

Date: 3 December 2021

ASX Code: WEL

**Capital Structure**

Ordinary Shares:  
1,008,212,215  
Current Share Price: 1.5c  
Market Cap: \$15M  
Debt: Nil

**Directors**

James Allchurch  
Non-Executive Director

Larry Liu  
Non-Executive Director

Tony Peng  
Non-Executive Director

Lloyd Flint  
Company Secretary

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## Acquisition of 100% interest in Varn Oil Field Delivers Winchester 2P Reserves of over 1 MMBOE<sup>1</sup>

- Winchester has acquired a 100% working interest in the Varn Oil Field located 18 miles east of its existing production (611 boepd<sup>1</sup> net to WEL) in the East Permian Basin, Texas
- The Varn Oil Field comprises Proven and Probable Reserves (2P) of 1.068 million barrels of oil equivalent (mmboe) – comprised of over 93% oil
- Payment of US\$415,000 and drilling of all required wells constitute an up-front gross acquisition and development cost of US\$5.61/boe, which will be funded from existing cashflow
- MoU signed with US-based CryptoTherm (“CT”) to commence a feasibility study to supply natural gas from Varn for a range of power-intensive computational applications including cryptocurrency mining, artificial intelligence, and deep learning
- CT produces “plug-and-play” self-contained immersion-cooled hardware to harness power from well-head gas

Winchester Energy Limited (ASX: WEL) (“Winchester” or “the Company”) is pleased to announce the acquisition of a 100% working interest in the Varn Oil Field, located 18 miles to the east of Winchester’s existing producing assets in Nolan County, Texas.

**Calculated Varn Oil Field Reserves - Mire Petroleum Consultants**

Reserves	Product	1P – Proved Reserve	2P – Proved + Probable Reserve	3P – Proved + Probable + Possible Reserve
Upper and Lower Fry Sands	BO	415,000	994,000	1,680,000
	MCF	169,000	442,000	894,000
	BOE	443,000	1,068,000	1,829,000

BO – barrels of oil

BOE – barrel of oil equivalent<sup>1</sup>

MCF – thousand cubic feet of gas

Calculated Reserves incorporate WEL’s net revenue interest of 77%

Further ASX Listing Rule 5.31 Information (Notes to Reserves) related to these reserves is provided in Attachment 1.

The Varn Oil Field contains existing Proven and Probable (2P) of 1,068,000 barrels of oil (boe) comprised of 994,000 barrels of oil and 442 thousand cubic feet of gas (mmcf). Production is derived from the Fry Sands (a sub-unit of the Strawn Sands) which, together with the Ellenburger Formation, is currently producing 611 barrels of oil equivalent per day net to the Company at Winchester’s existing Nolan County operations.

<sup>1</sup> boe (barrels of oil equivalent) - gas quantities are converted to boe using 6,000 cubic feet of gas to one barrel of oil. The conversion ratio is based on energy equivalency and does not represent value equivalency. Estimates are rounded to the nearest boe.

With an up-front acquisition and development cost of US\$5.61 per barrel of oil equivalent that will be exclusively funded from existing cashflow, Varn represents a significant advancement in Winchester's strategy of acquiring high-impact oil and gas projects that add substantial value.

Winchester Non-Executive Director James Allchurch commented:

*"With the cashflow currently being generated from Winchester's net 611 boepd Nolan County operations, the Company has been reviewing a host of opportunities to which we think our highly-skilled Houston-based operations team can add immediate and significant value.*

*"At a gross upfront cost of US\$415,000, the Varn transaction adds over 1 MBOE of 2P reserves to our inventory with the prospect of production commencing early next year. When combined with the MoU signed with leading US-based stranded gas technology company CryptoTherm, this is a compelling transaction in the current strong oil and gas market."*

## Varn Oil Field (100% WI)

### Background

The Varn Oil Field is made up of nine leases comprising a total of 1,145 acres located in Taylor County, 18 miles east of Winchester's Nolan County operations. The nine leases are in the very advanced stages of being converted to one single oil and gas unit which, in its entirety, will be held by production (HBP) following the drilling of one well.

