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Leading Energy Transformation

Independent Reserves Audit Yumna Field, Block 50 Offshore Oman Summary Report



Masirah Oil Limited

14th March 2024

Our Ref: E0095-RES-REP-001 V1.3A

Exceed

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Independent Reserves Audit Yumna Field, Block 50 Offshore Oman Summary Report

Document Approval

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Reviewed By:	Mr	M.Cullen	<i>Mark Cullen</i>	14 th March 2024	Team Member
Approved By:	Mr	S.Hayhurst	<i>S Hayhurst</i>	14 th March 2024	Qualified Person

Issue Summary

Issue Number	Date	Description of Revision or Amendment
1.0		Draft for Client
1.1		Draft for Client
1.2		Final Summary for Comment
1.3		Final Summary
1.3A		Final Summary Signed

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Our Reference : E0095-RES-REP
Date : 14th March 2024

Masirah Oil Limited
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Building Number 3235, Way No 3341
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Attention : Mr Mike Hopkinson

Subject : Independent Reserves Audit Yumna Field, Block 50 Offshore Oman

This Qualified Person's Report ("QPR") has been prepared by Exceed Torridon Ltd, 1 Rubislaw Terrace, Aberdeen AB10 1XE, United Kingdom, and has been prepared in accordance with the applicable requirements in Practice Note 6.3 of the Singapore Exchange Securities Trading Limited's Mainboard Listing Rules.

Yours sincerely,
For Exceed Torridon Limited

A handwritten signature in blue ink that reads "I. Mills". The signature is written in a cursive, flowing style.

Mr Ian Mills
Managing Director

1 SUMMARY

1.1 Introduction

This Qualified Persons Report (QPR) Summary has been prepared at the request of Masirah Oil Ltd (“**Masirah**”, or the “**Company**”) by Exceed Torridon Ltd (XCD) as an independent Reserves Estimator. The QPR summary is based on work carried out by XCD to create new dynamic and static models of the Yumna Field.

This Summary QPR has been approved for issue by Mr Ian Mills; the Managing Director of Exceed Torridon Limited, and Mr Stephen Hayhurst; the Qualified Person of Exceed Torridon Limited. Mr Hayhurst has over 35 years in the oil & gas industry and currently holds the position of Production Technology and Petroleum Engineering Manager. He holds the following qualifications; BSc (Honours) Geology, MSc Petroleum Engineering and an MBA in Oil & Gas Management. He is also a Chartered Engineer (CEng) and a Fellow of the Energy Institute (FEI) and has been a member of the Society of Petroleum Engineers (SPE) for 33 years.

1.2 Aim of this Summary

This Summary QPR aims to provide updated estimates on the remaining reserves of the Yumna Field as of 31st December 2023. This summary QPR is based on the work done during 2023 and presents the reserves in the Yumna Field as of 31st December 2023.

1.3 Scope & Standards used in this Summary

This Summary QPR is prepared in line with the standards set out under the Petroleum Resource Management System (“**PRMS**”) to include production from the Yumna-1, Yumna-2, Yumna-3, and Yumna-4 wells until 31st December 2023, in the Yumna Field. Masirah drilled the Yumna-4 production well in late 2022 which was put into production in January 2023.

1.4 Basis of the Summary

Masirah’s internal work carried out throughout 2022 and into 2023 provided an updated static and dynamic model with improved reservoir characterisation and updated volumetrics. The same model after calibration to historical production data was used to provide, together with production forecasts, an estimate the remaining reserves under various development options as of 31st December 2022.

However, further analysis of the seismic data, along with the new well data from Yumna-4 together with the production data, led to the expansion of the Yumna Field to the East and North with Possible Reserves. The 2022/2023 work of seismic interpretation led to the realisation that an update to the structural model was required and updated static and dynamic models were created by XCD.

1.5 History

The Yumna discovery was made in the GA-South-1 well which was spudded in December 2013. The well tested a NE-trending fault-block in the Cretaceous and Precambrian. The well encountered hydrocarbons in the Campanian Lower Aruma Sandstone Formation. The well was tested and flowed oil at a maximum rate of 3,481 stb/d. The oil density was light with 42°API. The first development well, Yumna-1, was spudded in December 2019 and completed in February 2020. The well was put on test production from the drilling rig, producing via a flexible flowline to a tanker moored some 500m away. In April 2020, production was transferred to a Mobile Offshore Production Unit (MOPU).

