

## INDEPENDENT PROSPECTIVE HYDROGEN RESOURCE IN KANSAS

### MAIDEN 3U RESOURCE OF 629 BCF FOR THE SERPENTINE NATURAL HYDROGEN PROJECT

Top End Energy (ASX: **TEE** or the **Company**) is pleased to report an independent prospective resource assessment for the Company's 100% owned and operated Serpentine Natural Hydrogen Project (the **Project**) in Kansas, USA. The assessment was completed by Teof Rodrigues & Associates.

#### HIGHLIGHTS

- **Maiden Prospective Hydrogen Resource:** An independent assessment highlights the Project's scale and potential with a mean net recoverable resource of 304 BCF and low to high estimates of 71 BCF (1U), 234 BCF (2U) and 629 BCF (3U) respectively
- **Resource Density:** Recoverable volumes are based on the Company's lease holding of approx. 31,000 acres, indicating a strong resource density that underpins the technical viability of the Project and supports the case to advance exploration drilling
- **Additional Resource Upside:** Resource volumes reflect reservoirs from 1,500 ft through to the basement, with additional upside in shallow intervals, where recent peer drilling recorded 96% H<sub>2</sub> at depths of less than 1,000 ft <sup>(1)</sup>
- **Future Work:** Ongoing modelling, subsurface interpretation and exploration activities - including drilling and geophysics are expected to improve the risk profile, narrow resource ranges and incorporate additional volumes from shallow reservoirs
- **Farm-Out Process:** TEE has now commenced its farm-out process and is in discussions with potential development partners. A selection of technical materials will be released later this month as part of a formal farm-out presentation.

NET RECOVERABLE PROSPECTIVE HYDROGEN RESOURCE <sup>(2)</sup>						
1U	2U	Mean	3U	Pg	Pd	Pc
<b>71 BCF</b>	<b>234 BCF</b>	<b>304 BCF</b>	<b>629 BCF</b>	<b>10%</b>	<b>70%</b>	<b>7%</b>
<b>168 k tonnes</b>	<b>552 k tonnes</b>	<b>716 k tonnes</b>	<b>1,485 k tonnes</b>			

**Cautionary Statement:** The estimated quantities of hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable hydrogen.

**Luke Velterop, CEO commented on the Maiden Prospective Resource:** *"I'm pleased to share this independent assessment, which reinforces the scale and potential of our Serpentine Natural Hydrogen Project and positions the Company as a front-runner in the emerging natural hydrogen sector. The focus of this assessment was to characterise the conventional and unconventional plays located close to the generation zone, where short migration pathways and enhanced seal integrity can improve hydrogen accumulation and preservation. Future assessments will also evaluate the potential of shallower intervals, where recent drilling recorded 96% H<sub>2</sub> at depths of less than 1,000 feet.*

*With a mean net recoverable resource of 304 Billion Cubic Feet (equivalent to 716,000 tonnes of H<sub>2</sub>) across 31,000 acres, our Project ranks among the world's highest in natural hydrogen resource density and provides a robust foundation for attracting development partners for exploration and early-stage development.*

*Our technical specialists have continued to advance a detailed geological model and subsurface interpretations, equipping the Company with both in-house and independent technical materials to support engagement and due diligence with potential development partners. A selection of technical outputs and supporting materials will be released later this month as part of a farm-out presentation."*

<sup>(1)</sup> HyTerra (ASX: HYT), Significant Hydrogen Concentrations Found in SD-3, 6 May 2025

<sup>(2)</sup> Notes to Table to be read in conjunction with Cautionary Statement and Appendix 1

- a) Prospective Resources are reported according to TEE's average net economic interest, being an 82.5% net revenue interest.
- b) Estimates are assessed to comply with the ASX Listing Rules for Prospective Resources and SPE-PRMS 2018 with the understanding that naturally occurring hydrogen may be considered a hydrocarbon since it has energy content and can be used stand-alone and/or blended with sales gas. "U" implies Prospective Resources.
- c) Estimates are unrisks and aggregated arithmetically by category, hence caution that the aggregate low estimate may be a very conservative estimate and the aggregate high estimate may be a very optimistic estimate due to the portfolio effects of arithmetic summation.
- d) Probabilistic methods are used to prepare the estimates. The distribution of the estimates is the "full distribution" and has not been truncated by application of the MEPS (minimum economic pool size) concept. The distributions have been adjusted to reflect the Project lease area for the 2U and 3U, with the 1U based on a proportion of the lease area (except for the fractured basement since it is considered "unconventional"). The Mean values are derived by applying Swanson's Rule. Information in the table is rounded.
- e) Pg (Chance of geologic discovery), Pd (Chance of development) and Pc (Chance of commerciality = Pg \* Pd) are calculated as a weight average of the means of the hydrogen quantities of the formations.
- f) Pg incorporates Play Risk and Prospect Risk. Pd incorporates an assessment across all SPE-PRMS Commerciality Criteria.

**This announcement was authorised for release by the Board of Directors of Top End Energy.**

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## APPENDIX 1

**Qualified Petroleum Reserves and Resources Evaluator Statement:** This announcement is based on, and fairly represents, information and supporting documentation prepared by or under the supervision of Teof Rodrigues. Mr Rodrigues is a Qualified Petroleum Reserves and Resources Evaluator employed by Teof Rodrigues & Associates Pty Ltd (TRA). He is not an employee of Top End Energy Ltd or any of its subsidiaries. He is a life member of the Society of Petroleum Engineers. This report is issued with his prior written consent as to the form and context in which the estimated prospective resources and the supporting information are presented, in accordance with ASX Listing Rule 5.42.

