km west of Cloncurry near the Flinders Highway that links Mt Isa to Townsville. Corella is located ~120km south of Burke.

The Leichhardt Crossing Tenement (EPM 28715) is located ~25km north north-west of the Burke Tenement, where the Company is targeting outcropping limestone required for potential graphite processing operations.

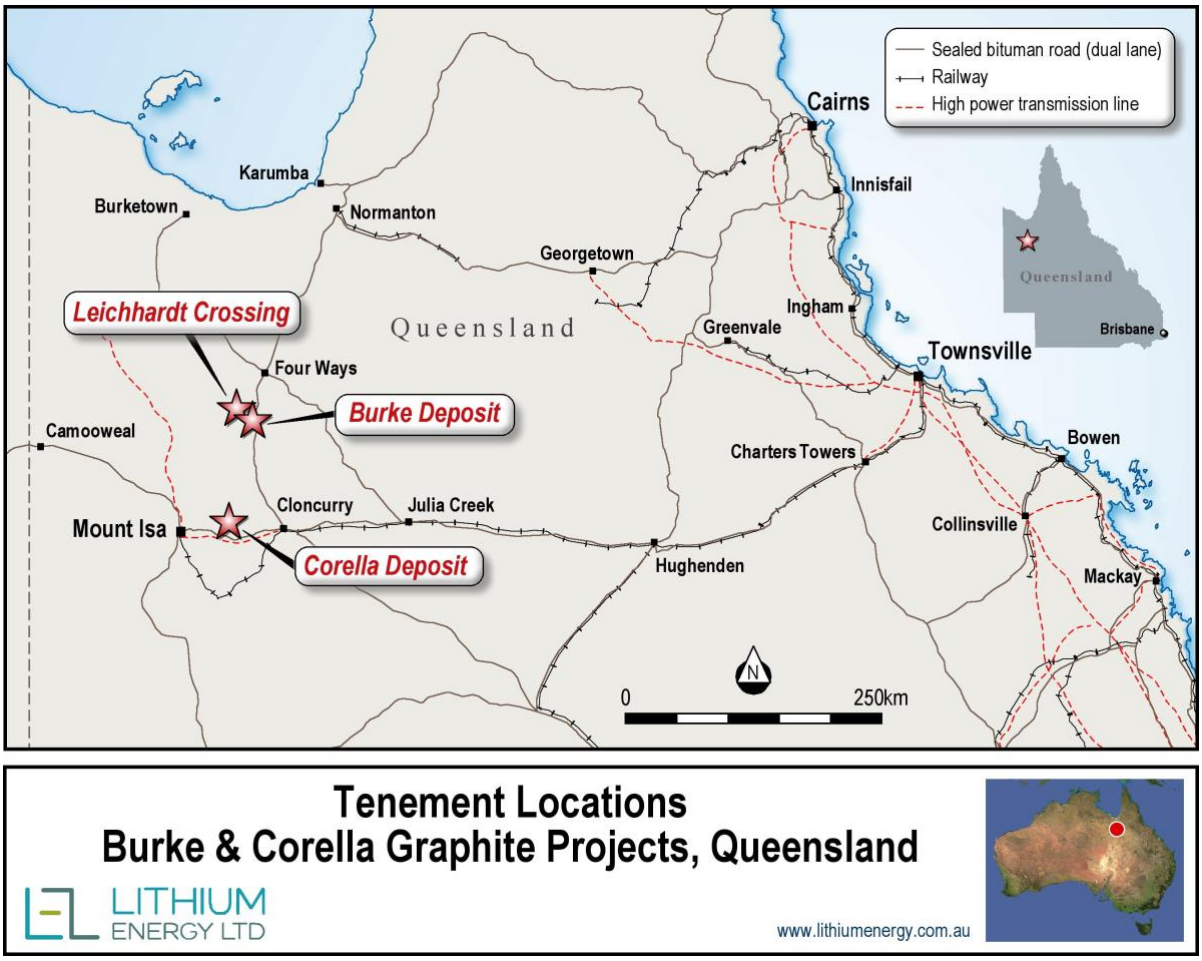

Figure 2: Burke and Corella Graphite Projects - Tenement Locations in North Central Queensland

The Lansdown Eco-Industrial Precinct near Townsville in North Queensland, where the Company is investigating basing its proposed vertically integrated battery anode material manufacturing business, is emerging as an important location for the production of critical materials for battery technologies in Australia.