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Production continued throughout 2020 from Yumna-1. In December 2020, Masirah commenced drilling operations with the Shelf Drilling Tenacious jack-up rig, to add on the Yumna-2 and Yumna-3 production wells. Yumna-2 was spudded on 10th December 2020 and was put on production on 23rd January 2021. The well started production at a rate of 9,000 stb/d of oil. The rate was constrained by the size of the down-hole Electrical Submersible Pump installed in the well. Yumna-3 was spudded on 20th January 2021 and production commenced on 18th February 2021 at a rate of 12,984 stb/d of oil on natural flow through an 80/64" choke. Yumna-4 was spudded on 24th October 2022 and production commenced 2nd January 2023 at a rate of 2,342.5 stb/d of oil on natural flow on a 32/64" choke.

The forward plan is to continue producing from the current well stock whilst continuously optimising the production rates. Further development wells are planned. The 2024 drilling and workover campaign includes drilling Yumna-5 at the crest of the structure to drain attic oil left un-swept by the current producers and replacing upper completion in Yumna-2 and Yumna-3 wells. Further drilling in 2025 will confirm the extent in the northern part of the field via drilling Yumna-6 well. The possible drilling of Yumna-7 also to the north of the field will complete the development of the Yumna Field.

In view of the field depletion through production and creation of new models, an update of the remaining reserves estimate is prudent. The STOIP (stock tank oil initially in place) is updated based on the modelling work carried out in 2023. The reserves presented herein are based on new assumptions for economic cut-off.

As of 31st December 2023, the Yumna Field had produced 8.2 MMstb. Based on the recoverable reserves estimate from the 2023 work, the remaining reserves are presented in Table 1-1.

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Category	Gross Attributable to Licence (MMstb) ^{1,2}	Masirah Net Entitlement Volume ^{2,3}			Rex's 91.81% Net Entitlement Volume ^{2,3}			Risk Factors ⁶	Remarks
		Previous Report (MMstb) ⁴	Current Report (MMstb) ⁵	% Change from Previous Update	Previous Report (MMstb) ⁴	Current Report (MMstb) ⁵	% Change from Previous Update		

Reserves

Low 1P	1.5	3.6	1.0	-72.2%	3.3	0.9	-72.7%	NA	Change due to production ⁵ , maturation of reserves and updated volumetrics
Base 2P	3.0	5.5	2.0	-63.6%	5.0	1.8	-64.0%	NA	Change due to production ⁵ , maturation of reserves and updated volumetrics.
High 3P	4.5	6.5	2.9	-55.4%	6.0	2.7	-55.0%	NA	Change due to production ⁵ , maturation of reserves and updated volumetrics.

Table 1-1: Yumna Field Summary of Oil Reserves as of 31st December 2023

1. Gross field Reserves (100% basis) after economic limit test as of 31st December 2023
 2. Economic cut off year for the 1P, 2P and 3P reserves are June 2025, April 2026 and December 2026, respectively.
 3. Company net entitlement Reserves after economic limit test
 4. Volume as of 31st December 2022
 5. Volume after subtraction of net entitlement production plus revision and maturation of reserves
 6. No risk is applied to Reserves.
- NA Denotes not applicable.

1.6 Background

Current ownership of Masirah includes Rex International Holding Ltd (91.81%), Schroder & Co Banque S.A. (6.36%) and PETROCI (the National Oil Company of Côte D'Ivoire) (1.83%).

Table 1-2 gives a detailed description of the asset.

Asset name / Country	Masirah Interest (%)	Rex Interest (%)	Development Status	Licence expiry date	Licence Area	Type of mineral, oil or gas deposit	Remarks
Yumna Field, OMAN	100 %	91.81%	Developed and producing	12 th July 2030 or until the field waters out	Block 50, Oman	Oil Field	N/A

Table 1-2: Yumna Field Detailed Description

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The Yumna Field lies within the Block 50 Licence located on the eastern coast of the Sultanate of Oman Figure 1-1, in a water depth of some 30 metres. The Licence is owned and operated by Masirah. The Yumna Field is the first discovery in Block 50 Oman and is located in the Masirah Graben geological feature. Further prospects are being evaluated within the Licence area. The principal terms and conditions for the concession are discussed in detail in the XCD QPR, including fiscal conditions, environmental and rehabilitation requirements, abandonment costs and consents.

