## **ASX Announcement** 26 February 2020



### **COMPANY DETAILS**

Davenport Resources Limited ABN: 64 153 414 852

ASX CODE: DAV

ASX CODE (Options): DAVO FRANKFURT CODE: A2DWXX

# PRINCIPAL AND REGISTERED OFFICE (& Postal Address)

Davenport Resources Limited Level 1, 675 Murray Street, West Perth WA 6005 PO Box 1088 West Perth WA 6872

W: www.davenportresources.com.au
E: info@davenportresources.com.au
P: +61 (08) 9481 0389

#### **Capital Structure**

166.8 M Ordinary Shares 10.5 M Unlisted Options 46.2 M Listed Options 9.1M Performance Rights

#### **BOARD OF DIRECTORS**

Patrick McManus
(Non-Executive Chairman)
Dr Chris Gilchrist
(Managing Director)
Rory Luff
(Non-Executive Director)
Dr Reinout Koopmans
(Non-Executive Director)
Hansjörg Plaggemars
(Non-Executive Director)

# Davenport achieves positive technical study results for third German potash project

- K-Utec Salt Technologies AG ("K-Utec") completed a technical and preliminary economic study on Nohra-Elende Sub-Area perpetual mining licence
- K-Utec concluded the project is technically feasible and economic at current and forecast potash and specialist fertilizer prices
- Study based on Nohra-Elende's previously announced JORCcompliant Inferred resource of 1.7 billion tonnes at 9.7% K<sub>2</sub>O
- Study envisages minimum 34-year mine life, with annual production of:
  - 575kt of MOP (muriate of potash)
  - 640kt of Kieserite monohydrate (a high-value magnesium sulphate used in specialty fertilizers) and
  - 1,280kt of industrial grade sodium chloride per year
- All can be produced with zero solid or liquid effluent
- Technical study based on easily accessible shallow potash with an average seam thickness of 26m
- Positive results for Nohra-Elende follow similar studies for Ohmgebirge and Mühlhausen-Nohra. Davenport is progressing development of Ohmgebirge.

Davenport Resources Ltd (ASX: DAV, "Davenport", "The Company") is pleased to announce a preliminary technical and economic study on its Nohra-Elende project in Germany has returned positive results.

Nohra-Elende is a sub-area of Mühlhausen-Nohra, one of at least four potential standalone potash projects held by Davenport in western Europe. Positive results from the Nohra-Elende study follow similar results from Davenport's studies on the Ohmgebirge and Mühlhausen-Nohra potash mining licence areas last year.

Davenport MD Dr Chris Gilchrist commented: "While the economic outcomes of this study cannot be announced as the resource is Inferred, we are delighted with yet another positive technical and economic study from our portfolio of mining licences. This study confirms the quality of Davenport's assets in the heart of Germany and demonstrates the development of a new potash mine in the region is technically achievable and economically viable."

#### Nohra-Elende

Davenport's wholly owned German subsidiary, East Exploration Pty Ltd, owns the Mühlhausen-Nohra perpetual mining licence in central Germany, which was acquired from the Bodenverwertungs und Verwaltungs GmbH ("BVVG") in August 2017. The licence is extremely valuable as it carries no rent or royalty and was granted in perpetuity with no commitments required with regard to development plans or timescales.

Davenport appointed Micon International Co. Limited ("Micon") in mid-2018 to create a geological resource model based upon the results from 92 historic drillholes which Davenport acquired as part of the mining licence purchases. Micon modelled the data from the Nohra-Elende sub-area (Figure 1) which covers an area of  $54.4 \text{km}^2$  and subsequently announced (ASX announcement  $13^{\text{th}}$  November 2018) an Inferred Resource of more than 1.7 billion tonnes grading 9.7%  $K_2O$  of which the predominant mineral is carnallitite (1.6 billion tonnes at 9.4%  $K_2O$ ), with substantial high-grade sylvinite (101 million tonnes at 14.2%  $K_2O$ ) (Table 1). The Nohra-Elende resources area is shallow, starting at 401m below surface with an average carnallitite thickness of 26m.

Davenport then commissioned K-Utec Salt Technologies AG, a highly respected consultancy specialised in potash and other salt mining and processing, to conduct a preliminary technical and economic study to assess the potential of developing the Nohra-Elende resource. In particular, the K-Utec study aimed to identify the optimal mining and processing methods and indicate target capex and opex values for a potential subsequent feasibility study.

For mining, the majority of the resource lies at a depth of approximately 400-820m below surface, for which K-Utec recommended one new 750m vertical shaft to be used for raw-ore haulage, the rehabilitation of one nearby shaft located in the adjacent Söllstedt mine for ventilation, and an industry-standard room and pillar mining method using continuous miners, shuttle cars and road headers.