The Upper and Lower Fry Sands were discovered in the Varn Oil Field in 1957 with 20 wells drilled to 1962. The field produced oil until 1985 with total oil production of 1,424,060 barrels of oil from both sands together with 208 million cubic feet of gas. The initial flow rate on the early wells was 164-422 barrels of oil per day (bopd) at 200-300 psi with little initial water and only moderate water at the end of production.

All historic wells have been plugged and abandoned. The Proven and Probable (2P) Reserves at the Varn Oil Field calculated using the secondary recovery method of waterflooding are estimated at 1,068,000 boe.

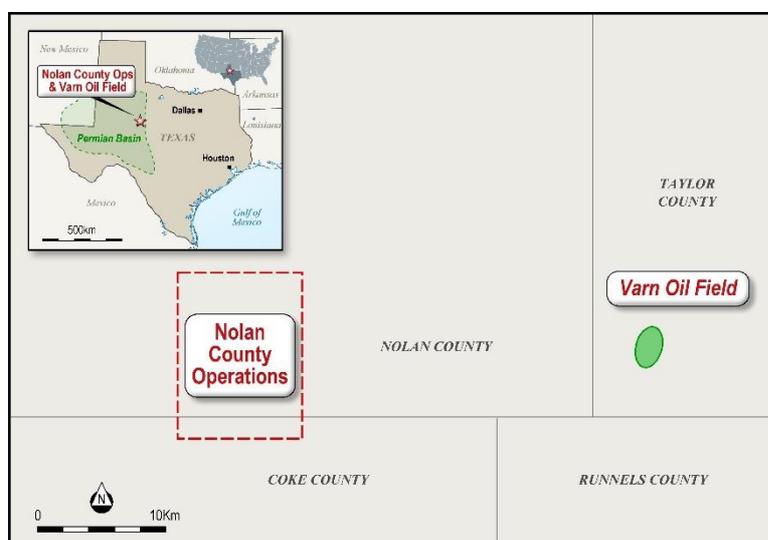


Figure 1 – Varn Oil Field and Nolan County Operations

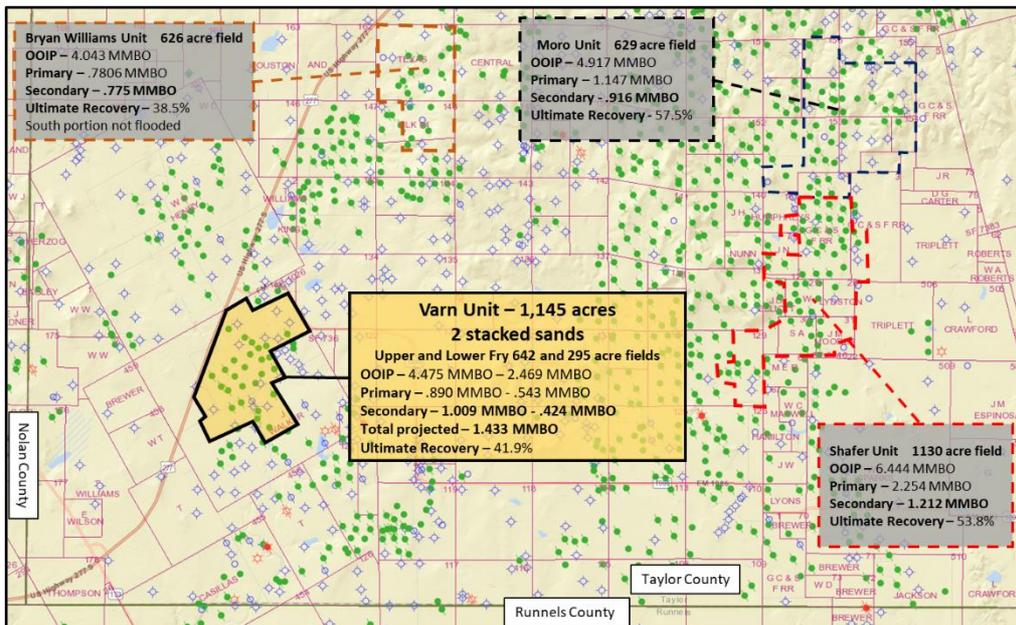
**Secondary Recovery - Waterflood**

Waterflooding is a secondary recovery technique which injects water into an oil reservoir in a downdip position. The water repressurizes the field and provides energy to move unswept oil updip to crestal oil well producers.