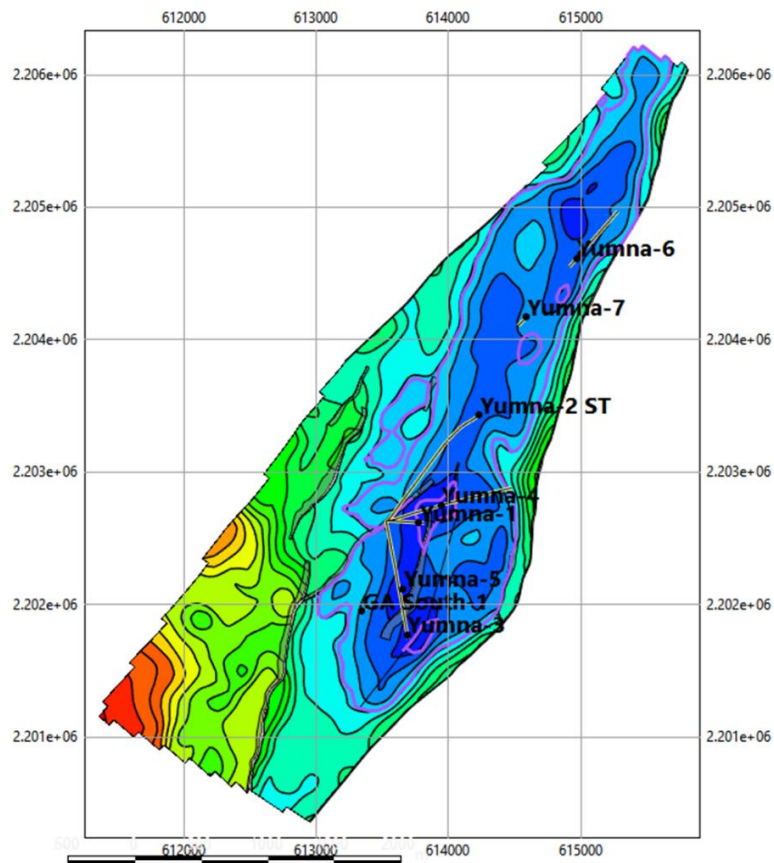


Figure 1-1: Map of the Yumna Field showing the well locations

The development of estimated in place resource has been positive during the development of the field. From well data, additional reserves have been identified and added to the STOIP. The development is summarised in Table 1-3. This shows an improvement of the estimation and reduction in uncertainty of the volumes in place between the 2020 and 2023 work.

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The three reserves cases are based on future work programme:

- 1P continue operations as per current plan including drilling of Yumna-5 well, workovers in Yumna-2 and Yumna-3.
- 2P drilling of Yumna-6 in addition to 1P activities.
- 3P drilling two additional wells in 2026 and performing various activities to increase well productivity by reducing pressure constraints.

	Gross Attributable to Licence							
	STOIIP (MMstb)				Reserves ⁴ (MMstb)			
	RPS 2020 ¹	End 2021 ²	End 2022 ³	XCD 2023	RPS 2020 ¹	End 2021 ²	End 2022 ³	XCD 2023
Low 1P	11.5	22.1	24.5	14.6	4.4	10.0	12.7	9.6
Base 2P	18.1	23.5	29.1	24.3	9.6	12.2	15.8	11.1
High 3P	26.7	24.5	32.1	34.5	14.6	13.3	17.4	12.6

Table 1-3: Yumna Field STOIP and Reserve History

1. RPS Reserves Audit as of 30th June 2020 dated 26th October 2020 after Yumna Field had produced approximately 1.05 MMstb.
2. Reserves Summary 2022 QPR dated 24th February 2022.
3. Reserves Summary 2023 QPR dated 2nd March 2023.
4. Volume before subtraction of gross production attributable to Licence.