Table 1: Nohra-Elende Mineral Resources, November 2018 (JORC, 2012)

Seam	JORC Category	ρ g/cm³	Geol Loss (%)	Tonnage (Mt)	K₂O (%)	K₂O (Mt)	Insols (%)	Mg (%)	Na (%)	SO₄ (%)
Upper Sylvinite	Inferred	2.17	20	87	14.75	13	0.59	23.83	3.50	15.99
Lower Sylvinite	Inferred	2.30	20	14	10.67	1	0.36	16.84	1.81	23.21
Sub-Total Sylvinite				101	14.19	14	0.56	22.87	3.27	16.98
Carnallitite				1,597	9.41	150	0.55	14.80	6.01	12.98
Sub-Total Carnallitite	Inferred	1.90	20	1,597	9.41	150	0.55	14.80	6.01	12.98
Total Nohra- Elende Sub- Area	Inferred			1,698	9.69	165	0.55	15.28	5.85	13.22

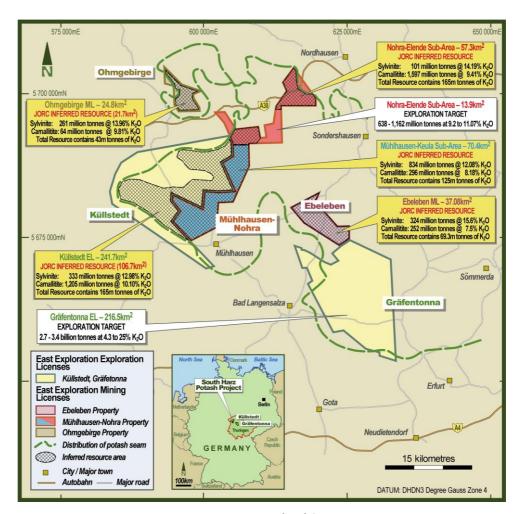


Figure 1: Map depicting Nohra-Elende sub-area (red) for which the study was conducted.

#### Notes:

- 1. Mineral resources presented according to ore type (mineralogy) and not as per stratigraphy.
- 2. Minimum seam thickness considered for resources is 1 m.
- 3. Minimum cut-off grade ≥5% K<sub>2</sub>O.
- 4. 20% geological loss applied to account for potential unknown geological losses for Inferred resources.
- 5. Data source: historical state records (BVVG) checked and verified by Micon
- Inferred resources rounded down to nearest 100,000 t. Errors may exist due to rounding.

K-Utec recommended processing using two-stage cold leaching to separate the chloridic and sulphatic components, followed by a hot leach of the potassium chloride stream with subsequent cooling crystallization. This process route would yield 575,000 tonnes of high-grade muriate of potash (MOP), 640,000 tonnes per annum of Kieserite monohydrate (a valuable magnesium sulphate fertilizer), and 1,280,000 tonnes of Industrial grade (95% +) sodium chloride per annum.

Kieserite fertilizer can be applied directly or can be used as a component in chloride-free compound fertilizers. Depending on the refining route, it can contain up to 25% water-soluble MgO and 50% water-soluble sulphur trioxide. The soluble magnesium and sulphur nutrients are immediately available to the crop and can be used in all soil types regardless of soil pH. It is also certified for use in organic farming. The highest-grade Kieserite products currently command prices in excess of US\$ 400 per tonne.

Waste streams, comprising solid clay and anhydrite together with the magnesium chloride brine, would be backfilled into voids within the underground mine.

K-Utec indicated favourable capex and opex estimates which are well below the industry-standard for developments of this size.

The study was based on the northern part of the Nohra-Elende Sub-Area and is sufficient to support a 34-year mine life. Davenport believes there are sufficient resources to the south which could double the mine life of any future operation.

Target locations for the processing plant were identified as part of the study. These comprise redundant areas that have been used for potash processing and are already designated for industrial activities, hence the permitting process for these areas is anticipated to be straightforward. Furthermore, various meetings have been held in the region with elected officials and the community at large who are supportive of the renewal of mining in order to create employment opportunities.

K-Utec concluded the project was technically feasible and economic at current and realistic forecast potash and specialist fertilizer prices. K-Utec further concluded that any future work should review the production of a high-value K-Mg-fertilizer based on MOP and Kieserite as one possible option. Another option would be the production of Epsom salts or water-free magnesium sulphate. This would require further process steps which have not been considered in the study at this stage but would be the subject of a future, marketing trade-off study within a DFS.

This announcement has been authorised by the Board of Directors of the Company.

### **NVESTOR & MEDIA ENQUIRIES**

Dr Chris Gilchrist - Managing Director Davenport Resources Ltd +353 41 988 3409

cgilchrist@davenportresources.com.au

Nathan Ryan NWR Communications +61 420 582 887

nathan.ryan@nwrcommunications.com.au