GEORGINA ENERGY PLC

COMPETENT PERSONS REPORT (CPR) UPDATE

Revision to Estimated Prospective Resources of Helium, Hydrogen and Hydrocarbon potential pertaining to the Hussar Prospect in the Western Officer Basin of Australia

EP 513

As of October 16th 2024

GEORGINA ENERGY PLC
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Report Prepared by
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The Directors
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EP 513 (Hussar Prospect): Resource Upgrade

Dear Sir,

As requested, I have prepared an independent revision to the SPE PRMS Prospective (Recoverable) Resources [PRR] of Helium, Hydrogen, and Hydrocarbons for the Hussar prospect (EP 513) within the Officer Basin of Western Australia to those estimates made within the CPR dated 23rd May 2024 drafted for Georgina. For the purpose of this report, any reference made to Georgina Energy will also include any subsidiary companies in the Georgina Energy Group of companies.

This report presents these new Resource Estimates of the 1U (Low Estimate), 2U (Best Estimate) and 3U (High Estimate) Prospective Petroleum Resources attributable to Georgina Energy Plc' interests as of October 16th 2024 on the basis of an independent review of new information within updated interpretation and mapping of the Western Officer Basin recently provided by the Geological Survey of Western Australia (GSWA.

The following table summarises the Revised Prospective (Recoverable) Resources and the previous CPR based assessment within the Hussar Prospect held at 100% ownership by Georgina Energy PLC (Georgina Energy).

	Units	Updated Estimate			CPR Original (23rd May 2024)		
		1U	2U	3U	1U	2U	3U
EP 513 Hussar Prospect							
Helium	**BCFG**	6.55	196	2,556	6.22	155	2046
Hydrogen	**BCFG**	1.42	218	3,123	1.35	173	2501
Hydrocarbons	**BCFG**	103	2,030	15,049	100	1,750	13,000

Background and Qualifications

I am independent of Georgina and all associated entities, its Directors, senior management and advisers and remunerated by way of a fee that is not linked to the transaction or value of Georgina.

I am a senior Energy Industry executive that has worked in the Middle East North African (MENA) region, Australia and PNG for most of my career, with a very strong technical background having worked as both a geologist and a geophysicist successfully discovering and commercialising oil and gas resources within these countries. I have over 30 years' experience in the international upstream oil and gas industry and have held various managerial and senior technical roles with large E&P companies including BP, Ampolex Ltd, Oil Search Ltd, and most recently with Petsec Energy Limited as CEO of their MENA business, and I now, inter alia, consult as an independent on CPR assignments.

My current memberships of industry organizations include:

AAPG – The American Association of Petroleum Geologists
EAGE – The European Association of Geoscientists & Engineers
SPE – The Society of Petroleum Engineers
ASEG – The Australian Society of Exploration Geophysicists
PESA – The Petroleum Exploration Society of Australia

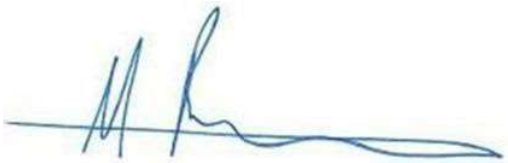
I qualify as a Competent Person according to London Stock Exchange Notice AIM16 'AIM RULES – GUIDANCE FOR MINING AND OIL & GAS COMPANIES' 16 March 2006. I am also a qualified petroleum reserves and resources evaluator (QPRRE) under the rules of the ASX pursuant to ASX Listing Rules 5.41-5.42. December 2013.

I am an independent industry professional with respect to Georgina Energy Plc. and do not have any financial interest in the subject properties and neither the contract to complete this report nor the compensation for completing this report is contingent on the estimates of resources presented nor any reports for the properties in this Report. The compensation is not linked to the value of the Company.

In relation to Prospective Resources described in this report, the estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated 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 moveable hydrocarbons.

I acknowledge and give consent for this Report, dated 16th October 2024, to be included in its entirety, or portions of this Report summarised, for use in any marketing purposes. This Report may be used by Georgina in support of its business activities and may also be included on its official website.

Yours Faithfully,



Maki M. Petkovski

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RESOURCE UPGRADE
GEORGINA ENERGY Plc. – EP 513 HUSSAR PROSPECT

EXECUTIVE SUMMARY

Georgina Energy plc. is planning to re-drill the Hussar-1 well, drilled in 1982, as a re-entry and deepening of the existing well to a new proposed Total Depth (TD) of approximately 3,200 metres. The well is located on the Hussar Prospect within the Company's EP 513 exploration block in the Western Australian Officer Basin.

The Geological Survey of Western Australia (GSWA) have recently updated their interpretation and mapping of the available seismic data over the Officer Basin. Where possible re-processed seismic data was utilised by the GSWA for this work (*Figure 1.*), much of which has been improved significantly on the original 1980's processing (*Figure 2. and Figure 3.*). This interpretation by GSWA was used to generate new, detailed, prospect scale structure maps of the Hussar Prospect. These new maps were utilised to prepare new Prospective (recoverable) Resource estimates to the previous estimates published in a recent Competent Persons report (CPR) dated 23rd May 2024, both of which utilised the Deterministic Method for these calculations. The revised Prospective Resource estimates (unrisked) based on the updated GSWA interpretation are presented here. The increase in SPE PRMS Prospective Resources vary from 5% to 25% where Best (2U) estimates have increased by approximately 20%.

	Units	New Estimate			CPR Original (23rd May 2024)		
		1U	2U	3U	1U	2U	3U
EP 513 Hussar Prospect							
Helium	**BCFG**	6.55	196	2,556	6.22	155	2046
Hydrogen	**BCFG**	1.42	218	3,123	1.35	173	2501
Hydrocarbons	**BCFG**	103	2,030	15,049	100	1,750	13,000

Table 1. *Revised EP 513 (Hussar Prospect) Unrisked Upgraded Prospective Resource Estimates*

The Hussar Prospect, is a large Neoproterozoic basement high block immediately overlain by the Townsend Formation, interpreted as a clastic reservoir, sealed by evaporites of the Browne Formation. The Townsend Formation at the well location is interpreted as a predominantly sandstone unit as found at surface exposures elsewhere in the basin. The Browne Formation is made up of various sediments including halite (salt formations), which are known to be extremely competent regional seals in the Officer Basin.