1.7 Technical review

During 2023, 1.078 MMstb gross oil was produced from the Yumna Field from three wells: Yumna-2, Yumna-3, and Yumna-4. Yumna-1 was shut-in due to Electrical Submersible Pump (ESP) issues. Production rates declined from 7,000 stb/day of oil to approximately 2,000 stb/day oil in July. Thereafter the production remained stable at 1,800 stb/day of oil. The field has continued to experience strong water drive from a very large aquifer. Based on the production rates and other production data, along with the strong aquifer and high reservoir permeability, it is concluded that the recovery factor is best reflected by the higher value in the reserves summary +/-45%.

Based on well data from Yumna-4 of the reservoir, the reservoir properties (porosity and permeability) appear to be in line with predictions. The reservoir thickness is roughly as predicted. The Yumna-4 well is the easternmost well in the Yumna Field and suggests that the sandstone reservoir could extend further east.

1.8 Remaining Reserves

The remaining Yumna Field reserves are estimated based on the new reservoir model presented in the XCD QPR, which carries reserves numbers with production up to 31st December 2023. The production data suggests a Recovery Factor of +/-45% The produced volumes have been subtracted from the updated STOIP volumes for each of the three cases (Low, Base, High) on a gross basis attributable to the licence, and on a net entitlement basis to Masirah (Table 1-1). The Masirah net entitlement basis is found after an economic limit test, with economic cut-off year for Low, Base, and High case at early 2027. The remaining reserves are presented in Table 1-1 above.

The Base Case Brent price has been used for oil calculations presented in this report (Table 1-4: Brent, WTI and Dubai Long-Term Oil Price Outlook, Source: the Argus Group History, Wood MacKenzie forecast).

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1.9 Way forward

Further development wells are currently in the plan to drain the Yumna Field more effectively. Yumna-5 is planned to be spudded in the first half of 2024 before scheduled workovers on Yumna-2 and Yumna-3. One well in the far northern part of the field, north of Yumna-2, Yumna-6 is expected to be drilled in 2025, possibly followed by Yumna-7, subject to further reservoir and development studies. Further prospects are also being considered elsewhere in the block. Yumna-6 as a vertical well is included in P2. Yuman-6 and Yumna-7 horizontal wells are included in P3.

1.10 Summary References

RPS Group PLC, 26th October 2020: “INDEPENDENT RESERVES AUDIT OF THE YUMNA FIELD AND EVALUATION OF PROSPECTIVE RESOURCES, BLOCK 50, OFFSHORE OMAN”, commissioned to Masirah Oil Limited, 85 pages.

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Summary Qualified Person's Report, 5th March 2021: “YUMNA FIELD, BLOCK 50, UPDATE OF INDEPENDENT RESERVES AUDIT SUMMARY”, In-house summary QPR, 7 pages.
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Summary Qualified Person's Report, 24th February 2022: “YUMNA FIELD, BLOCK 50, UPDATE OF INDEPENDENT RESERVES AUDIT SUMMARY”, In-house summary QPR, 10 pages.
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Summary Qualified Person's Report, 2nd March 2023: “YUMNA FIELD, BLOCK 50, UPDATE OF INDEPENDENT RESERVES AUDIT SUMMARY”, In-house summary QPR, 12 pages.
20230302_YumnaSummaryQPR_Final.pdf (rexih.com)

Recent announcements by Rex related to Masirah:

15th Feb 2024: [NORWAY & OMAN PRODUCTION UPDATE - JANUARY 2024](#)

9th Jan 2024: [NORWAY & OMAN PRODUCTION UPDATE - DECEMBER 2023](#)

19th Dec 2023: [NORWAY PRODUCTION - NOVEMBER 2023 AND OMAN UPDATE](#)

14th Nov 2023: [NORWAY & OMAN PRODUCTION UPDATE - OCTOBER 2023](#)

9th Nov 2023: [USE OF FUNDS/CASH BY MINERAL, OIL AND GAS COMPANIES](#)

10th Oct 2023: [NORWAY & OMAN PRODUCTION UPDATE - SEPTEMBER 2023](#)

12th Sep 2023: [Rex Provides Business and Strategy Update](#)

11th Sep 2023: [NORWAY & OMAN PRODUCTION UPDATE - AUGUST 2023](#)

