

# ASX Announcement

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## **PARKWAY MINERALS COMMENCES KARINGA LAKES POTASH PROJECT PFS – BASED ON aMES™ DEVELOPMENT CONCEPT**

### Highlights

#### **The Karinga Lakes Potash Project – Pre-Feasibility Study (KLPP-PFS) will:**

- Evaluate the merits of developing the KLPP based on an innovative development concept incorporating the aMES™ technology.
- Assist in establishing the broader aMES™ technology platform through:
  - Construction and commissioning of a state-of-the-art aMES™ pilot plant.
  - Flow sheet optimisation, validation and key equipment/vendor qualification.
  - Providing a practical demonstration of the advantages of the aMES™ technology over conventional brine project development concepts.
- The KLPP-PFS will be delivered under the recently announced Global Strategic Cooperation Agreement and will be supported by a range of specialist consultants.



Additional information about the [Karinga Lakes Potash Project](#).

Parkway Minerals NL (ASX: **PWN**) (“**Parkway Minerals**” or the “**Company**”) is pleased to provide the following update.

## About the KLPP-PFS

The Karinga Lakes Potash Project (KLPP) covers an extensive brine lake system over pastoral land, located approximately 250km southwest of Alice Springs in the Northern Territory, Australia. The chain of dry salt lakes is located within the Central Australian Groundwater Discharge Zone. During the last decade, KLPP joint-venture partner Verdant Minerals has performed extensive resource appraisal studies, including substantial drilling and brine production testing. Historical studies identified the potential to produce a range of products from the KLPP, including potassium magnesium sulphate (KMS) and premium sulphate of potash (SOP).

### Recent aMES™ Evaluations

Prior to acquisition by Parkway Minerals, Consolidated Potash Corp. Ltd (CPC) acquired an initial 15% interest in the KLPP by performing a scoping study, which identified a number of potentially attractive opportunities to develop the KLPP through an innovative approach based on the aMES™ technology. The key findings of the scoping study indicated that:

- The aMES™ technology is effective in producing an ultra-pure (soluble grade, >K<sub>2</sub>O-52) sulphate of potash product, which typically attracts a substantial premium over lower grade granulated SOP products.
- The aMES™ technology has been successfully tested on a diverse range of brines and mixed salts harvested from the KLPP, over several years, highlighting the versatility of the technology.
- The preferred process flowsheet based on the aMES™ technology, could potentially eliminate the requirement for flotation, process steam, gas pipeline and a fresh water bore-field (typical requirements for most conventional SOP flowsheets), significantly reducing project complexity and costs.

### KLPP-PFS Overview

The KLPP-PFS is intended to build on the CPC scoping study, by performing more detailed evaluations of the KLPP development concept and to determine whether advancing the project to a more advanced stage of evaluation is justified.

#### Updated Resource Assessment

Despite the extensive historical resource appraisal studies performed at the KLPP, due to updated JORC reporting guidelines for brine resources, the previously published in-situ resource estimate for the KLPP by Verdant Minerals, will require updating. On this basis, the KLPP-JV has agreed to engage the specialist hydrogeological consultants that performed the historical resource assessment, to perform an updated assessment based on reporting a recoverable resource estimate, to support the KLPP-PFS. Given the extent of historical resource appraisal, sufficient geological and brine testing data is available to perform the updated assessment through desktop-studies, without the requirement for any fieldwork.

#### KLPP-PFS aMES™ Concept

Based on the successful results of the extensive aMES™ focused evaluations of the KLPP to date, the KLPP-JV has agreed that the preferred project evaluation concept for the KLPP-PFS, will be exclusively based on the aMES™ technology.

Additional information about the potential advantages of this innovative processing route can be found at [KLPP aMES™ Technology Processing Route](#).

## Study Manager

The KLPP-PFS will be delivered under the Global Strategic Cooperation Agreement announced on [8 May 2020](#). Parkway Minerals and its EPC partner have established a highly experienced project team to collaboratively deliver the KLPP-PFS. Whilst formal project commencement is scheduled in the next few days, various components of the KLPP-PFS are already underway, with a target completion date of 20 weeks after commencement.