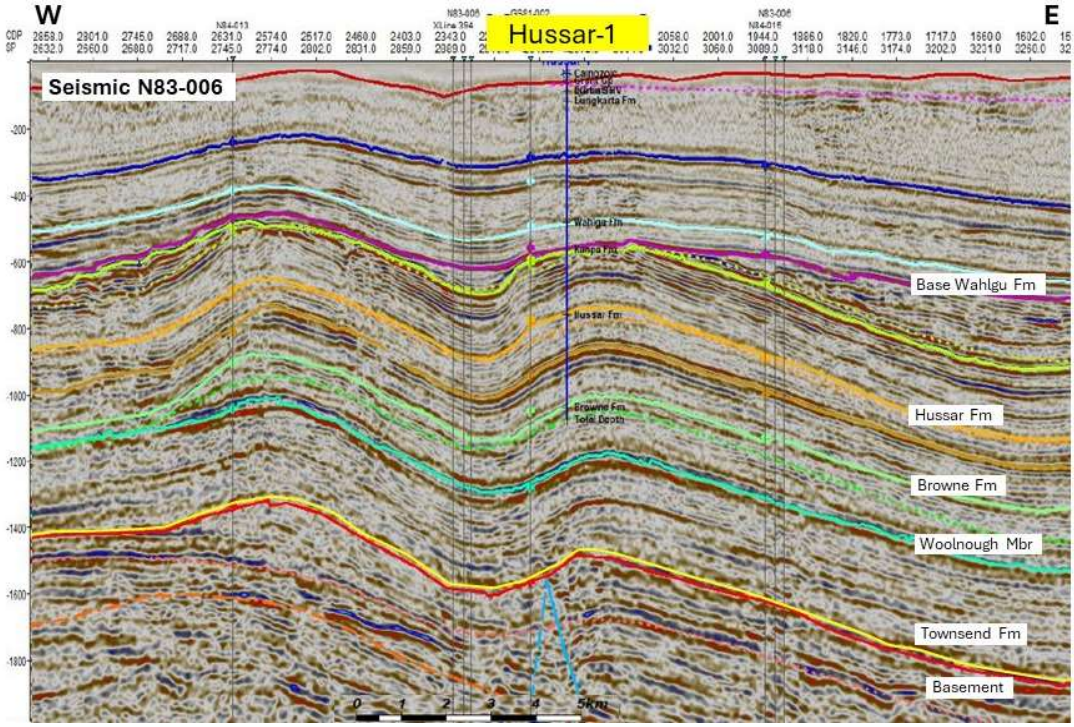

Figure 1. *Reprocessed 2D Seismic Line N83-006 across Hussar Structure and Proposed Target (by Georgina Energy Plc.), Seismic original interpretation by Simeonova, and Lasky: Geological Survey of Western Australia.*

OVERVIEW

Post the publication of the Competent Persons Report (CPR) dated 23rd May 2024 and Georgina Energy's admission to the London Stock Exchange (LSE), the Company was able to secure the Geological Survey of Western Australia' (GSWA) most recent seismic interpretation (updated interpretation) of all available seismic data over the Officer Basin. Although the results of this work is yet to be published, the seismic picks and grids stemming from this interpretation were made available to Georgina Energy, as the operator of the EP 513 exploration block. The re-interpretation of data across the Western Officer Basin by the GSWA applied more focus on the deeper sections in the basin and was aimed at better understanding the Brown Formation evaporites and the potential for Townsend reservoirs, a play that is increasingly becoming a focus for Helium, Hydrogen, and Hydrocarbons. In essence the work is aimed at supporting and encourage new exploration companies to look at the potential of the deeper basin, previously of little interest to the industry with commercial drilling extending to date no further than the top of the Brown Formation.

This new dataset post-dates the material made available during the drafting of the CPR dated 23rd May 2024, specifically the mapping report; *Simeonova and Lasky, 2005. Seismic Mapping, Salt Deformation and Hydrocarbon Potential of the Central Western Officer Basin, Western Australia. GSWA Report 98*. This 2005 report provided the contour maps utilised in the volumetric calculations for the CPR dated 23rd May 2024 as final product raster images lacking seismic line locations and data control points as per Figure 2. The new dataset of seismic referenced interpretation and georeferenced grid data provided by the GSWA supported a detailed hand contoured prospect scale mapping result replacing the older machine generated basin scale mapping used in the CPR of the 23rd May 2024. This has resulted in a new Base Neoproterozoic Depth Map (Figure 3.) which was used for the revised volumetric analysis of the Hussar structure published in the CPR.

In addition to utilising the GSWA' latest interpretation, the work in this report focused on the detail of the Hussar structure itself, with detailed hand contouring based on geological principals, rather than simple computer-generated grids and contours, being applied to the data. Figures 2 and 3 demonstrate the difference between the previous and current work, with the current work providing additional confidence in the presence and configuration of a major geologic structure at Hussar.

