



## UNDP report outlines potential for Colluli to boost the Eritrean economy and support the country's Sustainable Development Goals

- The Report identifies and examines Colluli's potential to enhance the delivery of the UN Global Goals for Sustainable Development in Eritrea
- The Report concludes that Colluli could significantly boost the Eritrean economy with associated benefits to agricultural productivity, training and employment

Danakali Limited (ASX: DNK, LSE: DNK) (**Danakali** or the **Company**) is pleased to announce that a report prepared by independent consultants that was initiated and funded by the United Nations Development Programme (**UNDP**) on the potential contributions of the Colluli Potash Project (**Colluli** or the **Project**) to Eritrea's Sustainable Development Goals has been released (the **Report**). The Report can be viewed on the Company's website.

The Report was prepared during 2018 by senior economists on behalf of the UNDP. It assesses a wide range of econometric data and includes findings from engagements with Eritrean government officials, relevant public institutions and other Colluli stakeholders.

The Report concludes that Colluli has the potential to significantly boost the Eritrean economy and meaningfully advance the Sustainable Development Agenda of Eritrea, in particular on 13 specific Sustainable Development Goals criteria (listed in Appendix A).

**The Executive Chairman of Danakali, Seamus Cornelius**, said: *"The Report reinforces the uniqueness of Colluli. We appreciate the magnitude of the opportunity and the responsibility that comes with developing an asset of this significance with the potential to improve the lives of millions. We are grateful for the effort and energy that went into the Report."*

*"Colluli is much more than a great mining asset. Not only does it have outstanding grade, size, location and simplicity; Colluli's products will also help farmers and support food security in Eritrea, across Africa and beyond. The Report effectively highlights the alignment between Danakali and, our partners, ENAMCO in ensuring the Project is successfully executed. We look forward to working with ENAMCO to ensure Colluli reaches its full potential for the benefit of all stakeholders."*

**Cristian Parra, joint author of the Report with Dr. P. Anand**, commented: *"Colluli can be an important source of direct impacts in Eritrea. Because of these impacts and Danakali's and CMSC's corporate policies the Project has the potential to generate significant positive effects on the Sustainable Development Agenda of Eritrea, in particular on 13 specific Sustainable Development Goals. The final effects on Sustainable Development Goals will be highly connected to fiscal impacts and effects that will be generated by Colluli's final products."*

*"From a global perspective the Project is a very interesting case and can be considered a significant step ahead in terms of the relationship between the resource industry and the development agenda of the host country, and how to understand mining contributions beyond the traditional direct economic effects."*



## About the Report

This study titled 'Analysis of the Potential Contributions of Colluli Potash Project to Sustainable Development Goals in Eritrea' is sponsored by the UNDP which is one of the largest UN development partners in Eritrea. The UNDP has identified Colluli as a strategic opportunity to enhance the delivery of the UN Global Goals for Sustainable Development in Eritrea.

The Report was prepared by the following consultants:

- Cristian Parra, an economist; and
- Dr P. Anand, an environmental economist

The consultants are exclusively responsible for the data, information, analysis, points of view and other aspects related to the Report.

Danakali and its Board take no responsibility for the content of the Report, nor does the Company or its Board endorse or warrant the accuracy of any content of the Report.

## About the UN Sustainable Development Goals

The UN Sustainable Development Goals are a collection of 17 global goals set by the UN. The Sustainable Development Goals cover a broad range of social and economic development issues. These include poverty, hunger, health, education, climate change, gender equality, water, sanitation, energy, urbanisation, environment and social justice.

The goals were developed to replace the Millennium Development Goals, which ended in 2015 (incidentally Eritrea was the only sub-Saharan African country to meet its Millennium Development Goals by 2015<sup>1</sup>). Unlike the Millennium Development Goals, the Sustainable Development Goals framework does not distinguish between 'developed' and 'developing' nations.

Paragraph 54 of UN General Assembly Resolution A/RES/70/1 of 25 September 2015 contains the goals and targets. The UN-led process involved its 193 Member States and global civil society. The resolution is a broad intergovernmental agreement that acts as the 2030 development agenda.

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<sup>1</sup> World Health Organisation



## Appendix A: UN Sustainable Development Goals and Colluli

‘Colluli potential contributions to Sustainable Development Goals’ (taken from page 82 of the Report):

SDGs	Area of Direct Impacts				
	Economic Value Generated	People, Community & Society	Environment Impacts	Fiscal Impacts	Potash and other minerals fertilizers
1 No Poverty	NS	NS		HP	HP
2 Zero Hunger				HP	HP
3 Good Health and Well-Being for people		NS		HP	NS
4 Quality Education	NS	NS	NS	HP	NS
5 Gender Equality		NS		HP	HP
6 Clean Water and Sanitation				HP	
7 Affordable and Clean Energy				NS	
8 Sustainable Economic Growth & Decent Work	HP	HP			
9 Industry, Innovation and Infrastructure	HP				HP
10 Reduced Inequalities				HP	HP
11 Sustainable Cities and Communities					
12 Responsible Consumption and Production					HP
13 Climate Action			HP		
14 Life Below Water			NS		
15 Life on Land			NS		
16 Peace, Justice and Strong Institutions	HP			HP	
17 Partnerships for the Goals	HP			HP	HP

**HP** : High Potential:

Direct impacts of Colluli have high potential to make a positive and significant contribution to SDGs.