Rule	ASX Listing Rules Chapter 5 Disclosure
5.25.1	<b>Date of Estimate:</b> 1 July 2025
5.25.5	<b>Reporting Based on Economic Interest:</b> Prospective Resources are reported according to Company's average net economic interest, being an 82.5% net revenue interest.
5.25.6	<b>Method of Estimation:</b> Derived by the probabilistic method and grounded by deterministic project definition commensurate with the maturity of the project for the 1U, 2U and 3U estimates.
5.25.7	<b>Unit of Measurement:</b> Prospective Resources are reported in Billion Cubic Feet (BCF) and thousand tonnes (k tonnes). Hydrogen mass conversion is 0.00236 kg/H <sub>2</sub> per scf H <sub>2</sub> gas.
5.26.4	<b>Fuel:</b> Prospective Resources estimates are based on a Reference Point at the wellhead edge of lease (i.e. wellhead facilities) due to the immaturity of the Project and variety of marketing opportunities for the naturally occurring hydrogen that would require different estimates of Consumed in Operations (CiO) and therefore do not deduct any quantity for flare, vent and CiO. It is proposed that, as the Project matures, the Reference Point(s) will be refined and flare, vent and CiO would be excluded from all recoverable resources estimates evaluated commensurate with the maturity of the Project (as recommended by SPE-PRMS 2018 3.2.0.2 and 3.2.2).
5.26.5	<b>Reference Point:</b> TRA Prospective Resources are based on a Reference Point at the Wellhead at this time (see 5.26.4).
5.28.1	<b>Category:</b> Prospective Resources low, best and high estimates are unrisks and are 1U, 2U and 3U for each formation.
5.28.2	<b>Cautionary Statement:</b> The estimated quantities of hydrogen that may potentially be recovered by the application of future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable hydrogen.
5.28.3	<b>Mean Estimate Disclosure:</b> The Mean and the other estimates are disclosed. For Prospective Resources in particular, the Mean is usually the relevant estimate for assessing value and decisions to undertake exploration activities. Swanson's rule has been used to derive estimates of the means
5.28.4	<b>Method of Aggregation:</b> Prospective Resources are aggregated arithmetically. Refer to Note (c)

Rule	ASX Listing Rules Chapter 5 Disclosure
5.35.1	<p><b>Types of Permits and Licences:</b> Prospective Resources are reported for the Serpentine Natural Hydrogen Project leases which are all located on private land and mineral rights have been negotiated with each respective mineral rights owner and have various primary terms with each respective mineral rights holder. The net economic interest to the Company is calculated as 82.5% and the Net Entitlement Prospective Resources have been calculated on this basis.</p>
5.35.2	<p><b>Basis for Estimates:</b> See Notes to Table. The estimation of Prospective Resources is subject to subsurface uncertainty, as is typical of early-stage natural hydrogen exploration. TEE provided TRA with lease boundaries, geological information and parameters and supporting technical publications to inform TRA's assessment. Further exploration, appraisal, and engineering studies are required to confirm the presence and recoverability of natural hydrogen. The Company is progressing geological modelling and well planning for an exploration program targeted to test key elements of the hydrogen play and reduce subsurface risk. Execution of this program remains subject to securing a suitable development partner in the second half of 2025.</p>
5.35.3	<p><b>Chance of Discovery and Development:</b> TRA has assessed both the chance of geologic discovery (Pg) and the chance of development (Pd) associated with the Prospective Resources. The estimated Pg of 10%, reflects the early-stage nature of exploration and current levels of subsurface understanding of the presence and potential recoverability of naturally occurring hydrogen. This is consistent with global benchmarks for similar frontier plays. Continued modelling and future exploration will be designed to materially improve geological confidence and reduce subsurface uncertainty. The chance of development (Pd), assuming a discovery is made, is estimated at 70%. This reflects the Project's strategic location in Kansas, with direct access to established gas infrastructure, major highways, rail, and nearby industrial markets across the Midwest. The region's central location and energy demand profile strongly support the commercial viability of a natural hydrogen development.</p>
5.35.4	<p><b>Risked Estimates:</b> Prospective Resources are unrisks. Risked estimates are not reported.</p>
5.41	<p><b>Estimates Prepared by a Qualified Evaluator:</b> Prospective Resources have been prepared by a QPRRE. See LR 5.42 disclosure below.</p>
5.42	<p><b>Qualified Petroleum Reserves and Resources Evaluator Statement:</b> This announcement is based on, and fairly represents, information and supporting documentation prepared by or under the supervision of Teof Rodrigues. Mr Rodrigues is a Qualified Petroleum Reserves and Resources Evaluator employed by Teof Rodrigues &amp; Associates Pty Ltd. He is not an employee of Top End Energy Ltd or any of its subsidiaries. He is a life member of the Society of Petroleum Engineers (SPE). This report is issued with his prior written consent as to the form and context in which the estimated prospective resources and the supporting information are presented, in accordance with ASX Listing Rule 5.42.</p>