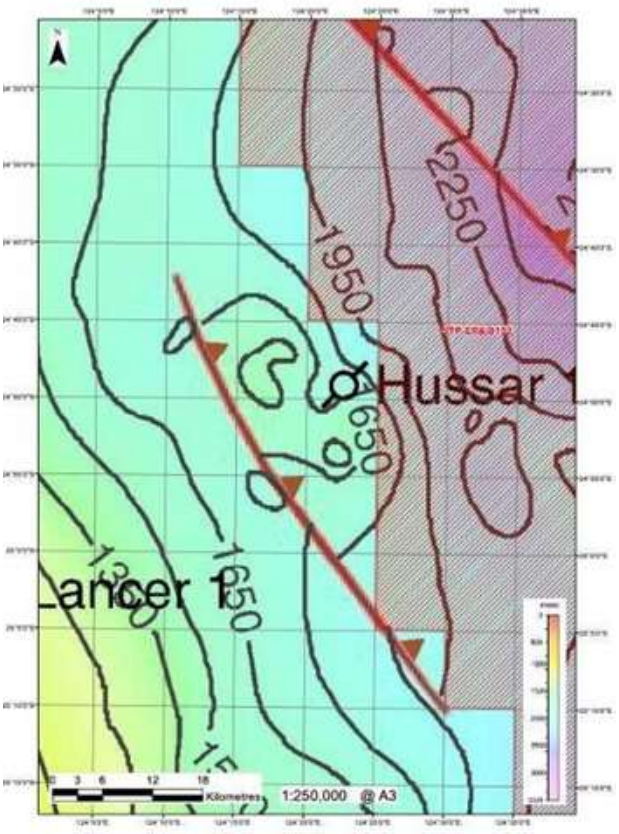

Figure 2. *CPR dated 23rd May 2024 TWT Base Neoproterozoic Map (Courtesy Simeonova & Lasky, GSWA Report 98, 2005).*

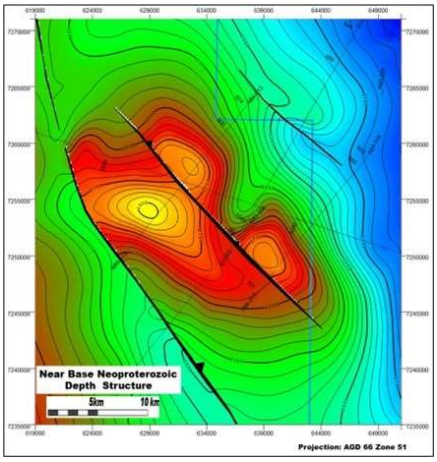

Figure 3. *Updated Base Neoproterozoic Depth Map as the basis for this report.*

The current work better defines the scale and geometry of the Hussar Prospect at depth. The new mapping introduces a second reverse fault to the northeast of the major thrust fault as shown in the new map (Figure 3). The offset of the secondary reverse fault is limited in scale, circa 50m or less, and is not interpreted to seal given the interpreted large thickness of the Townsend reservoir, outcrop mapping in the Officer Basin has recorded thicknesses of up to 370m (*John Heugh, The Hussar Project-Potential for Hydrocarbon & Helium Exploitation; May 2020*). The analogous Heavitree Quartzite reservoir within the Amadeus Basin has been estimated at up to 1000 meters in thickness (*Phil Plummer, Heavitree Quartzite, Amadeus Basin: its place within the Centralian Superbasin, Santos Limited; March 2015*). The reservoir thickness is expected to be greater than the interpreted offset on this secondary fault, hence structural compartmentalisation of the reservoir due to this fault is unlikely. The secondary fault is not modelled to impact the resource estimates in this report.

The new mapping has defined a structure of a greater aerial extent than previously mapped. The improvements in the structural detail have resulted in an increase in the areal extent of the structure to approximately 300 km^2 at the lowest closing contour, an increase of around 20% from the reference work in the CPR dated 23rd May 2024. The GRV used in the resource estimates presented here utilise a single accumulation model multiplied by a geometry factor (0.92).

In addition to improved structural detail, the current work has resulted in an increase in the Prospective (Recoverable) Resources estimates (unrisked) for all cases to estimates presented in the CPR dated 23rd May 2024 as shown in Table 2. Prospective Resources increases vary from 3% to 26% as shown in the table below.

	Units	Net Attributable			% Increase		
		1U	2U	3U	1U	2U	3U
EP 513 Hussar Prospect							
Helium	**BCFG**	6.55	196	2,556	5%	26%	25%
Hydrogen	**BCFG**	1.42	218	3,123	5%	26%	25%
Hydrocarbons	**BCFG**	103	2,030	15,049	3%	16%	16%

Table 2. *New Unrisked Prospective (Recoverable) Resources with percentage change from original CPR estimates.*

The materiality of a 20% increase in the lowest closing contour may be subjective, however the additional detail in the current work, an improvement in the interpreted geometry of the structure, has implications for the future evaluation of the Hussar Prospect. This structural configuration as represented in Figure 3 suggests that there are a number of options for the evaluation of the Hussar Structure.

However, more seismic data and a better understanding of the deeper section through the drilling of the deeper section is required to better understand the nature and potential of the pre-salt sequence.

DATA QUALITY

The Hussar structure is delineated by approximately 100km of 2D seismic acquired and originally processed in the early 1980s. During the 2000's this dataset was reprocessed by various operators of exploration licences over the area prior to Georgina Energy securing the operatorship of EP 513 and the results incorporated into recent re-mapping done by the Geological Survey of Western Australia of the DEMIRS WA.