**NS** : Natural Synergies:

Direct Impacts of Colluli have natural synergies with SDGs, however further actions are needed

Note: ‘SDGs’ in the graphic, stands for UN Sustainable Development Goals

## About Danakali

Danakali Limited (ASX: DNK) (**Danakali**, or the **Company**) is an ASX-listed potash company focused on the development of the Colluli Potash Project (**Colluli** or the **Project**). The Project is 100% owned by the Colluli Mining Share Company (**CMSC**), a 50:50 joint venture between Danakali and the Eritrean National Mining Corporation (**ENAMCO**).

The Project is located in the Danakil Depression region of Eritrea, East Africa, and is ~75km from the Red Sea coast, making it one of the most accessible potash deposits globally. Mineralisation within the Colluli resource commences at just 16m, making it the world's shallowest potash deposit. The resource is amenable to open pit mining, which allows higher overall resource recovery to be achieved, is generally safer than underground mining, and is highly advantageous for modular growth.

The Company has completed a Front End Engineering Design (**FEED**) for the production of potassium sulphate, otherwise known as **SOP**. SOP is a chloride free, specialty fertiliser which carries a substantial price premium relative to the more common potash type; potassium chloride (or **MOP**). Economic resources for production of SOP are geologically scarce. The unique composition of the Colluli resource favours low energy input, high potassium yield conversion to SOP using commercially proven technology. One of the key advantages of the resource is that the salts are present in solid form (in contrast with production of SOP from brines) which reduces infrastructure costs and substantially reduces the time required to achieve full production capacity.

The resource is favourably positioned to supply the world's fastest growing markets. A binding take-or-pay offtake agreement has been confirmed with EuroChem Trading GmbH (**EuroChem**) for up to 100% (minimum 87%) of Colluli Module I SOP production.

A non-binding indicative term sheet and mandate for the provision of US\$200M in senior debt funding to CMSC has been executed with Mandated Lead Arrangers Africa Export Import Bank (**Afreximbank**) and Africa Finance Corporation (**AFC**).

The Company's vision is to bring Colluli into production using the principles of risk management, resource utilisation and modularity, using the starting module (**Module I**) as a growth platform to develop the resource to its full potential.

### Competent Persons Statement (Sulphate of Potash and Kieserite Mineral Resource)

Colluli has a JORC-2012 compliant Measured, Indicated and Inferred Mineral Resource estimate of 1,289Mt @ 11% K<sub>2</sub>O Equiv. and 7% Kieserite. The Mineral Resource contains 303Mt @ 11% K<sub>2</sub>O Equiv. and 6% Kieserite of Measured Resource, 951Mt @ 11% K<sub>2</sub>O Equiv. and 7% Kieserite of Indicated Resource and 35Mt @ 10% K<sub>2</sub>O Equiv. and 9% Kieserite of Inferred Resource.

The information relating to the Colluli Mineral Resource estimate is extracted from the report entitled "Colluli Review Delivers Mineral Resource Estimate of 1.289Bt" disclosed on 25 February 2015 and the report entitled "In excess of 85 million tonnes of Kieserite defined within Colluli Project Resource adds to multi agri-commodity potential" disclosed on 15 August 2016, which are available to view at [www.danakali.com.au](http://www.danakali.com.au). 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 or Ore Reserves, 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.

### Competent Persons Statement (Sulphate of Potash Ore Reserve)

Colluli Proved and Probable Ore Reserve is reported according to the JORC Code and estimated at 1,100Mt @ 10.5% K<sub>2</sub>O Equiv. The Ore Reserve is classified as 285Mt @ 11.3% K<sub>2</sub>O Equiv. Proved and 815Mt @ 10.3% K<sub>2</sub>O Equiv. Probable. The Colluli SOP Mineral Resource includes those Mineral Resources modified to produce the Colluli SOP Ore Reserves.

The information relating to the January 2018 Colluli Ore Reserve is extracted from the report entitled "Colluli Ore Reserve update" disclosed on 19 February 2018 and is available to view at [www.danakali.com.au](http://www.danakali.com.au). 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 or Ore Reserves, 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.