14th Aug 2023: [OMAN & NORWAY PRODUCTION UPDATE - JULY 2023](#)

11th Aug 2023: [FINANCIAL STATEMENTS AND RELATED ANNOUNCEMENT - HALF YEARLY RESULTS](#)

13th Jul 2023: [OMAN & NORWAY PRODUCTION UPDATE - JUNE 2023](#)

12th Jun 2023: [OMAN & NORWAY PRODUCTION UPDATE - MAY 2023](#)

12th May 2023: [USE OF FUNDS/CASH BY MINERAL, OIL AND GAS COMPANIES](#)

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- 9th May 2023: [OMAN & NORWAY PRODUCTION UPDATE - APRIL 2023](#)
- 12th Apr 2023: [OMAN & NORWAY PRODUCTION UPDATE - MARCH 2023](#)
- 21st Mar 2023: [INDEPENDENT SUMMARY QUALIFIED PERSON'S REPORTS](#)
- 9th Mar 2023: [OMAN & NORWAY PRODUCTION UPDATE - FEBRUARY 2023](#)
- 3rd Mar 2023: [SUMMARY QUALIFIED PERSON'S REPORT](#)
- 1st Mar 2023: [FINANCIAL STATEMENTS AND RELATED ANNOUNCEMENT - FULL YEARLY RESULTS](#)
- 10th Feb 2023: [OMAN & NORWAY PRODUCTION UPDATE - JANUARY 2023](#)
- 10th Jan 2023: [OMAN & NORWAY PRODUCTION UPDATE - DECEMBER 2022](#)
- 9th Jan 2023: [DRILLING CAMPAIGN IN BLOCK 50 OMAN COMPLETED](#)
- 7th Dec 2022: [OMAN & NORWAY PRODUCTION UPDATE - NOVEMBER 2022](#)
- 14th Nov 2022: [APPRAISAL / EXPLORATION WELL SPUDDED IN OMAN](#)
- 9th Nov 2022: [OMAN & NORWAY PRODUCTION UPDATE - OCTOBER 2022](#)
- 13th Oct 2022: [OMAN & NORWAY PRODUCTION UPDATE - SEPTEMBER 2022](#)
- 7th Sep 2022: [OMAN & NORWAY PRODUCTION UPDATE - AUGUST 2022](#)
- 12th Aug 2022: [FINANCIAL STATEMENTS AND RELATED ANNOUNCEMENT - HALF YEARLY RESULTS](#)
- 8th Aug 2022: [OMAN & NORWAY PRODUCTION UPDATE](#)
- 21st Jul 2022: [UPDATE ON YUMNA FIELD](#)
- 7th Jul 2022: [OMAN & NORWAY PRODUCTION UPDATE - JUNE 2022](#)
- 23rd Jun 2022: [PRODUCTION AND DRILLING CAMPAIGN IN BLOCK 50 OMAN](#)
- 20th Jun 2022: [NORWAY & OMAN PRODUCTION UPDATE - MAY 2022](#)
- 9th May 2022: [OMAN & NORWAY PRODUCTION UPDATE - APRIL 2022](#)
- 18th Apr 2022: [OMAN & NORWAY PRODUCTION UPDATE - MARCH 2022](#)
- 17th Mar 2022: [OMAN & NORWAY PRODUCTION UPDATE - FEBRUARY 2022](#)
- 9th Mar 2022: [UPDATE ON BLOCK 50 OMAN](#)
- 28th Feb 2022: [FINANCIAL STATEMENTS AND RELATED ANNOUNCEMENT - FULL YEARLY RESULTS](#)
- 24th Feb 2022: [SUMMARY QUALIFIED PERSON'S REPORT](#)
- 23rd Feb 2022: [OMAN & NORWAY PRODUCTION UPDATE - JANUARY 2022](#)
- 13th Jan 2022: [REX'S 2021 ROUND-UP: A TRANSFORMATIONAL YEAR](#)
- 10th Jan 2022: [OMAN PRODUCTION UPDATE - DECEMBER 2021](#)
- 16th Dec 2021: [REX SUBSIDIARY INCREASES STAKE IN MASIRAH OIL LIMITED TO 91.81% - COMPLETION](#)