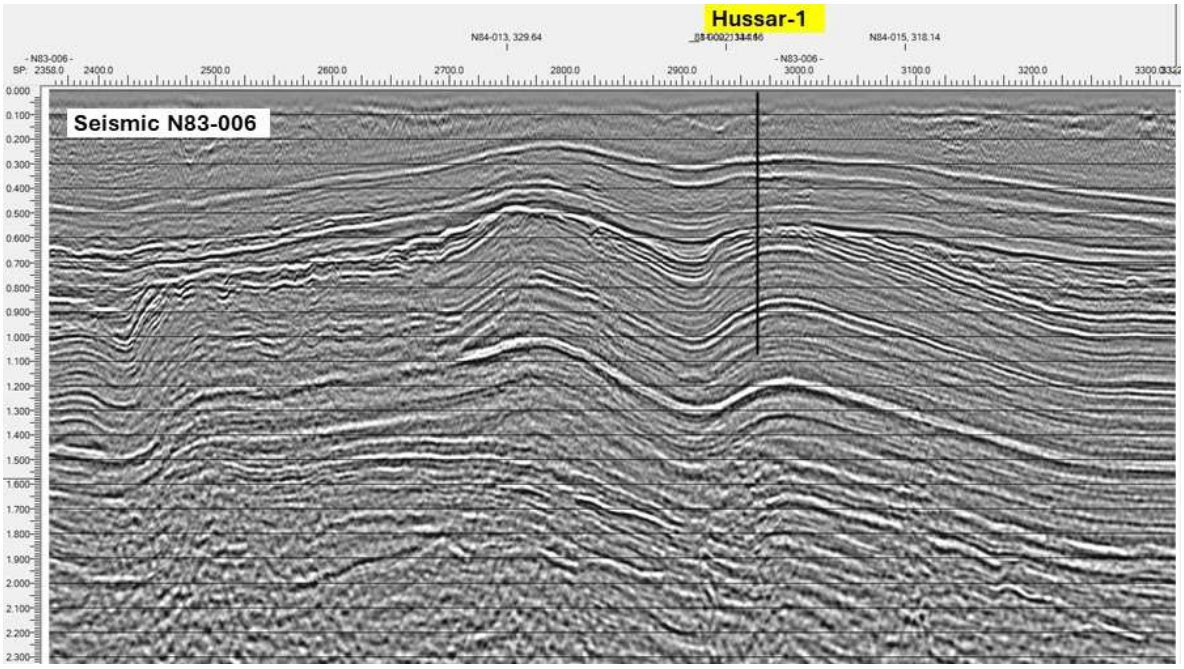

Figure 4. *Reprocessed 2D Seismic Line N83-006 in 2002 across Hussar Structure.*

The reprocessing principally involved noise reduction and amplitude enhancement, improving continuity of events. Faults, unconformities, and truncation of events can be picked more accurately, with more confidence, on the reprocessed dataset.

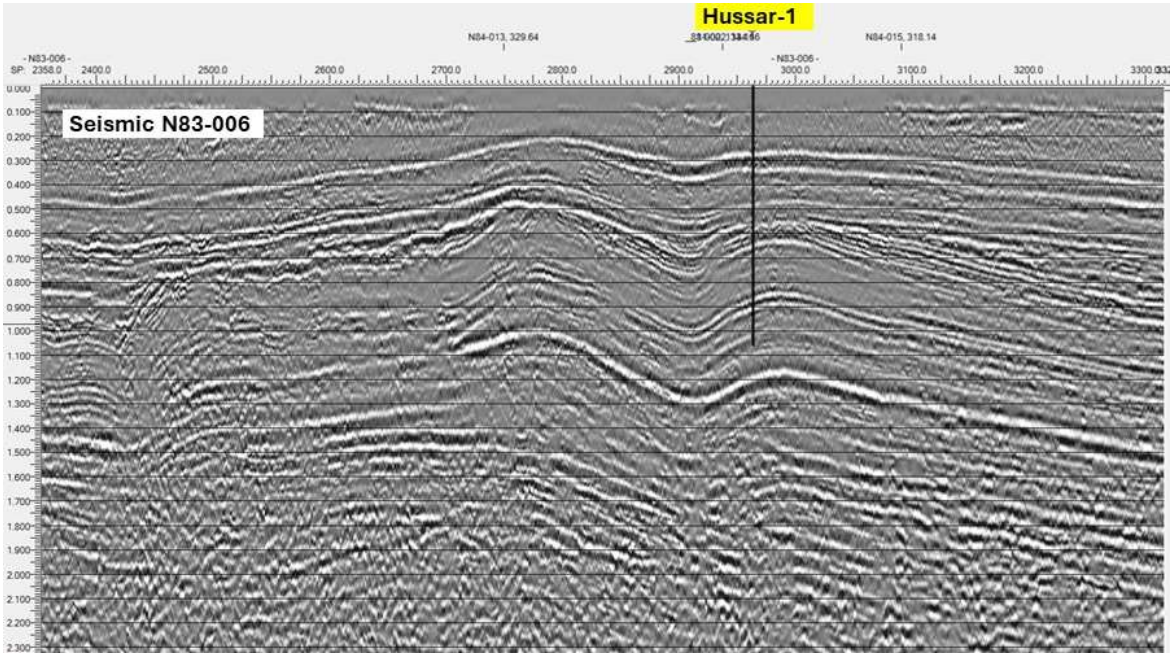

Figure 5. *Original 1980's processed 2D Seismic Line N83-006 across Hussar Structure.*

Both the original and reprocessed seismic sections clearly show a very large structural 'rollover' across most stratigraphic levels beneath the Base Wahlgu Fm Unconformity (Figures 1, 2, and 3).

CONTOUR MAPS

The Geological Survey of Western Australia have very recently refined their original regional interpretation and mapping project of the Officer Basin (Simeonova & Lasky, GSWA Report 98, 2005), incorporating all available well and seismic data, this being 2D data as no 3D seismic has been acquired over the Officer Basin to date.

The data from this work; both TWT and Depth grids, faults and salt diapir interpretations of all interpreted horizons (*Figure 1.* 'type section') were sourced and downloaded from the Geological Survey of Western Australia WAPIMS database, under the CO_2 Storage Atlas.

Contour maps generated from this interpretation over the Hussar prospect confirm a large elongate feature of approximately 300 km^2 at the lowest closing contour of the target horizon, the near Base Neoproterozoic. Although a sparce seismic grid, the existing data confirms a structural closure and provides a view of the aerial extent of the Hussar structure at depth (*Figure 4*). A proposed TD of 3200m for a re-entry well is likely to ensure penetration of the Townsend Formation primary target.

