

https://www.goodreads.com/quotes/405782-on-titan-the-molecules-that-havebeen-raining-down-like

CLIENT OF THE MONTH: Blackham Resources Limited

Winners are chosen by our computer on a random basis. The prize is the client's choice of \$100 worth of laboratory items from a supplied list.

From Blackham Resources Limited: Blackham Resources Limited is a Perth

based, ASX listed gold mining company that owns 100% of the Matilda-Wiluna Gold operation located in the Northern Goldfields of Western Australia. Blackham commenced gold production in

October 2016, and produced 70,565 ounces of gold in the 2017/2018 financial year. Gold production for the June 2018 half was 40koz, representing a 31% increase in production of the previous half. The Matilda-Wiluna gold operation is

currently a free milling, open pit mining operation supported by reserves at the Matilda, Wiluna and Williamson open pit mines and the Golden Age underground mine.

The operation has a large defined resource of 6.7 Moz at a grade of 2.2 g/t. The current, expanding gold reserve is 1.2 Moz at 2.6 g/t of which almost 1 Moz is underpinned by the open pits.

The recent operational performance of the project is indicative of the operational turn around. The base case free-milling production plan cash flows underpin the investment opportunity and the dominant land position and 6.7 Moz resources, along with an expansion plan for gold production of 200koz, providing significant upside potential.

CLEVER PERSON'S QUIZ

Question:

Answer:

What common ingredient of dishwashing products may be used as an anticancer drug delivery system? The answer to this will be in the next edition of the Rowe



Scientific newsletter. Did you know the answer to the last quiz question? "Jumping crystals" have the ability to rapidly move due to structural reconfigurations when subjected to a temperature change in a phenomenon known as the thermosalient effect. What compound has the largest observed "jump"?

The current record-holder is N'-2-propylydene-4-hydroxybenzohydrazide1, with crystals that were recently reported to be able to travel distances of up to 1m in air upon heating past a reversible phase transition at 88°C and an irreversible phase transition at 147°C.² References

1: Panda, M. K. et.al. (2016) Strong and Anomalous Thermal Expansion Precedes the Thermosalient Effect in Dynamic Molecular Crystals. Scientific Report 6 Article number 29610 2: Centore, R. et. al. (2012). A series of compounds forming polar crystals and showing single-crystal-to-single-crystal transitions between polar phases. CrystEngComm, 14(8), 2645.

SUPPORTING THE RFDS





Help us raise \$32,000 for the 2018-19 Financial Year!

2019 ASTA STEMX ACADEMY



The seven recipients of Rowe Scientific sponsorship were: (L to R) Jane Hall-Dadson, Launceston College, Tasmania; Shannon Fletcher, St. Stephen's School, WA; Hannah Frater, Jindabyne Central School, NSW; Julia Schleehauf, Bribie Island State High School, Qld; Leanne Smith, Wodonga South Primary School, Vic; Genevieve Firmer, St. Joseph's Catholic College, NT; Fiona Raebone, Murray Bridge High School, SA.

Between 7-11 January 2019, 70 primary and high school teachers from across Australia participated in an enriching and inspiring 5-day residential professional learning program, STEM X Academy, in Canberra.

The STEM X Academy, led by the Australian Science Teachers Association (ASTA), Questacon and CSIRO, helps teachers acquire the skills and confidence to design and implement STEM (Science, Technology, Engineering and Mathematics) based teaching resources; develop dynamic, professional networks and make important connections with research and industry that can be taken back to the classroom.

Rowe Scientific Pty Ltd provided seven scholarships to support seven secondary teachers from across Australia to attend the STEM X Academy. All seven teachers sincerely thanked Rowe Scientific Pty Ltd for its support.

UNIVERSITY OF ADELAIDE ROWE SCIENTIFIC VITICULTURE AND OENOLOGY **SCHOLARSHIPS**

Congratulations to Miss April Catford and Mr Benjamin Hayward., the University of Adelaide recipients of the 2018 Rowe Scientific Pty Ltd Viticulture and Oenology Scholarships. Also pictured below are the recipients of the 2018 Rowe Scientific Chemistry Scholarship, Ms Rhianna Penfold and Ms Ebony Brouwers, who were featured in our May - June 2018 newsletter. Well done people, from the national staff of Rowe Scientific Pty Ltd.



(L to R) Ms Rhianna Penfold, Ms April Catford, Mr Doug McPhee (Rowe Scientific SA and NT Manager), Mr Benjamin Hayward and Ms Ebony Brouwers.