Burke Graphite Deposit

An infill drilling programme (completed in January 2023)[5] on the Burke Tenement has delivered a significant increase in the size and confidence of the JORC Mineral Resource Estimate (**Burke Deposit**):

- **Total Mineral Resource** of **9.1Mt at 14.4% Total Graphitic Carbon (TGC)** for a total of **1.3Mt contained graphite** (at a 5% TGC cut-off grade), comprising:
  - **Indicated Mineral Resource** of **4.5Mt at 14.7% TGC** for **670kt of contained graphite**; and
  - **Inferred Mineral Resource** of **4.5Mt at 14.2% TGC** for **640kt of contained graphite**.
- Within the mineralisation envelope there is included a higher grade **Total Mineral Resource** of **7.1Mt at 16.2% TGC** for **1.1Mt of contained graphite** (at a 10% TGC cut-off grade).[6]

Mineral Resource Category	Weathering State	Resource (Mt)	Total Graphitic Carbon (TGC) (%)	Contained Graphite (kt)
Indicated Mineral Resource	Weathered	0.2	12.5	30
	Primary	4.3	14.8	640
	Sub-total	**4.5**	**14.7**	**670**
Inferred Mineral Resource	Weathered	0.1	8.1	10
	Primary	4.4	14.4	630
	Sub-total	**4.5**	**14.2**	**640**
Total Indicated and Inferred Mineral Resource	Weathered	0.3	11.1	40
	Primary	8.7	14.6	1,270
	Total	**9.1**	**14.4**	**1,310**

Notes:

- *Mineral Resource estimates are reported above a cut-off grade of 5% TGC; Mineral Resources reported on a dry in-situ basis; Totals may differ due to rounding.*
- *For further details, refer to LEL ASX Announcement dated 5 April 2023 entitled "Burke Graphite Mineral Resource Upgrade Delivers Significant Increases in Size and Confidence"*

Corella Graphite Deposit

A maiden resource definition drilling programme (completed in April 2023[7]) on the Corella Tenement has delivered a maiden JORC Inferred Mineral Resource Estimate (**Corella Graphite Deposit**):

- Inferred Mineral Resource delivers **13.5Mt at 9.5% TGC f**or **1.3Mt contained graphite** (at a 5% TGC cut-off grade).
- Within the mineralisation envelope, there is included a higher grade Inferred Mineral Resource of **4.5Mt at 12.7% TGC** for 0.57Mt of contained graphite (at a 10% TGC cut-off grade).[8]

Mineral Resource Category	Weathering State	Resource (Mt)	TGC (%)	Contained Graphite (kt)
Inferred Mineral Resource	Weathered	4.5	9.7	440
	Primary	9.0	9.3	840
	Total	**13.5**	**9.5**	**1,280**

Notes:

- *Mineral Resource estimates are reported above a cut-off grade of 5% TGC; Mineral Resources reported on a dry in-situ basis; Totals may differ due to rounding.*
- *For further details, refer to LEL ASX Announcement dated 16 June 2023 entitled "Maiden Corella Graphite Mineral Resource Delivers Doubling of Graphite Inventory"*

5 Refer LEL ASX Announcements dated 22 February 2023: Update – Infill Drilling Results at Burke Graphite Deposit and 16 February 2023: Significant High Grade Graphite Intercepts Continue at Burke Graphite Deposit

6 Refer Mineral Resource estimates at different %TGC cut-off grades reported in Table 2 of LEL ASX Announcement dated 5 April 2023: Burke Graphite Mineral Resource Upgrade Delivers Significant Increases in Size and Confidence

7 Refer LEL ASX Announcements dated 17 April 2023: Completion of Drilling Programme at Corella Graphite Prospect and 2 June 2023: Significant High Grade Graphite Discovery at the Corella Project

8 Refer Mineral Resource estimates at different %TGC cut-off grades reported in Table 3 of LEL ASX Announcement 16 June 2023: Maiden Corella Graphite Mineral Resource Delivers Doubling of Graphite Inventory