The seismic interpretation of key stratigraphic units can be made with a high degree of confidence down to the Woolough Member of the Browne Formation, correlations across the existing seismic grid are relatively straightforward. However, there still remains some uncertainty as to the nature and the detail in the interpretation of the Near Base Neoproterozoic. An underlying tilted 'Basement' fault block can be interpreted in the deeper section underpinning the Hussar Prospect. Above the Near Base Neoproterozoic there appears to be evidence of salt layers and diapirs within the overlying Browne Formation.

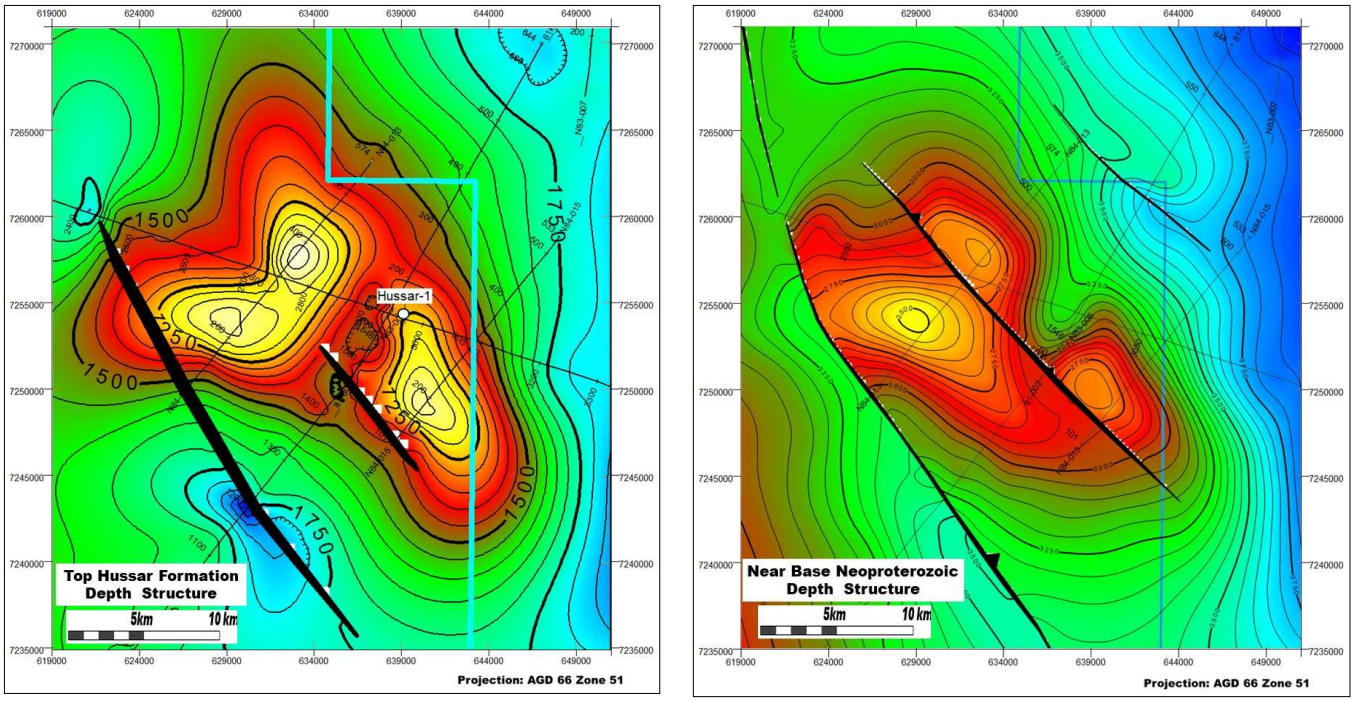

Figure 6. *New Depth structure maps [50m Contours];* ***Top Hussar Formation*** *(left), and* ***Near Base Neoproterozoic*** *(right) maps (Seismic interpretation courtesy Simeonova & Lasky, GSWA)*

Depth conversion was undertaken using average velocities calculated at all available wells with a time-depth relationship within the basin. The resulting time maps, following completion of the seismic interpretation, were used as a trend surface with which to interpolate average velocities over the mapped area. Depth converted grids were then calibrated to the depths of the mapped horizon intersections at wells. However, given few well penetrations of any horizons beneath the Near Top Browne Formation within the Officer Basin depth conversion was completed by extrapolating average velocities within the deeper section. An in-principal adequate methodology given the sparseness of well data within the deeper section. Contours were hand drawn to provide more intelligent interpretive accuracy than the original machine contoured interpretations.

VOLUMETRIC ASSESMENT

The parameters used to calculate volume estimates for Georgina Energy's Hussar Prospect utilised the Deterministic Method which uses available technical data, known analogues within the Officer and Amadeus Basins and reasonable fundamentals.

The following formula and parameters were used to calculate estimates of the Prospective (Recoverable) Resources [PRR] of Helium, Hydrogen, and Hydrocarbons for the Mount Winter and Hussar prospects within EPA 155 and EP 513 respectively.

PRR He or H2 = GIIP x R x [for %He or %H2] x (Georgina Licence Interest %)
PRR Hydrocarbons = GIIP x R x (100 – (%He + %H2 + %N2)) x (Georgina Licence Interest %)
GIIP= 43,560 x A x h x 0.92 x Φ x (1-Swc) x GEF

Where GIIP refers to gas initially in place, the remaining parameters used to calculate these resources are provided in the following table and are detailed in the recent CPR dated 23 May 2024 (*Al Maynard & Associates Pty Ltd Consulting Geologists*):

Unrisked Resources Calculation Parameters	1U	2U	3U
Area Acres (A)	11,115	34,580	78,052
Reservoir Thickness (ft)	270	520	705
Porosity (Φ)	3%	6%	9%
Water Saturation (Swc)	40%	36%	32%
Gas Expansion Factor (GEF)	263	263	263
Recovery (% R)	50%	60%	80%
Nitrogen (% N_2)	61%	44%	27%
Helium Content (% He)	2.3%	4.5%	9%
Hydrogen Content (%H_2)	0.5%	5.0%	11%

Table 3. *EP 513 (Hussar Prospect) Unrisked Prospective (Recoverable) Resources calculation parameters.*

The following table is a summary of the new estimated potential resource quantities following the technical assessment outlined in this report, using the parameters above, and specifically using a deterministic methodology.