THE UNIVERSITY OF SYDNEY **ROWE SCIENTIFIC CHEMISTRY SCHOLARSHIPS**

Congratulations to the following hard working students from the University of Sydney.





level, which is below the diffraction limit of light.

In Alison's words:

"I would like to express my gratitude to Rowe Scientific for their generous provision of the Rowe Scientific Scholarship, which I am humbled to receive.

I am thankful for the way in which it will help me to focus on my studies during my honours year for my Bachelor of Science (Advanced) at the University of Sydney. Ever since I was offered a scholarship to study Science in Cambridge at the age of 16, I have nurtured a keen interest in the discipline of Science, focusing on Chemistry and Physics.

My area of particular interest is in Physical Chemistry, and I will be studying Single Molecule Spectroscopy for my Honours Thesis. This is a new and exciting area of research, which was the topic of the Nobel Prize in Chemistry in 2014. Studying molecules one at a time allows for the identification of the origin of photophysical properties such as fluorescence at a single molecule

Studying single molecules allows for very high levels of sensitivity, with useful applications in areas such as pathology and diagnostic medicine, where eventually only one copy of a gene, protein or virus need exist in a cell for the indication of a disease. I am keen to begin my project and am very grateful for the support of Rowe Scientific."

Mr Bryce Mullens

In Bryce's words;

"My main area of interest concerns the designing of infrastructure to safely and effectively use solar and nuclear fuels.

Having spent time in the central west of New South Wales, I have seen the first-hand effects of energy shortages on our farming communities and country towns. Australia is aiming to derive 23.5% of its electricity generation from renewably energy by 2020. I am looking at developing the structural stability and efficiency of solar cells, and the development of safe hosts for radioactive waste by-products.

These two technologies, in tandem, have the potential for Australia to meet 100% renewable energy by as early as 2030.

Mr Bryce Mullens

I'd like to thank sincerely Rowe Scientific for giving me the opportunity to make a difference in this field of study."

Well done Alison and Bryce, from the national staff of Rowe Scientific Pty Ltd.



These packages include everything you need to accommodate a simple microbiological or industrial filtration scenario.

3 place manifold 🛛 🚺 2m of tubing 🛛 🛛 connector vacuum bottle & cap inline filter pump 👩

- 3 4
- 6 place manifold 2m of tubing) vacuum bottle & cap
- inline filter

Contact our knowledgeable staff for assistance regarding your vacuum filtration needs, or simply download our flyer below.



See video below for a demonstration on how to set up a simple microbiological and industrial vacuum filtration scenario.







DIGITAL AND ADVANCE SERIES



OHS 200 DIGITAL

2000

through to 100 litres and a maximum viscocity of 10,000 - 100,000 mPas. All Digital models feature an easy to use display, SmartChuck (for easy changing of tools) and SpeedServo control for delivering desired speed despite any sample viscosity changes (30 - 2000 rpm). The OHS 200 Digital also features a second speed gear allowing for low speeds (6-400 rpm) whilst still delivering the correct torque.

The Advance series has 3 models with stirring capacity of up to 60 or 100 litres. These models feature a 3.5" display showing a variety of information about what is happening with your stirring. Also featured is the ability to connect an optional Pt 100 probe to monitor temperature of your sample. All 3 of the Advance series have WIFI and USB connectivity. The WIFI

As the Australian distributor for VELP Scientifica we are pleased to

announce the release of a brand new series of overhead stirrers. The eight new models are spread across 2 series, Digital and Advance.

The Digital series has 5 models with stirring capacities from 25 litres

connectivity allows you (in conjuction with VELP Ermes software) to remotely monitor what is happening with your stirring samples. (Including reporting and storage in the cloud) This is ideal if you are using stirrers for a scaled down Pilot Plant model.

As a special offer, all registrations of VELP Ermes made before June 30th 2019 will be free of charge for the first year. Don't forget that Ermes software works across multiple VELP product platforms, including N, C elemental analysers, Solvent Extractors and AREX 6 Connect hotplates stirrers.

Below is a full list of features for the OHS digital and Advanced OHS stirrers.