Secondary oil recovery is extremely common, particularly in the US. In any given oil field, primary production accounts for the removal of 10-20% of all original oil in place (OOIP), secondary recovery (waterflooding) accounts for a further 10-20% recovery of OOIP whilst further oil is often recovered through tertiary recovery (enhanced oil recovery such as CO<sub>2</sub> injection)<sup>2</sup>. An informative presentation produced by the University of North Dakota's Energy and Environmental Research Centre (EERC) entitled "The Phases of Oil Recovery – So Far" can be viewed at <https://www.youtube.com/watch?v=kxBqKY36h7M>.

Importantly, secondary recovery operations are encouraged by the Texas State Government, exemplified by the fact that they are exempt from the usual 4.6% severance tax that primary plays attract.

Numerous waterfloods have been carried out in Pennsylvanian-age Strawn sands throughout North Central Texas. In the local south-east Taylor area, three fields have been water flooded in the Fry Sand, providing direct analogues to the Varn Project.



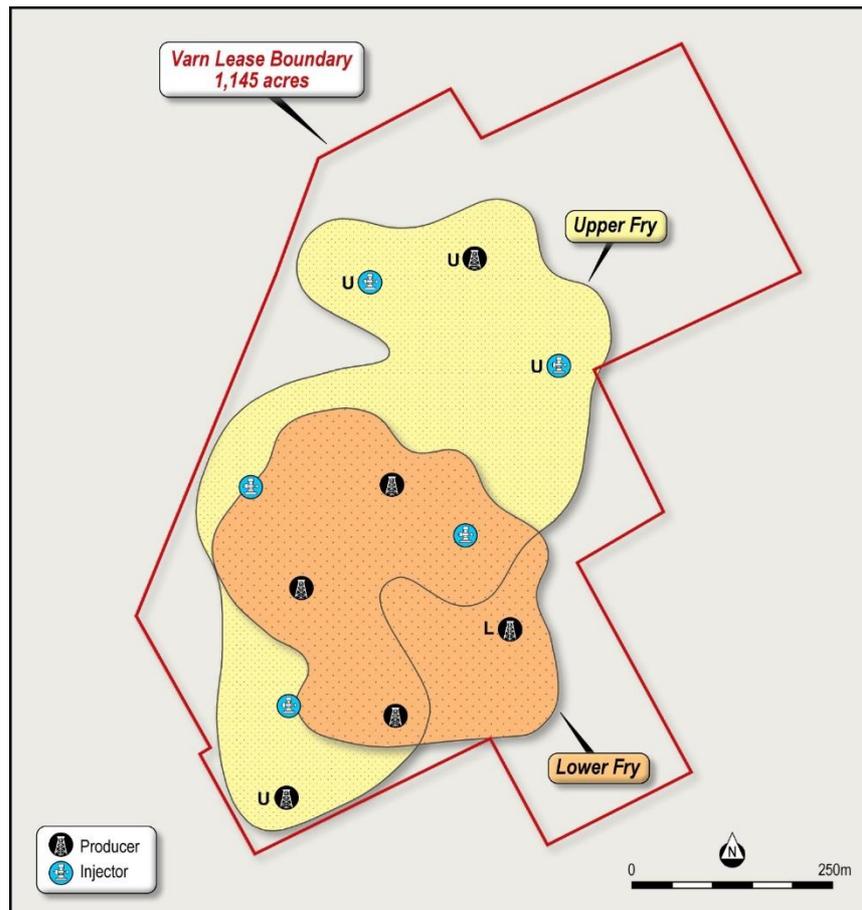
**Figure 2 – Varn Oil Field and surrounding analogue fields with successful waterflood secondary recovery**