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- 7th Dec 2021: [OMAN PRODUCTION UPDATE - NOVEMBER 2021](#)
- 22nd Nov 2021: [REX SUBSIDIARY INCREASES STAKE IN MASIRAH OIL LIMITED TO 91.81%](#)
- 10th Nov 2021: [OMAN PRODUCTION UPDATE - OCTOBER 2021](#)
- 5th Oct 2021: [OMAN PRODUCTION UPDATE – SEPTEMBER 2021](#)
- 7th Sep 2021: [OMAN PRODUCTION UPDATE – AUGUST 2021](#)
- 11th Aug 2021: [MASIRAH OIL LTD](#)
- 3rd Aug 2021: [OMAN PRODUCTION UPDATE - JULY 2021](#)
- 5th Jul 2021: [OMAN PRODUCTION UPDATE – JUNE 2021](#)
- 18th Jun 2021: [OMAN PRODUCTION UPDATE – MAY 2021](#)
- 4th May 2021: [OMAN PRODUCTION UPDATE – APRIL 2021](#)
- 20th Apr 2021: [OMAN PRODUCTION UPDATE - MARCH 2021](#)
- 5th Apr 2021: [REX’S SUBSIDIARY COMPLETES DRILLING PROGRAMME COMMITMENT IN OMAN](#)
- 17th Mar 2021: [REX’S SUBSIDIARY COMPLETES UPGRADE OF YUMNA FIELD PROCESS FACILITIES](#)
- 23rd Feb 2021: [REX’S SUBSIDIARY SPUDS ZAKHERA EXPLORATION WELL IN BLOCK 50 OMAN](#)
- 22nd Feb 2021: [REX’S SUBSIDIARY STARTS PRODUCTION AT YUMNA 3 WELL IN BLOCK 50 OMAN](#)
- 1st Feb 2021: [REX’S SUBSIDIARY STARTS PRODUCTION AT YUMNA 2 WELL IN BLOCK 50 OMAN](#)
- 14th Dec 2020: [REX’S SUBSIDIARY SPUDS YUMNA 2 DEVELOPMENT WELL IN BLOCK 50 OMAN](#)
- 13th Aug 2020: [OMAN OIL PRODUCTION A GAME CHANGING START FOR REX IN 1H FY2020](#)
- 17th Jul 2020: [REX UPDATE: MAJOR MILESTONE ACHIEVED IN OMAN AND WELL IN NORWAY TO BE DRILLED IN LATE AUGUST 2020](#)
- 28th Feb 2020: [REX IN THE BLACK FOR FY2019; READY FOR RECURRENT INCOME FROM OMAN](#)
- 17th Feb 2020: [REX’S SUBSIDIARY ACHIEVES SUCCESSFUL OIL FLOW FROM YUMNA 1 WELL IN OMAN](#)

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APPENDIX A – WOOD MACKENZIE OIL PRICE OUTLOOK(S)

Brent, WTI and Dubai Long-Term Oil Price Outlook

Year	Inflation Rate Forecast	Brent Price (US\$/bbl)		WTI Price (US\$/bbl)		Dubai Price (US\$/bbl)		Differentials	
		Nominal	Real	Nominal	Real	Nominal	Real	Brent-WTI	Brent-Dubai
								Real	Real
2021	4.68	70.63	79.40	67.98	76.42			2.98	
2022	7.99	100.97	105.11	94.43	98.30			6.81	
2023	4.10	84.40	84.40	80.20	80.20			4.20	
2024	2.40	90.30	88.18	85.81	83.80			4.38	
2025	2.10	84.50	80.82	80.04	76.56			4.27	
2026	2.00	89.58	84.00	84.78	79.50			4.50	
2027	2.00	89.19	82.00	83.86	77.10			4.90	
2028	2.00	88.76	80.00	83.66	75.40			4.60	
2029	2.00	91.67	81.00	86.35	76.30			4.70	
2030	2.00	94.65	82.00	89.58	77.60			4.40	
2031	2.00	94.19	80.00	89.25	75.80			4.20	
2032	2.00	96.08	80.00	91.21	75.95			4.05	
2033	2.00	98.00	80.00	93.04	75.95			4.05	
2034	2.00	98.71	79.00	93.46	74.80			4.20	
2035	2.00	100.68	79.00	95.84	75.20			3.80	

