



AGR Energy Services AS
Reservoir Management Division
Oslo



Executive Summary

CPR 31.12.2021

For Mime Petroleum
May 2022

Qualifications

AGR is an independent consultancy specializing in amongst others petroleum reservoir evaluation, reserves auditing and economic analysis. AGR has conducted evaluations for numerous energy companies and financial institutions. Except for the provision of professional services on a fee basis, AGR does not have any commercial arrangement with any other persons or companies involved in the assets that are the subject of this report.

Evaluation Standard

In the Competent Person's Report (CPR) of reserves, AGR has applied the standard petroleum engineering techniques. This CPR is based the guidelines of Petroleum Resources Management System (SPE PRMS) sponsored by the Society of Petroleum Engineers, the World Petroleum Council, the Society of Exploration Geophysicists, the American Association of Petroleum Geologists, the European Association of Geoscientists & Engineers and the Society of Petroleum Evaluation Engineers from 2018.

Basis of Opinion

The evaluation presented in this report reflects our qualified judgment based on accepted standards of professional investigation but is subject to generally recognized uncertainties associated with the interpretation of geological, geophysical and subsurface reservoir data. It should be understood that any evaluation, particularly one involving exploration and future petroleum developments, may be subject to significant variations over short periods of time as new information becomes available.

Disclaimer

This report relates specifically and solely to the subject petroleum licence interests and is conditional upon the assumptions made therein. This report must therefore be read in its entirety. Hydrocarbon reserves and resources should be regarded as estimates only, that may change as production history and additional information become available. Not only are reserves and resource estimates based on the information currently available, these are also subject to uncertainties inherent in the application of judgmental factors in interpreting such information. AGR Energy Services AS shall have no liability arising out of, or related to, the use of the report.

Executive Summary

AGR has been contracted by Mime Petroleum AS (hereinafter Mime Petroleum) to carry out a Competent Person's Report (CPR) of Mime Petroleum's oil and gas assets on the Norwegian Continental Shelf. This CPR covers proved (1P), proved + probable (2P) and proved + probable + possible (3P) reserves as of 31.12.2021 according to the Petroleum Resources Management System (PRMS) of SPE/WPC/SEG/AAPG/EAGE/SPEE issued in 2018. Contingent Resources have not been evaluated.

Asset overview

Table 1 Assets included in the CPR

Field	Operator	Installation	Status	Mime Petroleum interest (%)
Balder	Vår Energi	Jotun A FPSO, Balder FPSO, Ringhorne Platform, subsea templates	Producing	10.00
Ringhorne Øst	Vår Energi	Wells drilled from Ringhorne platform	Producing	7.40

The Balder Field is located on the Utsira High east of South Viking Graben which forms the kitchen area for hydrocarbon generation. The Balder oil field was discovered in 1967 by the well 25/11-1 which was the first oil discovery on the Norwegian Continental Shelf (NCS). Oil has been produced in several phases since production start in 1999 and the main production mechanism is natural aquifer drive. Balder, including Ringhorne, produces oil from several separate deposits in sandstone of Jurassic, Paleocene and Eocene age. Balder produces from the Heimdal and Hermod Formations as well as from the injected sand complex above them. Ringhorne produces from sandstone in the Statfjord Group, Ty and Hermod Formations. The reservoirs are of good to very good quality. The Balder reservoir lies at a depth of 1,700 metres and the Ringhorne Ty and Jurassic reservoir at a depth of 1,900 metres.

A re-development of the Balder Field was approved in the licence in 2019, a PDO for the Balder Future project submitted to the authorities in December 2019 and the PDO was approved in June 2020 including 13 additional wells drilled from new subsea templates and the Ringhorne platform, refurbishment of the Jotun FPSO and life extension. Projects included (remaining wells to be drilled) are Ringhorne Phase III (2x OP, 1x WI), Ringhorne Phase IV (5x OP), Balder Future (13x OP, 1x WI) and Balder Satellites (1x OP).

The Ringhorne Øst Field is a separate accumulation in the Ringhorne Øst Unit. Three wells drilled from the Ringhorne platform produce oil with associated gas from Jurassic sandstone in the Statfjord Group. The reservoir lies at a depth of 1,940 metres and has very good quality. Projects included (remaining wells to be drilled) are Ringhorne Phase III (1x OP) and incremental production from the Balder Future project.

Technical and economic evaluations

This evaluation is based on data, documentation and models provided by Mime Petroleum. A key source for the evaluation of the technical production and cost profiles are the Operator's annual reporting to the Norwegian Authorities (Revised National Budget 2022; RNB2022), supported by field development plans and other relevant asset and licence information. AGR has also had access to key reservoir static and dynamic models and checked and performed sensitivities on those to test the robustness and uncertainty range of Petroleum Initially-In-Place (PIIP) and technical production profiles. AGR has considered and discussed the major uncertainties and risks.

AGR has performed economic evaluations to determine reserves by using the AGR economic model reflecting the fiscal regime governing the oil and gas industry on the NCS. The technical production and cost profiles used in the evaluations have been prepared by AGR. The reserves are reported as of 31.12.2021. Economic cut-off year is estimated as the year of maximum cumulative net cash-flow. The price and economic assumptions applied were provided by Mime Petroleum and AGR considers these assumptions to be reasonable and have applied them in the evaluations, see table below.

Table 2 Economic input assumptions from Mime Petroleum

	Units	2022	2023	2024	2025 -->
Oil Price	USD/bbl (real2022)	77	71	68	65
Gas Price (40 MJ/Sm3)	NOK/Sm3 (real2022)	2.0	2.0	2.0	2.0
Exchange rate	8.5 NOK/USD				
Inflation rate	2% p.a.				

Reserves

Net Mime Petroleum reserves as of 31.12.2021 are listed in the table below.

Table 3 Net Mime Petroleum reserves as of 31.12.2021 according to PRMS

Asset	Mime Petroleum interest (%)	PRMS project maturity	1P (MMboe)	2P (MMboe)	3P (MMboe)
Balder	10.00	On Production	4.44	4.71	4.94
		Approved for Development	11.36	14.64	17.36
		Justified for Development	0.55	0.68	0.77
		Total	16.36	20.03	23.07
Ringhorne Øst	7.40	On Production	0.25	0.26	0.27
		Approved for Development	0.67	0.83	0.93
		Justified for Development	-	-	-
		Total	0.92	1.09	1.20
Total*		On Production	4.70	4.97	5.20
		Approved for Development	12.03	15.47	18.30
		Justified for Development	0.55	0.68	0.77
		Total	17.28	21.12	24.27

* The total is an arithmetic sum (not a statistical sum). Hence the aggregate 1P reserves may be a very conservative estimate and the aggregate 3P reserves may be a very optimistic estimate.