The analogue fields have similar reservoir properties, are of similar size, and are in the same sand formation, the Fry Sands. Most importantly all three fields, together with Varn, are isolated sand pods and do not have a natural water drive, making secondary production almost as effective as primary production.

<sup>2</sup> Energy and Environmental Research Centre (EERC) - Primary, secondary, and tertiary oil recovery (using pressure, water, and CO<sub>2</sub>). North Dakota University.

## Winchester Waterflood Strategy and Cost

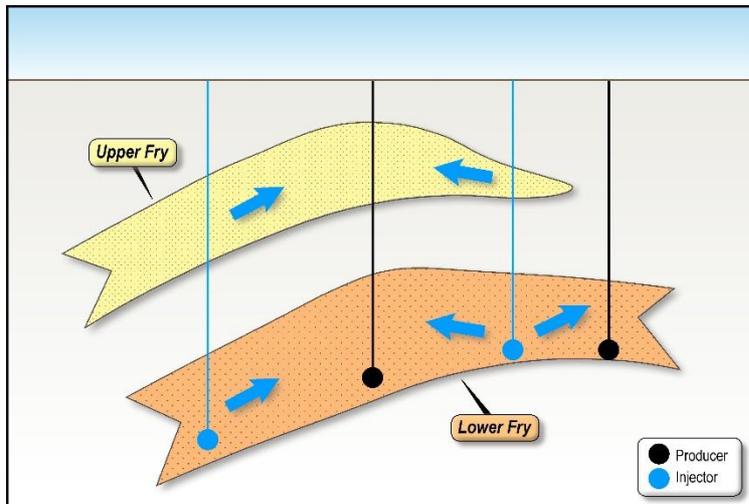
Winchester will be the operator at Varn, with 11 wells – six oil and gas producers and five water injectors – comprising the waterflood operation. The majority of these wells are planned for the central area where the Upper and Lower Fry Sand overlap while the rest of the wells capture oil from the more widespread Upper Fry Sand.



**Figure 3 – Configuration of producer and injector wells at Varn**

The total cost for the Varn Oil Field waterflood is approximately US\$5.5M spread out over a period of six months giving a highly attractive acquisition and development cost of US\$5.61 per boe. Operations will commence upon the successful “unitisation” of the requisite land packages into one lease. This process is over 90% complete with drilling expected to commence in early/mid 2022.

It is anticipated that existing cash flow from Winchester's Nolan County operations can fund the Varn operation.



**Figure 4 – Conceptual section showing the upper and lower Fry Sands**

### **MoU with CryptoTherm (“CT”)**

In addition to the acquisition of Varn, Winchester has signed a memorandum of understanding (MoU) with US-based technology company CryptoTherm (“CT”) to conduct a feasibility study that contemplates Winchester supplying natural gas from the field for a range of power-intensive computational applications including cryptocurrency mining, artificial intelligence and deep learning.

CT produces “plug-and-play” self-contained immersion-cooled hardware to harness power from well-head gas to facilitate various activities and applications demanding high computational bandwidth.

The initial focus of the feasibility study will be determining the suitability of utilizing the 442 mmcf (million cubic feet) Proven 2P Reserve of gas at Varn to generate in-situ power using state-of-the-art low emission power generators. The next step will be the economic modelling of the viability of power-intensive computing applications, which will be variable according to scale and specific returns on the individual applications/activities.