OHS 100 Digital	DIGITAL				
30 - 1300 rpm	OHS 20 Digital	OHS 40 Digital	OHS 60 Digital	OHS 100 Digital	OHS 200 Digital
DISPLAY	LED	LED	LED	LED	LED
DISPLAY SIZE	7 Digits	7 Digits	7 Digits	7 Digits	7 Digits
USER INTERFACE	Digital	Digital	Digital	Digital	Digital
MOTOR	Brushless DC	Brushless DC	Brushless DC	Brushless DC	Brushless DC
STIRRING VOL (H ₂ O)	Up to 25 L	Up to 25 L	Up to 40 L	Up to 100 L	Up to 100 L
SPEED GEARS	1	1	1	1	2
MAX TORQUE (Ncm)	20	40	60	100	200
STIRRING SPEED RANGE	30-2000 rpm	30-2000 rpm	30-2000 rpm	30-1300 rpm	6-400 rpm 30-2000 rpm
SPEED ACCURACY	1 rpm	1 rpm	1 rpm	1 rpm	1 rpm
SPEED CONTROL	Digital	Digital	Digital	Digital	Digital
MAX VISCOSITY (mPa*s)	10.000	25.000	50.000	70.000	100.000
TORQUE	SpeedServo™	SpeedServo™	SpeedServo™	SpeedServom	SpeedServo
CHUCK RANGE Ø	Up to 13 mm	Up to 13 mm			
SAFETY VIBR. SENSOR	¥1	÷	÷	1.0	-
TIMER	Yes	Yes	Yes	Yes	Yes
EXTERNAL PROBE CONNECTION		8		-	-
TEMPERATURE MEASURING RANGE	52	3	s.	10.	2
TEMPERATURE RESOLUTION.	<u>15</u>	2	с.	121	-
INTERFACES	USB	USB	USB	USB	USB
DIMENSIONS (WxHxD)	90x285x235	90x285x235	90x285x235	90x285x235	90x315x235
WEIGHT (Kg)	4,1	4,1	4,1	4,1	4,6
PROTECTION CLASS DIN EN	IP 54	IP 54	IP 54	IP 54	IP 54

OHS 200 Advance
2000 Весі трл Мі Set трл 2000 Типис: 01:15:54 Весі 20:000 Типис: 10:4 нал Типис: 32:4 «с МЕЛИ ТАЛЯН (ПАЛН) О Р Р Р
DISPLAY
DISPLAY SIZE
USER INTERFACE
MOTOR
STIRRING VOL (H ₂ O)
SPEED GEARS
MAX TORQUE (Ncm)

- STIRRING SPEED RANGE
- SPEED ACCURACY
- SPEED CONTROL MAX VISCOSITY (mPa^s)
- TORQUE COMPENSATION CHUCK RANGE Ø
- SAFETY VIBR. SENSOR TIMER
- EXTERNAL PROBE
- CONNECTION TEMPERATURE MEASURING
- RANGE TEMPERATURE RESOLUTION.
- INTERFACES DIMENSIONS
- (WxHxD)
- WEIGHT (Kg) PROTECTION
- CLASS DIN EN 60529

OHS 60 Advance	OHS 100 Advance	OHS 200 Advance
Graphic TFT	Graphic TFT	Graphic TFT
3.5*	3.5"	3.5*
Digital	Digital	Digital
Brushless DC	Brushless DC	Brushless DC
Up to 40 L	Up to 100 L	Up to 100 L
1	1	2
60	100	200
30-2000 rpm	30-1300 rpm	6-400 rpm 30-2000 rpm
1 rpm	1 rpm	1 rpm
Digital	Digital	Digital
50.000	70.000	100.000
SpeedServo™	SpeedServo™	SpeedServo™
Up to 13 mm	Up to 13 mm	Up to 13 mm
Yes	Yes	Yes
Yes	Yes	Yes
Pt 100	Pt 100	Pt 100
-10 to 350 °C	-10 to 350 °C	-10 to 350 °C
0.1 °C	0.1 °C	0.1 °C
USB / WIFi	USB / WiFi	USB / WiFi
90x285x235	90x285x235	90x315x235
4.1	4,1	4,6
IP 54	IP 54	IP 54
		0.511.505

ADVANCE

Contact your Rowe Scientific representative today

Rowe Scientific are proud to introduce Nieka[®] Fusion machines



See-through door with automatic locking

Real circular stirring motion for faster sample dissolution

Nieka®



Contact us for further information

STATE NEWS

NEW SOUTH WALES

return of students before the month end.

Dear Clients.

