

## Dealing Desk Note

### Innovative Uranium Process has Potential to Unlock Value

- Marenica Energy Limited (MEY) is focussed on commercialising its innovative U-pgrade™ process.** The proprietary mechanical based process concentrates calcrete uranium deposits by up to 50 times rejecting >95% of the mass. The remaining concentrate can either be processed on site or alternatively be delivered to an offsite processing facility. The key advantage is that it could significantly reduce project capital and operating cost requirements. This is an important consideration in the current uranium price environment and may reduce the incentive price to move a project into operation or reduce costs in an existing operation. Furthermore, the process may be applicable to copper, tungsten and iron ore with similar characteristics to calcrete uranium deposits. Within the next three years, MEY aims to be using U-pgrade™ in at least one operating uranium mine and enter into a number of commercial agreements to create a pathway to cash flow.
- Innovative Process could Unlock the Potential of Calcrete Uranium Deposits:** MEY's main focus is on commercialising its proprietary U-pgrade™ process (patent pending). The key advantage of the process is that it significantly reduces the overall mass to less than 5% whilst recovering >80% of the uranium (Figure 1). The process uses off the shelf processing components and has currently been identified as applicable to calcrete uranium deposits.
- Significant Capital and Operating Costs Savings:** Testwork has indicated applying U-pgrade™ to the Marenica deposit (100% owned by MEY) lowered operating costs by 50% and capital costs by 50% when compared to a conventional uranium processing plant. On Marenica ore, it rejects 98% of the mass prior to leaching and concentrates the uranium by a factor of 50. The process also rejects acid consuming minerals thereby potentially improving leach kinetics.
- Testwork Underway/Completed on Several Deposits:** Testwork using the U-pgrade™ process has been completed (or is underway) on several uranium deposits including: Langer Heinrich, Tumas (Deep Yellow), Wiluna (Toro) as well as on the Marenica deposit in Namibia (75% owned by MEY). Importantly MEY is actively engaged with Paladin Energy Ltd in assessing the opportunity U-pgrade™ presents to reduce the costs at the Langer Heinrich Mine. Testwork has commenced and processing is expected to be completed early in the December Q. The aim is to provide significant operating cost savings for the project. Given Paladin (PDN) is in the hands of the Administrators (75% owner of Langer Heinrich) the implementation of the U-pgrade™ could provide an option to improve the project economics moving forward.
- Pathway to Cashflow:** An important consideration for MEY is commercialising the U-pgrade™ process. Within the next three years, the Company aims to enter into a number of commercialisation agreements creating a pathway to cash flow. The aim is to have U-pgrade™ being licenced at least one operating uranium mine. A further area that MEY could consider is to use the process to drive consolidation of central Erongo calcrete deposits in Namibia.
- Backing the Team:** MEY is headed up by Murray Hill a highly experienced metallurgist with over 30 years' experience in the mining industry. He has held management roles at a metallurgical testwork laboratory and an engineering group, which compliments his practical experience.
- Applicable to Other Commodities:** U-pgrade™ may be applicable to copper, tungsten, iron ore, etc with similar gangue characteristics to calcrete uranium deposits
- Catalysts:** 1) December Q: Test Results from Langer Heinrich ore 2) Commercial Agreement for the implementation of the U-pgrade™ process.

#### 27 October 2017

Price	A\$	0.10
ASX		<b>MEY.ASX</b>
Shares o/s	m	43.8
Free Float	%	72
Market Cap.	A\$m	4.4
Cash	A\$m	0.5
Debt (Con Note)	A\$m	1.65
3mth Av. D. T'over	A\$	1,118
52wk High/Low	A\$	0.215/0.10

#### DIRECTORS & MANAGEMENT

Name	Role
Douglas Buerger	Non-Executive Chairman
Murray Hill	Managing Director / CEO
Nelson Chen	Non-Executive Director
Lou Guo Qing	Non-Executive Director
David Sanders	Non-Executive Director
John Sestan	Non-Executive Director

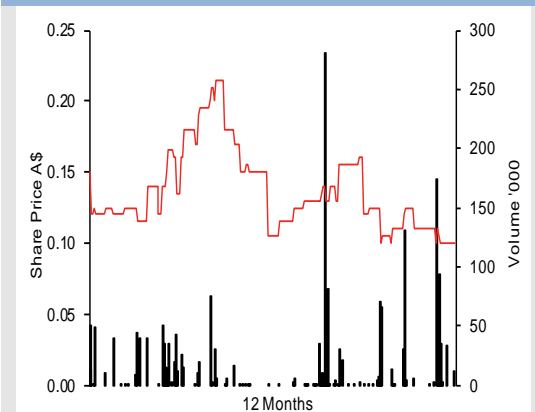
#### TOP SHAREHOLDERS

Name	Shares	%
Board and Management	7.2	16
Hanlong Energy Ltd	5.3	12

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**Disclosure:** Patersons Securities acted as Lead Manager to a Share Placement that raised \$0.5m at \$0.10/sh in November 2016. Patersons Securities acted as Lead Manager to a Share Placement and Rights Issue that raised \$1.7m at \$0.13/sh in April 2017. Patersons Securities received fees for these services.