### Competent Persons Statement (Rock Salt Mineral Resource)

Colluli has a JORC-2012 compliant Measured, Indicated and Inferred Mineral Resource estimate of 347Mt @ 96.9% NaCl. The Mineral Resource estimate contains 28Mt @ 97.2% NaCl of Measured Resource, 180Mt @ 96.6% NaCl of Indicated Resource and 139Mt @ 97.2% NaCl of Inferred Resource.

The information relating to the Colluli Rock Salt Mineral Resource estimate is extracted from the report entitled "+300M Tonne Rock Salt Mineral Resource Estimate Completed for Colluli" disclosed on 23 September 2015 and is available to view at [www.danakali.com.au](http://www.danakali.com.au). 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 or Ore Reserves, 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.

#### AMC Consultants Pty Ltd (AMC) independence

In reporting the Mineral Resources and Ore Reserves referred to in this public release, AMC acted as an independent party, has no interest in the outcomes of Colluli and has no business relationship with Danakali other than undertaking those individual technical consulting assignments as engaged, and being paid according to standard per diem rates with reimbursement for out-of-pocket expenses. Therefore, AMC and the Competent Persons believe that there is no conflict of interest in undertaking the assignments which are the subject of the statements.

#### Quality control and quality assurance

Danakali exploration programs follow standard operating and quality assurance procedures to ensure that all sampling techniques and sample results meet international reporting standards. Drill holes are located using GPS coordinates using WGS84 Datum, all mineralisation intervals are downhole and are true width intervals.

The samples are derived from HQ diamond drill core, which in the case of carnallite ores, are sealed in heat-sealed plastic tubing immediately as it is drilled to preserve the sample. Significant sample intervals are dry quarter cut using a diamond saw and then resealed and double bagged for transport to the laboratory.

Halite blanks and duplicate samples are submitted with each hole. Chemical analyses were conducted by Kali-Umwelttechnik GmbH, Sondershausen, Germany, utilising flame emission spectrometry, atomic absorption spectroscopy and ion chromatography. Kali-Umwelttechnik (KUTECH) has extensive experience in analysis of salt rock and brine samples and is certified according to DIN EN ISO/IEC 17025 by the Deutsche Akkreditierungsstelle GmbH (DAR). The laboratory follows standard procedures for the analysis of potash salt rocks chemical analysis ( $K^+$ ,  $Na^+$ ,  $Mg^{2+}$ ,  $Ca^{2+}$ ,  $Cl^-$ ,  $SO_4^{2-}$ ,  $H_2O$ ) and X-ray diffraction (XRD) analysis of the same samples as for chemical analysis to determine a qualitative mineral composition, which combined with the chemical analysis gives a quantitative mineral composition.

#### Forward looking statements and disclaimer

The information in this document is published to inform you about Danakali and its activities. Danakali has endeavoured to ensure that the information enclosed is accurate at the time of release, and that it accurately reflects the Company's intentions. All statements in this document, other than statements of historical facts, that address future production, project development, reserve or resource potential, exploration drilling, exploitation activities, corporate transactions and events or developments that the Company expects to occur, are forward looking statements. Although the Company believes the expectations expressed in such statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those in forward-looking statements.

Factors that could cause actual results to differ materially from those in forward-looking statements include market prices of potash and, exploitation and exploration successes, capital and operating costs, changes in project parameters as plans continue to be evaluated, continued availability of capital and financing and general economic, market or business conditions, as well as those factors disclosed in the Company's filed documents.

There can be no assurance that the development of Colluli will proceed as planned. Accordingly, readers should not place undue reliance on forward looking information. Mineral Resources and Ore Reserves have been reported according to the JORC Code, 2012 Edition. To the extent permitted by law, the Company accepts no responsibility or liability for any losses or damages of any kind arising out of the use of any information contained in this document. Recipients should make their own enquiries in relation to any investment decisions.

Mineral Resource, Ore Reserve, production target, forecast financial information and financial assumptions made in this announcement are consistent with assumptions detailed in the Company's ASX announcements dated 25 February 2015, 23 September 2015, 15 August 2016, 1 February 2017, 29 January 2018, and 19 February 2018 which continue to apply and have not materially changed. The Company is not aware of any new information or data that materially affects assumptions made.

No representation or warranty, express or implied, is or will be made by or on behalf of the Company, and no responsibility or liability is or will be accepted by the Company or its affiliates, as to the accuracy, completeness or verification of the information set out in this announcement, and nothing contained in this announcement is, or shall be relied upon as, a promise or representation in this respect, whether as to the past or the future. The Company and each of its affiliates accordingly disclaims, to the fullest extent permitted by law, all and any liability whether arising in tort, contract or otherwise which it might otherwise have in respect of this announcement or any such statement.

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