

# Deep Yellow Limited: Tumas DFS Firmly on Track and Improving on PFS Assumptions

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Perth, Australia - [Deep Yellow Ltd.](#) (ASX:DYL) (FRA:JMI) (OTCMKTS:DYLLF) is pleased to provide an update on the Tumas Definitive Feasibility Study (DFS).

Importantly, the DFS is progressing as planned, with key workstreams completed to date delivering excellent results improving on some key inputs and generally confirming the assumptions outlined in the very positive Tumas Pre-Feasibility Study (PFS) completed in January 2021.

The first phase of DFS work, consisting of Ore Reserve expansion, Mining Licence Application (MLA), Environmental Impact Assessment (EIA), trade-off studies and detailed metallurgical testwork, has been largely completed. The physical expression of this extensive work is reflected in Figure 1, which also shows the proposed Mining Licence (ML) outline (MLA 237) and key proposed Project Infrastructure.

The Company will now transition to the second and final phase of DFS work which includes further detailed process design, operating and capital cost estimates, detailed mine planning, detailed Ore Reserve optimisation and negotiation of material contracts in preparation for project implementation. Key external experts for this work include Ausenco Services Pty Ltd (Ausenco) and Cube Consulting (Cube), who were also important contributors to the PFS.

Ausenco provided Deep Yellow with engineering assistance during both the PFS and current phase of the DFS. This support will continue through to the conclusion of the DFS and Ausenco will undertake lead authorship of the DFS report.

Cube provided Deep Yellow with mining engineering and Ore Reserve estimation expertise for the PFS and recently updated the Tumas Ore Reserve estimate. Cube will now assist with detailed optimisation of the Ore Reserves and mine scheduling for DFS Life of Mine financial modelling.

The Company's in-house technical team will also be expanded to facilitate and support these important workstreams.

In parallel with commencement of the second phase of DFS work, engagement with debt-funding providers and potential customers will also commence to familiarise these parties with the Project and the Company.

## Ore Reserves

During work undertaken to date, the Ore Reserves available to the Project have been increased by an impressive 120%, to 68.4Mlb U3O8 at an average grade of 345ppm U3O8, using a cut-off grade of 150ppm U3O8.

Significant potential remains to further expand Ore Reserves in the Project area, by utilising the 48.6Mlb Inferred Resources available for upgrade and importantly (see JORC Resource Table - Appendix 1\*), additional exploration upside exists with approximately 40% of the highly prospective Tumas Palaeochannel system remaining to be adequately tested.

The upgrade to the Ore Reserve and Mining Study undertaken were important areas of work and have fulfilled a critical DFS target, after the PFS outlined the sensitivity of the Project to mine life and indicated a doubling of the NPV could be achieved by increasing mine life beyond 20 years at PFS production rates. This important milestone has now been achieved.

## Infrastructure

The availability of key infrastructure requirements for the Project has been thoroughly examined as part of the first phase DFS work program.

The PFS assumed that power would be generated at site for the Project and power station waste heat used to generate process steam. A detailed trade-off study has concluded that the most cost-effective option for the Project is to utilise grid power supplied by the Namibian power supply authority, NamPower, augmented

by a dedicated solar array, with process heat provided by conventional Heavy Fuel Oil (HFO) fired boilers. Examination of the costs associated with this arrangement indicates that it will result in overall costs that are lower than those assumed for the PFS and will also improve the sustainability and greenhouse gas emissions for the Project over its 20-plus year life.

The PFS assumed that water supply for the Project was to be sourced from a combination of available local groundwater and water supplied by the Namibian water supply utility, NamWater. This arrangement remains the base case, however, due to the opportunity to lower the cost of water, a strategy to reduce the supply cost has been developed and will be progressed during the second phase of the DFS.

Two of the six proposed groundwater production bores in previously identified target zones have now been completed and test pumping undertaken. The results indicate that the assumed sustainable supply of ground water for low impact uses, such as dust suppression, will be readily available in close proximity to the Project area and within the proposed ML, which is now the subject of the MLA referred to above. Furthermore, the findings from the initial results reduce the demand for high-quality and expensive desalinated water from NamWater, as envisaged in the PFS.