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ABOUT LITHIUM ENERGY LIMITED (ASX:LEL)

Lithium Energy Limited is an ASX listed battery minerals company which is developing its flagship Solaroz Lithium Brine Project in Argentina and the Burke and Corella Graphite Projects in Queensland. The Solaroz Lithium Project (LEL:90%) comprises 12,000 hectares of highly prospective lithium mineral concessions (where an initial JORC Inferred Mineral Resource of lithium has been delineated) located strategically within the Salar de Olaroz Basin in South America's "Lithium Triangle" in north-west Argentina. Lithium Energy shares the lithium rights in the Olaroz Salar basin with lithium carbonate producers Allkem Limited (ASX/TSX:AKE) and Lithium Americas Corporation (TSX/NYSE:LAC). The Burke and Corella Graphite Deposits (LEL:100%) in Queensland, Australia, contains high grade JORC Indicated and Inferred Mineral Resources of graphite; Lithium Energy is undertaking a Prefeasibility Study on a proposed vertically integrated battery anode material manufacturing facility in Queensland.

JORC CODE (2012) COMPETENT PERSONS' STATEMENTS

(1) The information in this document that relates to Mineral Resources in relation to the Burke and Corella Graphite Projects is extracted from the following ASX market announcements made by Lithium Energy Limited dated:

- 16 June 2023 entitled "Maiden Corella Graphite Mineral Resource Delivers Doubling of Graphite Inventory"
- 5 April 2023 entitled "Burke Graphite Mineral Resource Upgrade Delivers Significant Increases in Size and Confidence"

The information in the original announcements is based on information compiled by Mr Shaun Searle, a Competent Person who is a Member of the Australian Institute of Geoscientists (**AIG**). Mr Searle is an employee of Ashmore Advisory Pty Ltd, an independent consultant to Lithium Energy Limited. Mr Searle has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (the **JORC Code**). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements (referred to above). 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 announcements (referred to above).

(2) The information in this document that relates to metallurgical testwork results in relation to the Burke Graphite Project is extracted from the following ASX market announcement made by Lithium Energy Limited dated:

- 23 May 2023 entitled "Excellent Metallurgical Testwork Results at Burke Graphite Project Pave Way for Commencement of PFS".

The information in the original announcement is based on information compiled by Mr Graham Fyfe, who is a Member of the Australian Institute of Mining and Metallurgy (**AusIMM**). Mr Fyfe is an employee (General Manager, Projects) of Lithium Energy Limited. Mr Fyfe has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code. 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 (referred to above). 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 (referred to above).

FORWARD LOOKING STATEMENTS

This document contains "forward-looking statements" and "forward-looking information", including statements and forecasts which include without limitation, expectations regarding future performance, costs, production levels or rates, mineral reserves and resources, the financial position of Lithium Energy, industry growth and other trend projections. Often, but not always, forward-looking information can be identified by the use of words such as "plans", "expects", "is expected", "is expecting", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", or "believes", or variations (including negative variations) of such words and phrases, or state that certain actions, events or results "may", "could", "would", "might", or "will" be taken, occur or be achieved. Such information is based on assumptions and judgements of management regarding future events and results. The purpose of forward-looking information is to provide the audience with information about management's expectations and plans. Readers are cautioned that forward-looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Lithium Energy and/or its subsidiaries to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information. Such factors include, among others, changes in market conditions, future prices of minerals/commodities, the actual results of current production, development and/or exploration activities, changes in project parameters as plans continue to be refined, variations in grade or recovery rates, plant and/or equipment failure and the possibility of cost overruns.

Forward-looking information and statements are based on the reasonable assumptions, estimates, analysis and opinions of management made in light of its experience and its perception of trends, current conditions and expected developments, as well as other factors that management believes to be relevant and reasonable in the circumstances at the date such statements are made, but which may prove to be incorrect. Lithium Energy believes that the assumptions and expectations reflected in such forward-looking statements and information are reasonable. Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used. Lithium Energy does not undertake to update any forward-looking information or statements, except in accordance with applicable securities laws.