## aMES™ Pilot Plant

Parkway Minerals has recently finalised the design and commenced procurement of a larger capacity, state-of-the-art aMES™ pilot plant, which will be constructed and operated at Victoria University (Werribee Campus) in coming months. The new pilot plant will incorporate key process equipment from leading industry vendors, including instrumentation and controls which will support the design and construction of commercial scale aMES™ process plants, including of a modular plant design currently under consideration.

Although the investment decision to proceed with the aMES™ pilot plant has been made concurrently with the decision to commence the KLPP-PFS, and the pilot plant will provide valuable engineering data to support the PFS, the pilot plant will also provide Parkway Minerals with important capabilities in relation to evaluating other potential aMES™ opportunities.

All aMES™ based testwork supporting the KLPP-PFS will utilise the significant mixed harvest salt inventory sourced from the KLPP in recent years (~500kg currently available). The brine and mixed harvest salt inventory have been sourced over several years, providing Parkway Minerals with the opportunity to continue to demonstrate the performance of the aMES™ pilot plant, with salt feedstocks harvested from different lakes at the KLPP under varying evaporation conditions.

## Background to Historical Studies

The KLPP has been the subject of various historical (non JORC compliant) feasibility related studies, including as early as July 1992 when Status Resources Australia and BHP Engineering were commissioned by the Northern Territory Department of Industries & Development to undertake a pre-feasibility study on behalf of NT Evaporites <sup>(1)</sup>. More recently, Verdant Minerals and CPC completed KLPP scoping studies, in 2014 and 2019, respectively.

## KLPP Tenure Consolidation

The operator of the KLPP, Verdant Minerals is currently undertaking a tenement rationalisation process focused on holding essentially a similar project area, by consolidating exploration tenure from 7 to 3 contiguous licences, therefore simplifying dealings with relevant stakeholders as well as potentially reducing holding costs. Parkway Minerals has been advised by the operator that the Northern Territory Government's intention to rely on the expedited procedure for assessing the grant of the new exploration licences has been objected to by the Central Land Council (CLC) as a result of a Native Title Claim. The Tribunal dealing with the matter has asked the parties, namely the Northern Territory Government and the CLC to provide certain supporting information by early June 2020. Given no site activities are planned at the KLPP in the next 12 months, and adequate mixed harvest salts have already been sourced, Parkway Minerals does not expect delays in the tenure consolidation process to delay the completion of the KLPP-PFS.

(1) Northern Territory Evaporite Minerals Prefeasibility Study, N.T. Evaporites – Northern Territory Department of Industries Development (July, 1992).

## KLPP Ownership

Parkway Minerals owns an initial 15% interest in the KLPP, through an unincorporated joint venture with Verdant Minerals. By completing the KLPP-PFS and satisfying certain deliverables and expenditure commitments, the working interest in the KLPP held by Parkway Minerals will increase from 15 to 40%.

In addition to project equity, as a result of entering into an aMES™ technology licensing agreement with Verdant Minerals in August 2017, Parkway Minerals, through its wholly owned subsidiary Activated Water Technologies Pty Ltd, holds a 1% royalty (NSR) over the KLPP.

## Commentary

### **Parkway Minerals – Managing Director, Bahay Ozcakmak commented:**

*“Following extensive planning, we are pleased to have reached this important milestone, not only for the Karinga Lakes Potash Project, but more specifically, for our aMES™ technology platform. In addition to thanking our JV partner at the KLPP, Verdant Minerals and our strategic R&D partner Victoria University for their continued support, I’d like to specifically congratulate our process engineering team. The efficiency with which the recently assembled Parkway Minerals engineering team has taken our core aMES™ flowsheets and developed detailed process designs, equipment datasheets, engaged strategic vendors, performed digital simulations of the operating aMES™ pilot plant, as well as a high-quality project execution plan, has been impressive, particularly given most of this work has been performed whilst working from home.*