	Units	Net Attributable			% Increase		
		1U	2U	3U	1U	2U	3U
EP 513 Hussar Prospect							
Helium	**BCFG**	6.55	196	2,556	5%	26%	25%
Hydrogen	**BCFG**	1.42	218	3,123	5%	26%	25%
Hydrocarbons	**BCFG**	103	2,030	15,049	3%	16%	16%

Table 4. *New Unrisked Prospective (Recoverable) Resources with percentage change from original CPR estimates.*

Note: The estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated 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 moveable Hydrocarbons.

The Prospective (Recoverable) Resources estimates (unrisked) presented here have been determined on the basis of the Society of Petroleum Engineers (SPE) Petroleum Resource Management System (PRMS) 2018 and 2011 (Guideline) principals. Standard PRMS terminology for the classification of undiscovered resources is utilised in this report, presenting resource estimates as low 1U (P90), 2U for best estimate (P50), and as 3U for high estimate (P10) of as-yet undiscovered volumes. The following Near Base Neoproterozoic depth map identifies the areal extent of 1U, 2U, and 3U Prospective Resource estimates.

PETROLEUM RESOURCES DEFINITIONS

The estimation of Prospective (Recoverable) Resources within this report are unrisked and attempt to quantify all quantities of Hydrocarbons that are estimated to exist 'in the ground' within the target of interest that are yet to be discovered and with an estimate of what portion of these quantities may potentially be recovered.

The estimates presented here have been determined utilising the Society of Petroleum Engineers (SPE) Petroleum Resource Management System (PRMS) 2018 and 2011 (Guideline) principals. To allow comparisons between projects within the reviewed portfolio, and comparisons with projects outside of the reviewed portfolio, standard PRMS terminology for the classification of undiscovered resources is utilised in this report, presenting resource estimates as low 1U (P90), 2U for best estimate (P50), and as 3U for high estimate (P10) of as-yet undiscovered volumes.

The PRMS resource classification system graphically presented excerpt is provided below (Figure 38) for reference from the Petroleum Resource Management System (revised June 2018) report. All parameters of this classification system are covered in detail within the PRMS report and should be referenced for a thorough understanding of the estimates presented in this CPR. The complete Petroleum Resource Management System (PRMS) document can be downloaded from https://www.spe.org/en/industry/reserves/

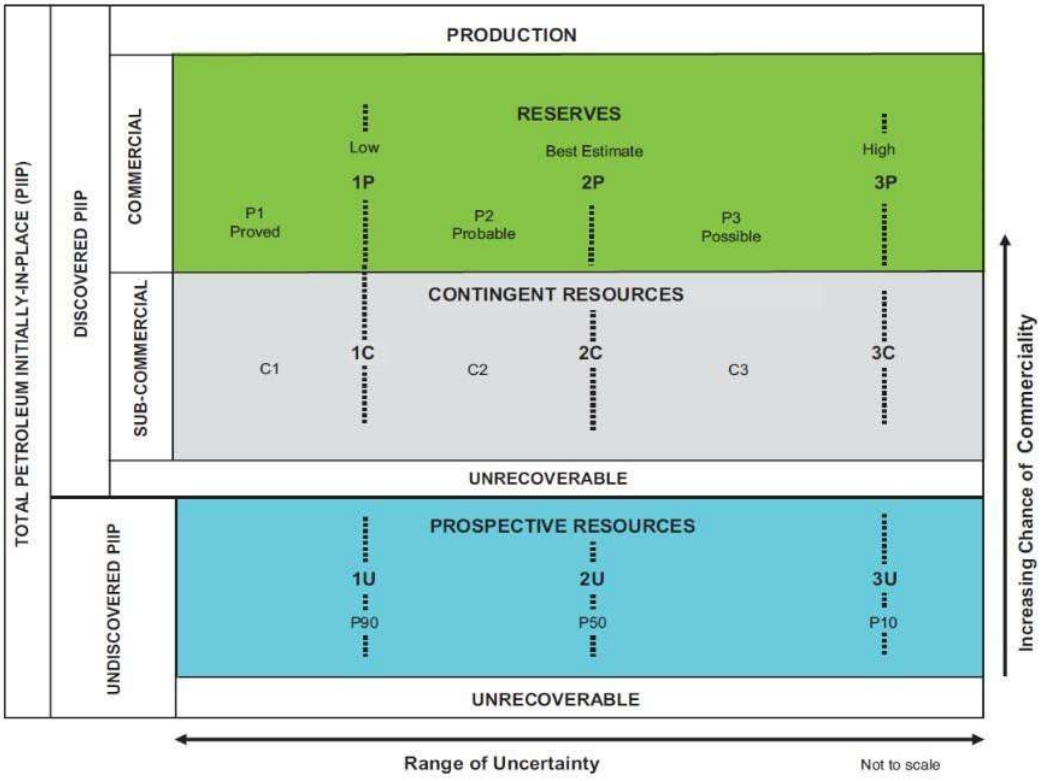

Figure 7. *SPE resource classification framework. (Courtesy SPE, Petroleum Resources Management System (PRMS); revised June 2018)*

Prospective Resources are defined by the SPE as "those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective Resources have both an associated chance of geological discovery and a chance of development. Prospective Resources are further categorized in accordance with the range of uncertainty associated with recoverable estimates, assuming discovery and development, and may be sub-classified based on project maturity."

CONCLUSION

The estimates provided are a new estimation of Prospective (Recoverable) Resources and represent an update to previous estimates following detailed analysis of the current seismic interpretation by the Geological Survey of Western Australia, and the application of geological trends to the Hussar structure. The focus of this work has been on detailed contour mapping at the prospect scale.

