



## ASX Release

5 August 2015

**ASX Code:** DNK

### Issued Capital

Share Price \$0.34  
 Market Capitalisation \$59.2M  
 Shares on issue 174M  
 Company options 24M  
**Cash \$7.9M**

### Board of Directors

Mr Seamus Cornelius  
*Non-executive Chairman*

Mr Paul Donaldson  
*Managing Director*

Mr Anthony Kiernan  
*Non-Executive Director*

Mr John Fitzgerald  
*Non-Executive Director*

Mr Liam Cornelius  
*Non-Executive Director*

Ms Amy Just  
*Company Secretary*

### Information

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## Colluli potassium rich brines to supplement process water

Danakali Limited (ASX:DNK) ("Danakali" or "The Company") is pleased to announce the detection of potassium rich brines within the Colluli tenements. The brines sit within the clastic layer, well above the rock salt and potash resource.

Potassium rich brines were identified during pump tests designed to support development and refinement of ground water models. The pump tests have been used to estimate groundwater dewatering requirements and the effects of mining upon the groundwater system. The potassium brines will be removed during pit dewatering and utilised in the processing plant where the potassium will be recovered. Ground water depths range from 1.16m to 12.64m.

### Best Results

The best results achieved are shown in Table 1.

**Table 1: Potassium rich brine chemistry results**

Sample	K <sub>2</sub> SO <sub>4</sub> <sup>1,2</sup>	K <sup>2</sup>	Ca <sup>2</sup>	Mg <sup>2</sup>	Na <sup>2</sup>	Cl <sup>2</sup>	TDS <sup>2,3</sup>
CB-07	13.65	6.12	8.83	8.97	90.2	200	322
CB-08	11.46	5.14	5.65	8.02	98.4	177	269
D-05	9.86	4.42	1.52	4.21	104	182	292

<sup>1</sup> K<sub>2</sub>SO<sub>4</sub> = potassium sulphate = sulphate of potash (SOP)

<sup>1</sup> Potassium converted to potassium sulphate by multiplying K by 2.23

<sup>1</sup> SO<sub>4</sub> for conversion to SOP is available from both the surface brines and feed salts to the process plant

<sup>2</sup> Measurements in grams per litre = kilograms per m<sup>3</sup> of brine

<sup>3</sup> TDS = Brine total dissolved salts

Dewatering rates are low enough to utilise a series of sump trenches with surface dewatering pumps. Water flows through the clastics lithology in the northern pit are predicted to be in the range of 700 to 1845m<sup>3</sup> per day while flows through the southern pit clastics are predicted to be in the range of 3400 to 5700m<sup>3</sup> per day.

Danakali Managing Director, Paul Donaldson said "This is a processing benefit. The potassium rich brines sitting above the resource, which will be abstracted as part of the pit dewatering program, represent an additional source of potassium to complement the mined potassium salts fed to the processing plant. This will potentially improve the overall process product yield. Important to note is that the chemistry of these brines in some cases is as good as, or better than potassium rich lake brines."



## Full results

Table 2: Surface and bore sample chemistry

Sample	K kg/m <sup>3</sup>	SOP kg/l <sup>1</sup>	Na <sup>1</sup>	Cl <sup>1</sup>	TDS <sup>1</sup>
CB1	0.24	0.54	2.3	5.5	12.4
CB2	0.79	1.75	79.2	120	183
CB4	1.86	4.15	95.6	145	229
CB5	2.53	5.64	20.8	55.8	97.6
CB6	0.68	1.52	16.7	34	5.6
CB7	6.08	13.65	90.2	200	328
CB8	5.14	11.46	98.4	177	269
CB9	0.22	0.48	3.17	6.52	14.4
CB10	0.26	0.57	19.9	29.7	190
CB11	1.06	2.36	20.8	17.5	36.6
CB12	0.56	1.25	9.29	28	53.6
D-01	1.80	4.01	67.3	114	190
D-02	1.58	3.52	32.0	58.1	101
D-03	1.60	3.57	54.9	100	174
D-04	1.16	2.59	17.5	33.8	60.4
D-05	4.42	9.86	10.4	182	292
<b>Average</b>	<b>1.87</b>	<b>4.18</b>	<b>39.9</b>	<b>81.7</b>	<b>159.8</b>

<sup>1</sup> Measurements in grams per litre = kilograms per m<sup>3</sup> of brine

### Significance of results

Potassium and sulphate rich brines are typically used to produce potassium sulphate or sulphate of potash (SOP) by evaporating the brines to form a harvest salt which is then converted to SOP in a processing plant.

The potassium salts of Colluli start in solid form, negating the need for large footprint evaporation ponds, and time consuming evaporative harvest salt generation. Colluli process water will be directed to a series of recovery ponds to recover any dissolved potassium exiting the plant.

The addition of potassium rich brines from the clastics to the processing plant will increase the overall potassium feedrate to the recovery ponds and ultimately increase the overall yield.