Table 1-4: Brent, WTI and Dubai Long-Term Oil Price Outlook, Source: the Argus Group History, Wood MacKenzie forecast

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Year on Year Change (US\$/bbl)

Year	Brent Price (US\$/bbl)		WTI Price (US\$/bbl)		Dubai Price (US\$/bbl)	
	Nominal	Real	Nominal	Real	Nominal	Real
2021	29.03	30.44	28.67	30.16		
2022	30.34	25.71	26.45	21.88		
2023	-16.57	-20.71	-14.23	-18.10		
2024	5.90	3.78	5.61	3.60		
2025	-5.80	-7.36	-5.77	-7.24		
2026	5.08	3.18	4.74	2.94		
2027	-0.38	-2.00	-0.91	-2.40		
2028	-0.44	-2.00	-0.21	-1.70		
2029	2.91	1.00	2.69	0.90		
2030	2.99	1.00	3.23	1.30		
2031	-0.46	-2.00	-0.33	-1.80		
2032	1.88	0.00	1.97	0.15		
2033	1.92	0.00	1.82	0.00		
2034	0.71	-1.00	0.42	-1.15		
2035	1.97	0.00	2.38	0.40		

Table 1-5: Brent, Year on Year Change (US\$/bbl), Source: the Argus Group History, Wood MacKenzie forecast

Year on Year Change (%)

Year	Brent Price (US\$/bbl)		WTI Price (US\$/bbl)		Dubai Price (US\$/bbl)	
	Nominal	Real	Nominal	Real	Nominal	Real
2021	70%	62%	73%	65%		
2022	43%	32%	39%	29%		
2023	-16%	-20%	-15%	-18%		
2024	7%	4%	7%	4%		
2025	-6%	-8%	-7%	-9%		
2026	6%	4%	6%	4%		
2027	0%	-2%	-1%	-3%		
2028	0%	-2%	0%	-2%		
2029	3%	1%	3%	1%		
2030	3%	1%	4%	2%		
2031	0%	-2%	0%	-2%		
2032	2%	0%	2%	0%		
2033	2%	0%	2%	0%		
2034	1%	-1%	0%	-2%		
2035	2%	0%	3%	1%		

Table 1-6: Brent, Year on Year Change (%), Source: the Argus Group History, Wood MacKenzie forecast

APPENDIX B – GLOSSARY OF TERMS

1C	The low estimate of Contingent Resources. There is estimated to be a 90% probability that the quantities actually recovered could equal or exceed this estimate
2C	The best estimate of Contingent Resources. There is estimated to be a 50% probability that the quantities actually recovered could equal or exceed this estimate
3C	The high estimate of Contingent Resources. There is estimated to be a 10% probability that the quantities actually recovered could equal or exceed this estimate
1P	The low estimate of Reserves (proved). There is estimated to be a 90% probability that the quantities remaining to be recovered will equal or exceed this estimate
2P	The best estimate of Reserves (proved+probable). There is estimated to be a 50% probability that the quantities remaining to be recovered will equal or exceed this estimate
3P	The high estimate of Reserves (proved+probable+possible). There is estimated to be a 10% probability that the quantities remaining to be recovered will equal or exceed this estimate
1U	The low estimate of Prospective Resources. There is estimated to be a 90% probability that the quantities actually recovered could equal or exceed this estimate
2U	The best estimate of Prospective Resources. There is estimated to be a 50% probability that the quantities actually recovered could equal or exceed this estimate
3U	The high estimate of Prospective Resources. There is estimated to be a 10% probability that the quantities actually recovered could equal or exceed this estimate
AVO	Amplitude versus Offset
B	Billion
bbl(s)	Barrels
bbls/d	barrels per day
Bcm	billion cubic metres
Bg	gas formation volume factor
Bgi	gas formation volume factor (initial)
Bo	oil formation volume factor
Boi	oil formation volume factor (initial)
Bw	water volume factor
boe	Barrels of oil equivalent
stb/d	barrels of oil per day
BHP	Bottom hole pressure
Bscf	billions of standard cubic feet
bwpd	barrels of water per day
condensate	liquid hydrocarbons which are sometimes produced with natural gas and liquids derived from natural gas
cP	Centipoise
Eclipse	a fluid modelling software package