Confirmation of the Hussar structure at depth, as currently mapped, is required. The Near Base Neoproterozoic pick is extremely difficult. Re-interpreting the seismic data at prospect scale, while paying particular attention to Basement structuring is necessary in order to generate more accurate maps for engineering purposes. A more detailed understanding of the velocity information at depth will assist in generating depth maps that better represent the Hussar Prospect which will assist in future well planning.

It is recommended that Georgina Energy complete its own interpretation of the seismic database based on a new enhanced reprocessing regime.

Abbreviations

TECHNICAL GLOSSARY	MEANING
Amplitude anomaly	An abrupt increase in seismic amplitude that can indicate the presence of gas or fluid density change within rock porosity. Such anomalies can also result from processing problems, geometric or velocity focusing or changes in lithology.
Basement	The rock layer below which economic reservoirs are not expected to be found, sometimes called economic basement. Basement is usually older, deformed igneous or metamorphic rocks.
Browne Formation	A unit characterised by layers of Gypsum, dolomite, halite, anhydrite. Red-brown mudstone, argillaceous dolostone, sandstone, minor conglomerate. Of c.850 – c.818 million of years old found within the Officer Basin.
Closure	The vertical distance from the apex of a structure to the lowest structural contour that contains the structure
Check shot	A type of borehole seismic data designed to measure the seismic travel time from the surface to a known depth
Dip	The magnitude of the inclination of a plane from horizontal.
Dingo Gas Field	The Dingo Gas has been in production since 2015 and is located in the Amadeus Basin. Peak production in 2022 was approximately 4 Mmcfd of natural gas. The field is expected to recover 3.29 Mmboe, comprised of 19.74 bcf of natural gas reserves.
Deterministic Method	An assessment method based on discrete estimate(s) made based on available geoscience, engineering, and economic data and corresponds to a given level of certainty.
Endorheic lake	An endorheic lake, or sink lake, is a collection of water within an endorheic basin, or sink, with no evident outlet
Fault	A break or planar surface in brittle rock across which there is observable displacement
Gillen Member	Gillen Member also the Gillen Formation comprises five informal members although the unit as a whole is predominantly dolostone and stromatolitic dolostone, cherty limestone (and dolostone?) generally with minor grey shale and cross-bedded sandstone. Of c.896 – c.820 million of years old found within the Amadeus Basin.
Graben	A relatively low-standing fault block bounded by opposing normal faults. Graben (used as both singular and plural) can form in areas of rifting or extension, were normal faults are the most common type of fault.
Gravity / gradiometry	Gravity / gradiometry is the study and measurement of variations in the acceleration due to gravity. The gravity gradient is the spatial rate of change of gravitational acceleration.
GRV	Gross Rock Volume (GRV) represents a volume estimation above a known hydrocarbon-water contact or between a top and a base surface in a geologic trap.
Helium	Helium (He) is a naturally occurring inert gas that is colourless, odorless, tasteless, non-toxic, and is the second most abundant gas in the Universe after Hydrogen (H).
Hydrocarbon	A hydrocarbon is any of a class of organic chemicals made up of only the elements carbon I and hydrogen (H).

Hydrogen	Hydrogen is the lightest element. At standard conditions hydrogen is a gas of diatomic molecules having the formula H2. It is colourless, odorless, tasteless, non-toxic, and highly combustible. Hydrogen is the most abundant chemical substance in the universe, constituting roughly 75% of all normal matter.
Lead	An anomaly, such as a geologic structure or a seismic amplitude anomaly, that potentially hosts an economic accumulation. Leads are less well defined than a prospect, and typically require more geophysical data acquisition to be elevated to prospect status.
Lithology	The macroscopic nature of the mineral content, grain size, texture and colour of rocks.
Logs (wireline)	A continuous measurement of rock properties in a well bore with electrically powered instruments used to interpret the geology and to make decisions about drilling and production operations.
Macroseep	A seep that has an obvious surface manifestation i.e. Springs.
Magee-1	Exploration well drilled in 1992 by Pacific Oil & Gas Pty Limited within Exploration Permit 38 testing gas flows containing hydrocarbons and helium (6.3%) recorded from the Heavitree Formation.
Mereenie Oil & Gas Field	The Mereenie oil and gas field located in Amadeus Basin, Australia has been in production since 1984. It has produced more than 16 million barrels of oil and condensate since 1984. The field produced approximately 157,000 barrels of oil and 9.207 billion cubic feet (bcf) of gas in 2020.
Mt Kitty-1	Exploration well drilled in 2013-14 by Santos Limited that flowed gas in testing with a flow rate of around 500,000 cubic feet per day. The gas samplings also included substantial Helium readings (nearly 10%).
Migration	A generic term for movement of fluids from their source into reservoir rocks.
Normal fault	A type of fault or Dip-slip, faults are inclined fractures where the blocks have mostly shifted vertically. If the rock mass above an inclined fault moves down, the fault is termed normal, whereas if the rock above the fault moves up, the fault is termed a Reverse fault.
Palm Valley Gas Field	Palm Valley is located in the Amadeus Basin and has been in production since May 2019. Aggregate field production in 2021 was approximately 9 TJ/d.
Pre-Cambrian	A period of time extending from about 4.6 billion years ago (the point at which Earth began to form) to the beginning of the Cambrian Period, 541 million years ago.
Prospect	A prospect is commonly an anomaly, such as a geologic structure or a seismic amplitude anomaly, that potentially hosts an economic accumulation.
Proterozoic	The Proterozoic Eon, the younger of the two divisions of Precambrian time, the older being the Archean Eon. The Proterozoic Eon extended from 2.5 billion to 541 million years ago and is often divided into the Paleoproterozoic (2.5 billion to 1.6 billion years ago), the Mesoproterozoic (1.6 billion to 1 billion years ago), and the eoproterozoic (1 billion to 541 million years ago) eras.
Reservoir	A subsurface body of rock having sufficient porosity and permeability to store and transmit fluids. Sedimentary rocks are the most common reservoir rocks because they have