An independent review of transport and logistics infrastructure has concluded that the existing road, air and sea transport services available are sufficient for Tumas and that the Project will not cause a material change in existing demand for such services. Communications infrastructure has also been assessed as adequate for the needs of the Project.

### Process Design

Work completed in the first phase DFS work has confirmed that the process detailed in the PFS for both uranium and vanadium extraction from Tumas ore remains fit-for-purpose. The work has now reached a point where the Company can conclude that no material changes are required to achieve the process objectives of optimum recovery, cost and long-term site rehabilitation exposure.

This is of relevance in terms of validity of the process design assumptions used for the PFS financial model and long-term rehabilitation cost and liability provisions. These process design assumptions remain valid to the extent that they correctly inform the financial model. Consequently the Company firmly believes that the PFS financial model and inputs remain valid and are fit-for-purpose.

CSIRO was commissioned to examine the impact of seepage from both WRDs and the TSFs on existing groundwater.

CSIRO is considered by the Company to be expert in this area of technical expertise. This is a significant area of long-term liability for all mines, but particularly for uranium mines.

The study concluded that for ionic species of interest (principally uranium, vanadium and lead, but including many others), down-channel interaction with groundwater will result in the precipitation of these species in close proximity to the zone of interaction (comfortably within the proposed ML boundary with minimal down-channel penetration) in much of the same manner that has occurred (and still is occurring) during the formation of the Tumas deposits, thus avoiding the possibility of unconstrained contamination from a developing seepage plume.

The above conclusion is a very significant finding with respect to the process and associated tailings management developed for the Tumas Project, which was specifically developed with the aim of achieving minimal short-and long-term environmental impacts. The report by CSIRO and findings contained within it confirm that there is a clear and reasonable basis, using established and proven chemistry, to conclude that this fundamentally important design criteria will be achieved in practice.

### Metallurgical Recovery

The overall metallurgical recovery assumed for the PFS was critically dependent on recovery from two process units that required further assessment to achieve DFS accuracy. These two processes are the beneficiation and leach extraction steps.

The PFS assumed recoveries for these two steps to be 97.7% and 97.0% respectively, with a further 1% soluble loss resulting in an estimated overall recovery of 93.8%. In the case of beneficiation, the PFS also assumed that 35% of the ore mass processed could be discarded prior to leaching as a coarse tailing from the beneficiation circuit.

The beneficiation testwork has been completed on the bulk composite (diamond core) from Tumas 3, representing approximately the first 15 years of ore feed for the Project. This work has been very successful

and the Company believes that the PFS assumptions have been confirmed as prudently conservative and the DFS process design will be based on 98% beneficiation recovery, with between 50% and 60% mass rejection to a coarse tailing.

This conclusion is highly significant for the Project outcome.

Beneficiation mass rejection has been materially increased and will reduce leach feed tonnage by 30%. It is anticipated this will deliver a reduction in downstream capital and operating costs compared to the PFS position. A modest improvement in beneficiation recovery has also been identified and will result in coarse tailing material that involves lower long-term environmental risk than that assumed in the PFS. The extent of these reductions will be determined during the second phase of DFS work, however importantly, the PFS model assumptions in this respect remain both prudently conservative and valid.

Sufficient leach testwork has been undertaken on the beneficiated bulk composite to conclude that the leach recovery assumed in the PFS (97%) is also achievable. Once again, the PFS model assumptions in this respect remain both prudently conservative and valid.

All other material process-related issues integral to the financial outcome of the PFS remain valid and materially unchanged.

#### Tailings Storage

The PFS assumes that tailings will be stored permanently "in pit" by using the mined-out sections of the Tumas 3 ore zone progressively. This concept has been tested in detail during the EIA process by third party experts, who have concluded that the concept is technically valid and environmentally appropriate.

Importantly, use of the Tumas 3 pits as suitable Tailings Storage Facilities (TSF) has also been assessed, considering the increased volume of tailings that must be permanently stored due to the increased ore volume (and consequently tailings volume) identified in the updated Ore Reserve estimate described above. This work has concluded that there is sufficient void space within the Tumas 3 area to safely store all the tailings generated through the treatment of the ore contained within the updated Ore Reserve estimate.

#### MLA and EIA

The MLA and EIA processes for the Project are proceeding well.