January may have started slowly however it picked up pace as the month evolved and finished with a flourish. Thus far February has maintained the pace as Universities stock up for undergraduate classes in anticipation of the

In February we have several of our distribution partners from Europe making the trip to conduct training (funny how they always see to select this time of year to make the trip Down Under!)

We have already hosted our very supportive Area Manager from Macherey Nagel (MN) and thanks to his support we have witnessed particularly strong growth in the MN chromatography and filtration portfolios. If you have not discovered the MN chromatography portfolio do yourself a favour and contact your local Rowe representative or customer service team to learn more about their great range of SPE, TLC, GC and HPLC consumables.

Rowe are stocking more and more of these items and so rest assured you will receive top quality competitively priced chromatography consumables when you need them. Later in the month we are hosting our representative from MMM Medcenter. MMM offer the most innovative range of laboratory ovens, incubators and climate control cabinets in standard sizes and configurations to suit your laboratory needs. All are in stock and available for immediate delivery. Full details of the MN and MMM product ranges are available at www.rowe.com.au

All the best from: Allan, Hayden, John, Kathryn, Kazi, Rodney and Troy.

QUEENSLAND

Dear Clients,

February is traditionally a very busy time as many laboratories ramp up for the year ahead. For those of you, like several in our team who managed to take a break over the festive season and returned to work refreshed and ready to get stuck into the challenges ahead, we say welcome back.

The year has already begun with serious challenges as our thoughts and prayers go out to those families who are doing

it tough due to the flooding up north. Some families are facing complete devastation which is heartbreaking, and we acknowledge the wonderful job our army is performing helping to get people to safety and rescuing many who might have otherwise been in grave danger. We asked Mother Nature to give us rain to break the drought, but we didn't expect it to be in such large volumes.

Reminder: Manufacturers especially from overseas are now back in action and stock is arriving daily, so now is a good time to place your orders for anything that was not ordered before the Christmas break.

We are promoting a broad range of products with special budget savings, so please check our website and contact our team in case you have something particular you need. Cheers from the Queensland team: Yvonne, Martin, Brian, Josephine, Leon, Steve, Colin and Jacob.

SOUTH AUSTRALIA & NORTHERN TERRITORY

Dear Clients,

Welcome to 2019!

We have just experienced some rather hot weather in Adelaide and have set the highest recorded maximum temperature of any capital city in Australia at a staggering 46.6 °C.

Our morning teas will start up again soon, so stay tuned with your account manager to be notified as to when we

are hosting one at a location near you!

The 2018/19 vintage is now also under way and everyone should have a copy of the 2018/19 Vintage Catalogue price list, if you don't or have misplaced it please contact your account

I would like to take this opportunity to remind you all that we and are now the official distributor

manager to obtain another copy.

of GlassChem in Australia. Your Rowe Scientific representative can help you with a range of GlassChem parts and instruments required for a typical laboratory setup, especially to free up valuable bench space and move away from an open flame system in the laboratory environment.

All the best from: Doug, Steve, Mark, Michael, Daniel, Jo, Danielle, Paula, and Moreton.

VICTORIA & TASMANIA

Dear Clients

Already the Christmas and New Year break feels like 6 months ago. For those who we haven't touched base with us in the New Year, we all hope you had a safe and happy one.

In Victoria it would be remiss not to remind all of us that the 7th February marks the 10th anniversary of Black Saturday and the loss of 173 lives - some of these our friends and also members of the scientific community.

Our Victorian team are committed to focusing on meeting as many new customers as

possible while we traverse the whole state in the coming weeks and months. We look forward to forming new and renewing old acquaintances during the course of the year.

As ever, our goals are to understand and respond to your needs and to provide you with a reliable service at all times so that you can focus on your job in the laboratory. Please keep an eye on our website for those new products and cost saving specials

From your team in Victoria: Garry, Nic, Mango, Amanda, Adam, Brian, Christine and Hoa.

WESTERN AUSTRALIA

Dear Clients,

Greetings from the West.

Business tapered during Christmas but was back in full swing by week 2. We have been in deep discussions with our suppliers, endeavouring to minimise price rises for which the 1st of January seems to hold significant attraction, as a go live date.

We do push back hard (as you do with us) and only pass on an increase when we can no longer absorb the impact. Thank you for your business and we look to support you during 2019. All the best from:

Peter Sommers and the Western Australian Team.



Email: NSW & ACT | QLD | SA & NT | VIC & TAS | WA

Rowe Scientific Pty Ltd www.rowe.com.au

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