

# Denison Mines Corp.

{DML-T, DNN-US}

SECTOR: Mining

STOCK PRICE \$0.485  
RATING **BUY**  
TARGET PRICE \$1.60  
RISK Very High

## PHOENIX DEPOSIT PUMP TEST RESULTS

### Core Leach Tests Suggest Higher Uranium Concentrations Achievable

**OUR TAKE:** The core leach tests performed on drill core recovered from the Phoenix deposit returned uranium concentrations ranging from 13.5 – 39.8 g/litre. These results compare very favourably to the 10 g/litre assumption in the September 2019 Pre-Feasibility Study on Phoenix, achieving almost 4 times the uranium concentration in leach solution. Higher uranium concentration in recovery fluids has the potential to lead to CAPEX and OPEX savings in future economic studies as Denison continues to refine its process model for Phoenix. Denison's 2020 metallurgical program at Phoenix is scheduled to continue throughout H1/2020, seeking to further de-risk the project while providing additional news flow.

#### KEY HIGHLIGHTS

- ◆ **Core leach tests significantly improve uranium concentrations vs column and agitated leach tests.** Denison designed a specialized test setup to isolate core samples taken from the Phoenix deposit and introduce lixiviant continuously to best represent actual mining conditions. The test involved confining core within a sleeve and injecting lixiviant at one end of the core, forcing fluid movement through the core without allowing for bypass (which would reduce contact time with the core and potentially dilute the resulting pregnant solution). With leachability of Phoenix ore established in earlier work, it is not surprising that this methodology improved uranium concentrations vs prior, as lixiviant was forced to traverse the drill core end-to-end, maximizing contact with mineralization. This test setup is the most representative to-date of actual mining conditions expected to be encountered and provides invaluable data for further test work and the refinement of the mining/plant parameters. Acid concentrations, injection pressures and flow rates were not disclosed, but at this stage, these are parameters that will be continuously refined and would be expected to vary significantly throughout testing as DML experiments with the core.
- ◆ **50 days of testing complete with uranium concentrations averaging ~30 g/litre in last 20 days, 3x better than PFS assumption.** The range of uranium concentration in fluid (13.5 – 39.8 g/l) exceeded the PFS assumption, even at the low-end. Importantly, as DML refined the testing, the setup was able to generate an average uranium concentration of 29.8 g/l, which is significantly higher than the PFS assumption of 10 g/l. If further test work confirms an economic set of parameters to deliver these average concentrations from the wellfield, we can start to think about cost savings at the process plant, potential on reduced fluid handling requirements, etc. Significant follow-up testing is required to draw conclusions, but early data looks promising and de-risks the project by increasing flexibility to optimize the process.
- ◆ **Stage 1 metallurgical testing to continue in H1/2020.** All the work being done will provide data for the completion of the Environmental Assessment and Feasibility Study on the Phoenix Zone. Additional core leach tests will be carried out on various samples recovered during installation of ISR test wells at Phoenix. The additional samples will be critical in determining how the dynamics of grade and rock changes affect solution concentrations, where test core will range from 1% U<sub>3</sub>O<sub>8</sub> up to 60%. Tests will aid in the design of Stage 2 testing later in 2020.

#### RECOMMENDED ACTION

*We recommend having exposure to Denison given our thesis that technical work will continue to de-risk Phoenix*

- ◆ **Attractive entry point as risk/reward proposition improving.** We believe DML shares offer an attractive entry point as it holds a key long-term support level around \$0.48. Denison is making very significant progress de-risking an unconventional approach to mining Phoenix. Initial technical work is yielding promising results and success in further testing should see DML shares shed additional risk discount. Denison's unique (to the Athabasca) plan to in-situ leach the Phoenix deposit is perceived as technically challenging, but with very high potential reward. The PFS on the project indicated the potential for US\$3.33/lb U<sub>3</sub>O<sub>8</sub> cash OPEX, among the lowest cost in the world, due to the extremely high-grades at Phoenix coupled with the low cost in-situ mining approach.

#### KEY STATISTICS AND METRICS

52-Week High/Low	\$0.78/\$0.43
YTD Performance	-10%
Dividend Yield	N/A
Shares O/S	597M
Market Capitalization	\$290M
Cash	\$8.0M
Debt	NIL
Enterprise Value	\$282M
Daily Volume (3 mos.)	388,870
Currency	CAD

#### HAYWOOD ESTIMATES (CAD)

	2018A	2019E	2020E
Revenue (US\$M)	\$15.6	\$13.0	\$10.5
U <sub>3</sub> O <sub>8</sub> Production	-	-	-
EBITDA (US\$M)	(\$15.8)	(\$22.3)	(\$6.1)
CFPS (US\$)	(\$0.04)	(\$0.06)	(\$0.03)

#### VALUATION

**Our target** is based on a corporate NAV sum-of-parts assessment of Denison's full suite of interests, including a DCF<sub>10%</sub> assessment of future production from the Wheeler River project and other credits.

Net of corporate adjustments, our NAV is \$1.0 billion, or \$1.60 per share.

Figure 1. Stock Chart (Weekly)



## Important Information and Legal Disclosures

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I, Colin Healey, hereby certify that the views expressed in this report (which includes the rating assigned to the issuer's shares as well as the analytical substance and tone of the report) accurately reflect my/our personal views about the subject securities and the issuer. No part of my/our compensation was, is, or will be directly or indirectly related to the specific recommendations.

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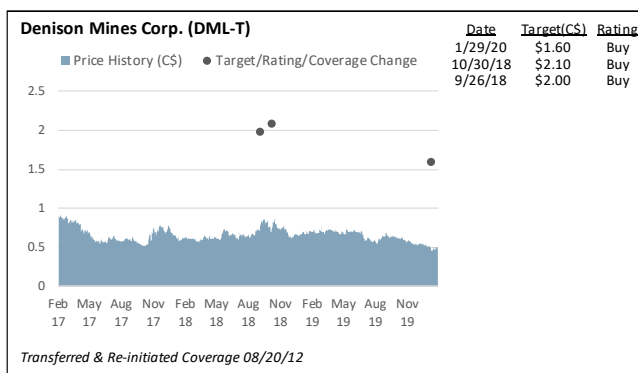
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- ◆ n/a

### Distribution of Ratings (as of February 19, 2020)

	%	#	IB Clients (TTM)
<b>Buy</b>	76.2%	80	96.7%
<b>Hold</b>	14.3%	15	0.0%
<b>Sell</b>	1.0%	1	0.0%
<b>Tender</b>	1.0%	1	0.0%
<b>UR (Buy)</b>	1.0%	1	0.0%
<b>UR (Hold)</b>	0.0%	0	0.0%
<b>UR (Sell)</b>	0.0%	0	0.0%
<b>Dropped (TTM)</b>	6.7%	7	3.3%

### Price Chart, Rating and Target Price History (as of February 19, 2020)



B: Buy; H: Hold; S: Sell; T: Tender; UR: Under Review  
Source: Capital IQ and Haywood Securities

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