Most of the EIA work has been completed and importantly, no material adverse aspects have been, or are now likely to be, identified that would preclude the planned development of the Project as broadly described in the PFS and updated Ore Reserve statement.

#### Updated Project Economic Analysis

The DFS work undertaken to date has confirmed that principal assumptions of the PFS in terms of infrastructure, utilities, regulatory approvals, process recovery, tailings management, long-term rehabilitation, operating costs and capital costs were reasonable and, in the work concluded to date, have been shown to be prudently conservative. This validates the underlying assumptions of the financial model used to forecast Project economic outcomes in the PFS.

Consequently, there is a reasonable basis to report revised forecast outcomes for the Project utilising the PFS model, its validated assumptions, relevant findings of the DFS and updated Ore Reserves.

Furthermore, based on the optimisation work completed, the Company believes that the DFS is likely to establish a net improvement on the assumptions and relevant findings of the PFS, but for the purposes of this analysis, assumptions and relevant findings of the PFS have been retained, with the exception of the Ore Reserves available to the Project and associated mining schedules.

This model has now been re-run, using the assumptions and findings of the PFS and incorporating the mine schedule developed for the updated, 68.4Mlb U3O8 Ore Reserves now available to the Project.

The outcome of this work is consistent with that indicated in the PFS. Importantly, the forecast NPV for the Project, once updated Ore Reserves are incorporated, increases the operating mine life from 11.5 years to over 20 years and almost doubles the PFS NPV forecast to US\$412M.

For Production Year (PY) 1 to 20, before low grade stockpiles are scheduled for processing, the following key operating cost outcomes are forecast (see Table 3\*):

With the substantial reserve expansion potential available to the Project, management believes that Ore

Reserves available to the Project will be further expanded before low grade ore stockpiles are scheduled for processing. Consequently, management anticipates that the costs detailed above and targeted uranium production of 3Mlb U3O8 pa are likely to continue for substantially longer than the 20 years summarised in Table 3\*.

## Conclusions

The Tumas DFS is progressing very well and remains on track to be completed in the second half of calendar 2022. The work to date affirms the conservative approach the Company takes to project assessment from conception through to ultimate development.

Development of the Tumas Project remains dependent on a suitable incentive price for uranium being achieved and the Company entering acceptable long-term offtake agreements. The recent increases in the spot price, as well as the increasingly positive perception of nuclear power's proven ability to become an even greater supplier of global base-load electrical energy, auger very well for the future of the nuclear power industry. This is particularly the case when partnered with renewables, to achieve the zero emission targets which are being adopted by an ever-increasing number of countries. Collectively, these developments along with the acknowledged uranium supply shortage anticipated to occur in the near to medium term, provide substantial encouragement that suitable pricing to incentivise new development will be achieved.

Ongoing DFS results combined with growing acceptance towards the critical role uranium will play in meeting clean energy targets, provide the Company with confidence that the Tumas Project presents a technically sound, near-term development opportunity, ready to align with the timing of the anticipated increase in uranium price, expected late 2022 to mid-2023.

\*To view tables and figures, please visit:  
<https://abnnewswire.net/Ink/VF5K385F>

## About Deep Yellow Limited:

[Deep Yellow Ltd.](#) (ASX:DYL) (OTCMKTS:DYLLF) (Namibian Stock Exchange:DYL) is a differentiated, advanced uranium exploration company, in predevelopment phase, implementing a contrarian strategy to grow shareholder wealth. This strategy is founded upon growing the existing uranium resources across the Company's uranium projects in Namibia and the pursuit of accretive, counter-cyclical acquisitions to build a global, geographically diverse asset portfolio. A PFS has recently been completed on its Tumas Project in Namibia and a DFS commenced February 2021. The Company's cornerstone suite of projects in Namibia is situated within a top-ranked African mining destination in a jurisdiction that has a long, well-regarded history of safely and effectively developing and regulating its considerable uranium mining industry.

## Source:

[Deep Yellow Ltd.](#)

## Contact:

John Borshoff Managing Director/CEO T: +61-8-9286-6999 Email: [john.borshoff@deepyellow.com.au](mailto:john.borshoff@deepyellow.com.au)  
[www.deepyellow.com.au](http://www.deepyellow.com.au)

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