	more porosity than most igneous and metamorphic rocks.
Rift basin	Region in which the Earth's crust is pulling apart and creating normal faults and down-dropped areas or subsidence.
Seep	A naturally occurring, typically slow leakage of fluid— water, oil or gas— at the Earth's surface.
Seismic	Use of sound waves generated by acoustic energy sources to image subsurface geological structures. 2D records a cross section through the subsurface while 3D provides a three-dimensional image of the subsurface.
Seal	A relatively impermeable rock, commonly claystone, shale, anhydrite or salt, that forms a barrier or cap above and around reservoir rock such that fluids are inhibited from migrating beyond the reservoir.
Surprise Oil Field	The Surprise Oil Field comprises a single development well producing into a small tank farm located on the site. The production process involves pumping fluid to surface where it is separated into oil, water and gas, before storage and eventual trucking of the oil to market.
Stratigraphy	The field commenced production in March 2014 and produced approximately 87,000 barrels of oil to 30 June 2015. Low oil prices and the remoteness of the field led to the decision to shut-in oil production from August 2015. Production could recommence if oil prices recover significantly in $A terms and the reservoir displays good recharge.
	The study of the history, composition, relative ages and distribution.
Townsend Quartzite	Formation beds of laminated to very thick bedded, well-sorted, medium- to coarse-grained quartz arenite and feldspathic arenite; minor conglomerate and shale beds; medium- to large-scale cross-bedding.

ABBREVIATION	**MEANING**
1U (low)	With respect to resource categorization, this is considered to be a conservative estimate of the quantity that will actually be recovered from the accumulation by a project. If probabilistic methods are used, there should be at least a 90 per cent. Probability (P90) that the quantities actually recovered will equal or exceed the low estimate.
2U (best)	With respect to resource categorization, this is considered to be a best estimate of the quantity that will actually be recovered from an accumulation by a project. If probabilistic methods are used, there should be at least a 50 per cent. Probability (P50) that the quantities actually recovered will equal or exceed the best estimate.
3U (high)	With respect to resource categorization, this is considered to be an optimistic estimate of the quantity that will actually be recovered from an accumulation by a project. If probabilistic methods are used, there should be at least a 10 per cent. Probability (P10) that the quantities actually recovered will equal or exceed the high estimate.
2D	Two-dimensional
AEM	Airborne audio electromagnetics
AEM-PTP	Airborne audio electromagnetics using passive transient pulses

AEMO	Australian Energy Market Operator
AU$	Australian dollars
AMSL	Above Mean Sea Level
APGA	Australian Pipelines & Gas Association
APPEA	Australian Petroleum Production and Exploration Association
ASX	Australian Securities Exchange
Bcf	Billion Cubic Feet
BCFG	Billion Cubic Feet Gas
BLM	Bureau of Land Management
Bm^3	Billion Cubic meters
C_1	Methane
C_4	Butane
C_6	Hexane
CAGR	Compound annual growth rate
cc/g	cubic centimetres per gram
CCS	Carbon capture storage
CNL	Compensated neutron-porosity tool
CO_2	Carbon dioxide
CPR	Competent Person Report
CSIRO	Commonwealth Scientific Industrial Research Organisation
DMIRS	Department of Mines, Industry Regulation and Safety
DST	Drill Stem Test
EPA	Exploration Permit Application
ESMP	Environmental and Social Management Plan
EUR	Estimated Ultimate Recovery
Fm	Formation
g/cc	grams per cubic centimetre
GEMIS	Geoscience Exploration and Mining Information System
GIIP	Gas initially in place
GJ	gigajoule
GSWA	Geological Survey of Western Australia
H	Hydrogen
H_2	Hydrogen gas
He	Helium
ISO	International Standards Organisation
kg	kilograms
km	kilometres
km2	square kilometres
kPa	kilopascals
LNG	liquid natural gas
LPG	liquid petroleum gas
M	thousand
MM	millions
m	metres
Ma	million years
Mcf	thousand standard cubic feet
Mscf/d	thousands of standard cubic feet per day
Md	millidarcies
Mm3	thousands of cubic meters

MMcf	millions of cubic feet
MMCFD	millions of cubic feet per day
MMCFGD	millions of cubic feet gas per day
MMm3	millions of cubic meters
N_2	Nitrogen
NTGS	Northern Territory Geological Survey
O_2	Oxygen
OGIIP	original gas initially-in-place
PHIE	Effective porosity derived from petrophysics
PJ	petajoules
PRMS	Petroleum Resources Management System (PRMS, 2018) issued by Society of Petroleum Engineers, American Association of Petroleum Geologists, World Petroleum Council, Society of Petroleum Evaluation Engineers, Society of Exploration Geophysicists, Society of Petrophysicists and Well Log Analysts and European Association of Geologists and Engineers
PRR	Prospective Recoverable Resources
REDOX	Reduction-oxidation
SEEBASE	Structurally Enhanced view of Economic Basement
SEG	Society of Exploration Geophysicists,
SEGY	file format developed by the Society of Exploration Geophysicists (SEG) for storing geophysical data, particularly in the seismic industry
SPE	Society of Petroleum Engineers
SEAPEX	South East Asia Petroleum Exploration Society
SPEE	Society of Petroleum Evaluation Engineers
SPWLA	Society of Petrophysicists and Well Log Analysts
SRK	SRK Consulting (Australasia) Pty Ltd
Swc	Connat water saturation
TCF	Trillion Cubic Feet
TCFG	Trillion Cubic Feet Gas
TCFGE	Trillion Cubic Feet Gas Equivalent
TD	Total Depth
Th	Thorium
TJ	terajoules
TPA	Tons Per Annum
TWT	Two Way Travel time (of seismic wavefront)
U	Uranium
US$ or USD	US dollar
USGS	United States Geological Survey
WCR	Well Completion Report