Winchester commits to funding the feasibility study to a maximum of US\$100,000. Thereafter, Winchester and CT agree to use best endeavors to enter into a full-form Heads of Agreement (HoA) to govern the partnership. The arrangement contemplates Winchester as the gas supplier only.

### **Varn Oil Field Acquisition Terms**

The terms for the acquisition of a 100% working interest in the 1,145 acre lease (incorporating the Varn Oil Field) from Andress Oil & Gas Consulting, LLC and Alpha & Omega Exploration Co., Inc. (vendors) are as follows:

- US\$415,000 cash payment<sup>3</sup>
- A 3% overriding royalty interest over all future oil and gas production from Varn

The initial payment and drilling of all the required producer and injector wells constitutes an up-front gross acquisition and development cost of US\$5.61 per boe which will be funded from existing cashflow.

<sup>3</sup> Should the vendors be unable to place 100% of the working interest for Varn by 1<sup>st</sup> day of September, 2022, or if there is an unresolvable title failure that would keep the unit from ever being formed, then the vendors agree to refund all monies within 10 business days of the date stated in this paragraph.



As is typically the case with all leases on freehold land in the US, a 20% royalty is payable to the landowner taking Winchester's net revenue interest in Varn to 77%.

### **Nolan County Operations**

Winchester's Nolan County operations are comprised of three broad leases that generate significant revenue through the production of over 600 boepd on the eastern shelf of the Permian Basin.

Known as a continuous drilling commitment (CDC), the White Hat Ranch lease (7,148 acres) has a relatively stringent lease condition requiring Winchester to drill a well on the lease every 120 days. The current drill-by date is 16 December 2021. Note that the CDC does not apply to those land units within the lease associated with existing production. These drill/production units are 'held by production (HBP)' and are held by Winchester, with no material conditions, for the duration of production.

As demonstrated by the Varn Oil Field acquisition, Winchester is seeking to add significant shareholder value through the prudent investment of existing cashflow into highly attractive oil and gas opportunities. Accordingly, Winchester has elected not to drill a well on White Hat Ranch prior to the drill-by date and will thus relinquish the White Hat Ranch lease post 16 December 2021.

Importantly, all HBP units (totaling 459 acres) will be retained by Winchester at no cost and production will be unaffected.

**This announcement has been authorised for release by the Board.**

For further information, please contact:

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### **About Winchester Energy Ltd (ASX Code: WEL)**

Winchester Energy Ltd (ASX: WEL) is an Australian ASX-listed oil and gas explorer and producer with its operations base in Houston, Texas. The Company has a single focus on oil exploration, development and production in the Permian Basin of Texas.

Winchester currently produces approximately 600 barrels of oil equivalent per day (boepd) net to its Working Interests (WI).



### **Competent Persons Statement**

*The information in this report is based on information compiled or reviewed by Mr Keith Martens, consulting geologist/geophysicist to Winchester Energy. Mr Martens is a qualified petroleum geologist/geophysicist with over 45 years of Australian, North American and other international executive petroleum experience in both onshore and offshore environments. He has extensive experience of petroleum exploration, appraisal, strategy development and reserve/resource estimation. Mr Martens has a BSc. (Dual Major) in geology and geophysics from The University of British Columbia, Vancouver, Canada.*

### **Forward Looking Statements**

This document may include forward looking statements. Forward looking statements include, are not necessarily limited to, statements concerning Winchester Energy Limited's planned operation program and other statements that are not historic facts. When used in this document, the words such as "could", "plan", "estimate", "expect", "intend", "may", "potential", "should" and similar expressions are forward looking statements. Although Winchester Energy Limited believes its expectations reflected in these are reasonable, such statements involve risks and uncertainties, and no assurance can be given that actual results will be consistent with these forward-looking statements. Winchester Energy Limited confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning this announcement continue to apply and have not materially changed.