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Egi	Gas Expansion Factor
EMV	Expected Monetary Value
EUR	Estimated Ultimate Recovery
FBHP	flowing bottom hole pressure
FTHP	flowing tubing head pressure
ft	Feet
FWHP	Flowing well head pressure
FWL	Free Water Level
GDT	Gas Down To
GIIP	Gas Initially in Place
GOC	Gas oil Contact
GOR	gas/oil ratio
GRV	gross rock volume
GWC	gas water contact
IPR	Inflow performance relationship
IRR	internal rate of return
KB	Kelly Bushing
ka	absolute permeability
kh	horizontal permeability
km	Kilometres
LPG	Liquefied Petroleum Gases
m	Metres
m3	cubic metres
m3/d	cubic metres per day
ma	million years
M	Thousand
M\$	thousand US dollars
MBAL	Material balance software
Mbbls	thousand barrels
mD	permeability in millidarcies
MD	measured depth
MDT	Modular formation dynamics tester tool
MM	Million
MMbbls	million barrels
MMscf/d	millions of standard cubic feet per day
MMstb	million stock tank barrels (at 14.7 psi and 60° F)

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MMt	millions of tonnes
MM\$	million US dollars
MPa	mega pascals
m/s	metres per second
msec	Milliseconds
Mt	thousands of tonnes
mV	Millivolts
NTG or N:G	Net-to-gross ratio
NGL	Natural Gas Liquids
NPV	Net Present Value
OWC	oil water contact
P90	There is estimated to be at least a 90% probability (P90) that this quantity will equal or exceed this low estimate
P50	There is estimated to be at least a 50% probability (P50) that this quantity will equal or exceed this best estimate
P10	There is estimated to be at least a 10% probability (P10) that this quantity will equal or exceed this high estimate
PDR	Physical Data Room
Petrel	A geoscience and reservoir engineering software package
petroleum	deposits of oil and/or gas
phi	porosity fraction
pi	initial reservoir pressure
PI	productivity index
ppm	parts per million
psi	pounds per square inch
psia	pounds per square inch absolute
pwf	flowing bottom hole pressure
PSDM	Pre-stack depth migrated seismic data
PSTM	Pre-stack time migrated seismic data
PVT	pressure volume temperature
rb	barrel(s) of oil at reservoir conditions
rcf	reservoir cubic feet
REP™	A Monte Carlo simulation software package
RF	Recovery factor
RFT	repeat formation tester
RKB	relative to kelly bushing
rm3	reservoir cubic metres

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SCADA	supervisory control and data acquisition
SCAL	Special Core Analysis
scf	standard cubic feet measured at 14.7 pounds per square inch and 60° F
scf/d	standard cubic feet per day
scf/stb	standard cubic feet per stock tank barrel
SGS	Sequential Gaussian Simulation
SIBHP	Shut in bottom hole pressure
SIS	Sequential Indicator Simulation
SMT	A geoscience software package
sm³	standard cubic metres
So	oil saturation
Soi	irreducible oil saturation
Sor	residual oil saturation
Sorw	residual oil saturation (waterflood)
sq. km	square kilometers
stb	stock tank barrels measured at 14.7 pounds per square inch and 60° F
stb/d	stock tank barrels per day
STOIIP	stock tank oil initially in place
Sw	water saturation
Swc	connate water saturation
\$	United States Dollars
t	Tonnes
THP	tubing head pressure
Tscf	trillion standard cubic feet
TVDSS	true vertical depth (sub-sea)
TVT	true vertical thickness
TWT	two-way time
US\$	United States Dollar
VDR	Virtual data room
VLP	Vertical lift performance
Vsh	shale volume
VSP	Vertical Seismic Profile
W/m/K	watts/metre/° K
WC	water cut
WUT	Water Up To
Z	a measure of the “non-idealness” of gas

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ϕ	Porosity
μ	Viscosity
μ_{gb}	viscosity of gas
μ_{ob}	viscosity of oil
μ_w	viscosity of water



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