*We will continue to work diligently to deliver the KLPP-PFS on time, on budget and strive to exceed the expectations of all our stakeholders in terms of the key deliverables. At the same time, we are critically aware of the challenges associated with developing greenfield mining projects. In this regard, with the support of our JV partner, the KLPP-PFS work program has been designed in a manner to maximise the benefits and to bolster the commercialisation of the aMES™ technology platform. In particular, the KLPP-PFS will enable Parkway Minerals and our recently announced EPC partner to develop joint capabilities, and together with the aMES™ pilot plant we are building, will immediately have applications for much larger and more advanced opportunities, some of which we have been evaluating for some time.”*

Approved for release on behalf of Parkway Minerals NL, by Bahay Ozcakmak.

## Additional Information

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## About aMES™ Technology

The activated Mineral Extraction System, or aMES™ is an innovative process technology that enables the treatment of concentrated brine solutions to recover a range of valuable minerals, reagents and fresh water. The technology utilises a proprietary multi-staged process incorporating novel membrane technology and is based on proprietary IP, incorporating patents, expertise and know-how acquired over more than a decade of intense process development initiatives.

The advantages of the aMES™ technology include:

- improvements in mineral recovery and product quality,
- opportunity for substantial project capex & opex savings,
- efficient use of energy and produces pure water as a by-product, and
- improved project footprint and environmental sustainability.

Ongoing collaboration with a number of brine project developers and operators has confirmed there are many applications where the aMES™ technology has the potential to deliver substantial value by enhancing existing flowsheets, in order to improve overall project performance.

### **Additional Information**

[www.parkwayminerals.com.au/ames-technology](http://www.parkwayminerals.com.au/ames-technology)

## About Parkway Minerals

In October 2019, Parkway Minerals (ASX: PWN) completed a transformational transaction by acquiring an Australian unlisted public company, Consolidated Potash Corporation (CPC). Through CPC, Parkway Minerals acquired a minority interest in the Karinga Lakes Potash Project (KLPP) in NT Australia, as well as a majority interest in the New Mexico Lithium Project (NMLP), in the United States. The CPC transaction, also resulted in Parkway Minerals acquiring the innovative aMES™ technology, which has been developed to process a range of challenging brine streams from the mining industry, in order to recover valuable minerals, reagents as well as produce fresh water.

Given the significant market opportunities, Parkway Minerals is focused on building and leveraging the aMES™ technology platform to improve the efficiency, sustainability and ultimately the profitability of various brine and wastewater streams, by enabling the development of more innovative project development concepts, particularly in the mining and energy sectors.

### Strategic Investment

Parkway Minerals holds a strategic investment (34.3 million shares) in Davenport Resources (ASX: DAV), which has successfully delineated a globally significant in-situ potash resource (in excess of 550 million tonnes of contained potash) across 4 projects, at its South Harz project in Germany. Recently completed scoping studies have delivered excellent technical and economic results and provide Parkway Minerals with encouragement that this investment will generate significant returns as well as provide Parkway Minerals with the opportunity to investigate a range of value-accretive initiatives.

### Our Vision:

“To transform global brine processing methods, through innovative technology, to improve sustainability, and create value.”

### Forward-Looking Statements

This ASX Release may contain certain “forward-looking statements” which may be based on forward-looking information that are subject to a number of known and unknown risks, uncertainties, and other factors that may cause actual results to differ materially from those presented here. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. Forward-looking information includes exchange rates; proposed or projected project or transaction timelines; uncertainties and risks associated with the advantages and/or performance of the Company’s projects and/or technologies; uncertainties and risks regarding the estimated capital and operating costs; uncertainties and risks regarding any envisaged timelines in relations to any results, milestones, partnerships, including but not limited to any milestones which may require obtaining approvals from third parties.

For a more detailed discussion of such risks and other factors, see the Company’s other ASX Releases. Readers should not place undue reliance on forward-looking information. The Company does not undertake any obligation to release publicly any revisions to any forward-looking statement to reflect events or circumstances after the date of this ASX Release, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.