#### 12 Month Share Price Performance

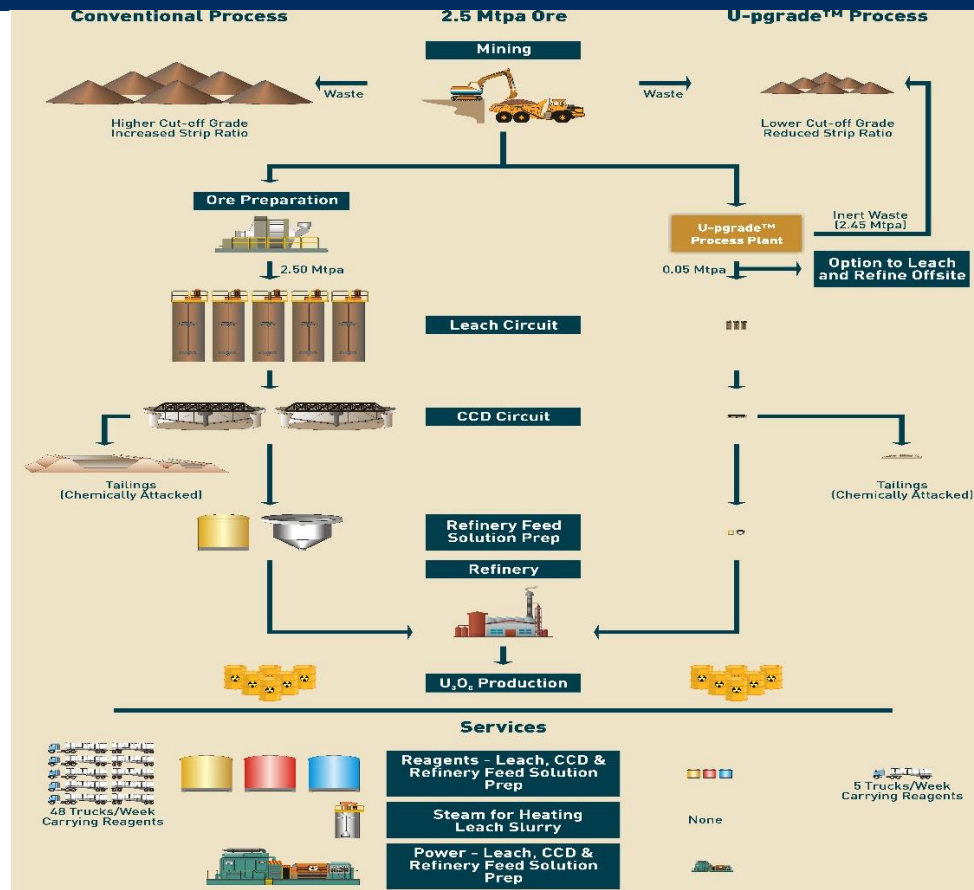


Performance %	1mth	3mth	12mth
Absolute	-9	-17	-33
Rel. S&P/ASX 300	-13	-26	-37

## BACKGROUND

The reason the process was developed was to improve the economics of the lower grade Marenica deposit in Namibia (299Mt at 93ppm  $U_3O_8$  for 61Mlb  $U_3O_8$ ). Testwork conducted in 2012 has suggested applying U-pgrade™ to the Marenica deposit (75% owned by MEY) has the potential to lower operating costs by 50% and capital costs by 50% when compared to a conventional uranium processing plant. On Marenica ore, it rejects 98% of the mass prior to leaching and concentrates the uranium by a factor of 50. The process also rejects acid consuming rocks thereby potentially improving leach kinetics. In this case the long term incentive price for the project reduced from US\$105/lb to around US\$60/lb.

Figure 1: U-pgrade™ Comparison with Conventional Uranium Processing



Source: Marenica Energy Limited

## Testwork

Testwork is underway or has been completed on the following deposits:

**Langer Heinrich (currently underway):** Testwork is currently underway with test results due in early December Q. This has the potential to improve the economics of an operating mine.

**Tumas (owned by Deep Yellow):** In 2016, MEY conducted bench scale testwork using the U-pgrade™ process which was applied to bulk samples from the Tumas deposit in Namibia. The successful testwork program led to the signing a commercialisation agreement in September 2016.

**Toro:** In 2015, bench scale testwork showed encouraging results, including rejection of 15% of mass with minimal loss of uranium. The deslimed product also exhibited significantly improved physical characteristics which has the potential to reduce critical equipment size in the plant.

**Marenica Deposit (75% owned by MEY):** As discussed previously, testwork has suggested applying U-pgrade™ to the Marenica deposit lowered operating costs by 50% and capital costs by 50% when compared to a conventional uranium processing plant.

MEY is in discussions with other resource owners in Namibia interested in trialling the process.



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