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### Potassium grade of Colluli clastics brine comparable to greenfield brine projects

A number of samples are of comparable grade to a number of Greenfield brine projects as shown below in Table 3.

Table 3: Comparison of selected Colluli process water samples with greenfield brine projects

Brine SOP grade comparisons			
Company	Location/Project		SOP grade (g/l)
Danakali	Colluli	Sample CB07	13.65
		Sample CB08	11.46
		Sample D05	9.68
		Average of all samples <sup>1</sup>	4.14 <sup>1</sup>
Reward	Lake Disappointment		12.37
Rum Jungle	Karinga		10.55
Compass	GSL		10.55
EPM (Crystal Peak)	Sevier Lake		6.6

<sup>1</sup> Arithmetic mean

The location of the well points and surface points are shown in the Figure 1.

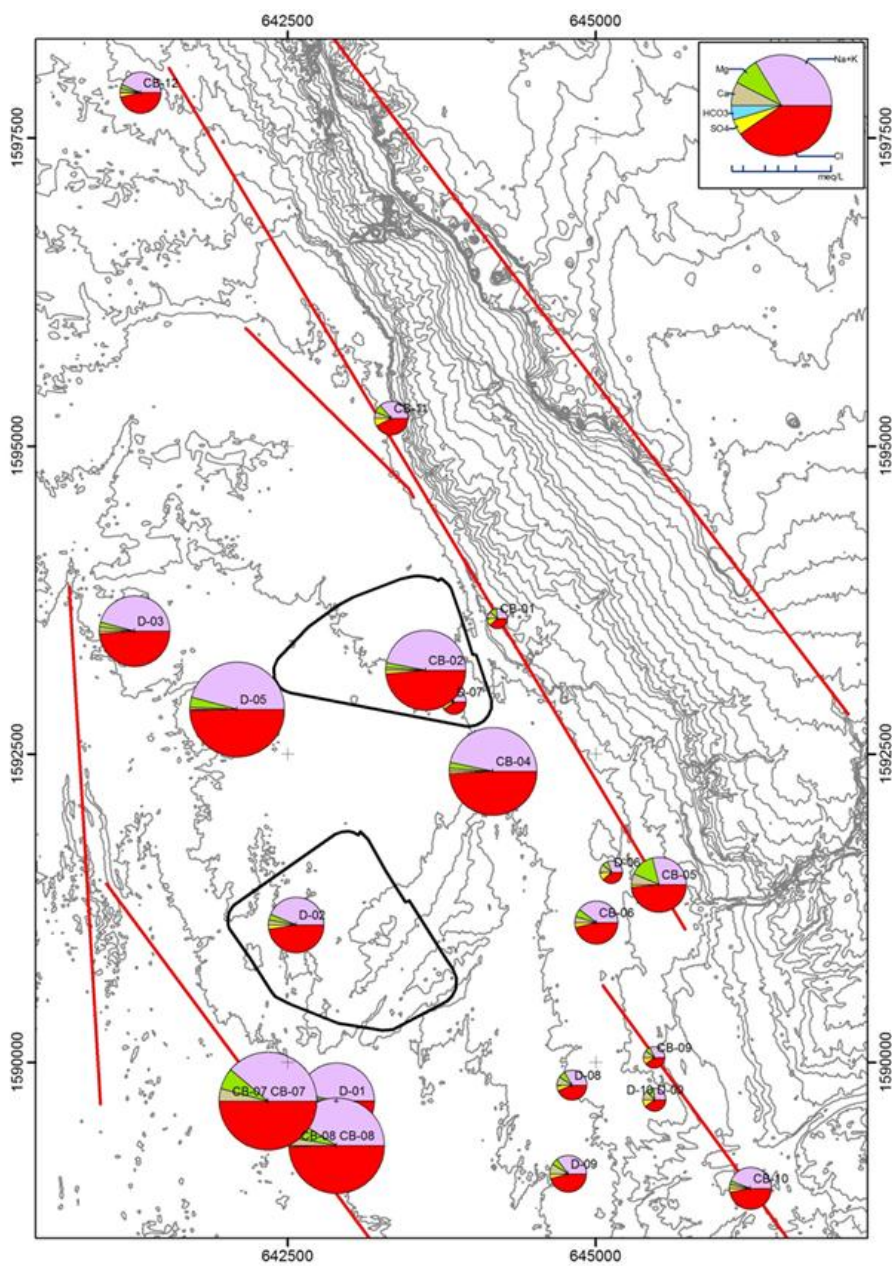


Figure 1: Location of well points and surface points



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### About Danakali Ltd

Danakali is an ASX listed company and 50% owner of the Colluli Potash Project in Eritrea, East Africa. The company is currently developing the Colluli Project in partnership with the Eritrean National Mining Company (ENAMCO).

The project is located in the Danakil Depression region of Eritrea, 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 amendable 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 prefeasibility study 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. 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) with 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.

Our vision is to bring the Colluli project into production using the principles of risk management, resource utilisation and modularity, using the starting module as a growth platform to develop the resource to its full potential.