**Attachment 1 - ASX Listing Rules Disclosure**

In accordance with ASX Listing Rules 5.25, 5.26 and 5.31, the Company confirms the following in respect of its Petroleum Reserves:

1. The Company prepares its Petroleum Reserves in accordance with the definitions and guidelines in the Society of Petroleum Engineers (**SPE**) 2018 Petroleum Resources Management System (**PRMS**). Estimates of the Petroleum Reserves and Resources in this report were prepared by Mr Kurt Mire (P.E.) for Mire & Associates Inc (MAI). Mr Mire is a licensed Professional Engineer in the State of Texas and is a member of the SPE. He has over 35 years' experience in the sector and consents to the information in the form and context in which it appears. Mr Mire is not employed by Winchester. Neither MAI, nor any of its employees has any interest in Winchester, in related entities, or in the subject properties. MAI is independent with respect to Winchester as provided in the Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserve Information promulgated by the SPE. Neither the employment to make this review nor the compensation is contingent on MAI's estimates of reserves and future income for the subject properties.
2. The estimates of Petroleum Reserves are reported as at 18 November 2021.
3. The Reserves are reported net to Winchester's (100%) equity in the Varn Oil Unit. The Company is Operator.
4. The Reserves are reported on the basis of the Varn Oil Project where oil will be produced from vertical onshore wells, transported by truck to a nearby pipeline connected to the onshore Sun Oil LLC plant. Purchaser of existing production, Sun Oil LLC, has a well-established oil and gas marketing and infrastructure making sale of commercial oil and gas production virtually certain. Taylor County has a well-established and accessible transportation infrastructure which allows quick access to market. The Varn Oil Field produced 1,424,060 barrels of oil from 20 wells from 1957 to 1985.
5. The reference point for the assessment of Varn Reserves is direct sales to Sun Oil LLC at the pipeline.
6. The Petroleum Reserves have been prepared using probabilistic methods. The Varn Field Reserves were determined probabilistically and incorporates a range of reservoir and waterflood response uncertainties.
7. The Reserves were evaluated with industry standard discounted cash flow methods, that are based on the forecasts of production, costs and commodity prices. The production and cost forecasts are based on 3 nearby waterfloods in the same productive formation and form the basis of Varn performance. Forecast production, operating costs and capital costs were evaluated in detail to assess the end of economic life for the field and Reserves for Proved, (1P), Proved + Probable (2P) and Proved + Probable + Possible (3P) cases. Cash flow models were constructed for 1P, 2P and 3P cases to determine the economic cut-off of production from Varn Field for these scenarios. The cash flow models employ the production forecasts described above, capital expenditure (capex) to account for drilling and development and an operating expenditure (opex) model based on analogue waterfloods in the immediate area and Winchester's existing oil and gas production from its Nolan County operations.



8. Total opex is calculated at \$US9,485,000, with a unit opex of \$8.88/boe. The total drilling and development cost was \$US5,583,000.
9. The commodity prices used in the Reserve calculation was \$US57 per barrel of oil and \$US3.80 per thousand cubic feet of gas.
10. Reserves are reported in the Undeveloped category only. This Reserves assessment does not consider Developed Reserves. Opportunities in and around Varn Field and in shallower formations are under evaluation but are not reported in this report.
11. Leases are freehold land and will be converted to 1,145 acre pooled unit with a 20% gross royalty is payable to the landowner and a 3% royalty to the vendors, taking Winchester's net revenue interest in Varn to 77%. Winchester is permitted to lift and sell all Reserve volumes on behalf of the royalty owners.
12. While the nature and extent of the oil-bearing Fry sandstones is mapped using the historic wells in the Varn Field, the proposed secondary waterflood extraction will be performed on new vertical wells and injectors. Six production and 5 injectors are planned to produce the field. The staged development is planned to commence mid-2022 with continuous development taking 6 months. All wells are vertical and will drain the Upper and Lower Fry sandstones which produced 1,424,060 barrels of oil from both sands together with 208 million cubic feet of gas in primary production.
13. All summations are arithmetic.

-ENDS-