NOSTRUM OIL & GAS PLC

Estimated

Future Reserves and Income and

Contingent Resources Volumes

Attributable to the Terms of the Production

Sharing Agreement and Subsoil Use Contract

Between The Republic of Kazakhstan

and Zhaikmunai LLP

Corporate Parameters

As of

December 31, 2020

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RYDER SCOTT COMPANY, L.P.
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February 26, 2021

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Ladies and Gentlemen:

At the request of Zhaikmunai LLP (Zhaikmunai) as part of the Nostrum Oil & Gas PLC Group (Nostrum), Ryder Scott Company, L.P (Ryder Scott) has prepared an audit of the proved (P1), probable (P2) and 2P (Cumulative) reserves, future production and income and an audit of the 2C (Cumulative) contingent resources volumes attributable to certain interests derived through certain Production Sharing Agreements (PSA) and a Subsoil Use Contract for two license areas, Chinarevskoye and Rostoshinskoye, between the Republic of Kazakhstan and Zhaikmunai as of December 31, 2020. The reserves and contingent resource volumes included herein were estimated based on the definitions and disclosure guidelines contained in the Society of Petroleum Engineers (SPE), World Petroleum Council (WPC), American Association of Petroleum Geologists (AAPG), and Society of Petroleum Evaluation Engineers (SPEE) Society of Exploration Geophysicists (SEG), Society of Petrophysicists and Well Log Analysts (SPWLA), and European Association of Geoscientists & Engineers (EAGE) 2018 Petroleum Resources Management System (SPE-PRMS), which were revised in June 2018, and used varying price and constant cost parameters (SPE-PRMS forecast case) provided by Nostrum. Such forecasts were based on projected escalations or other forward looking changes to current prices as noted. The results of our audit, completed on February 26, 2021, are presented herein.

The contingent resources presented herein were not projected or economically evaluated. Furthermore, the contingent resources do not reflect any potential risk associated with their chance of development.

The principal producing asset of Nostrum is the Chinarevskoye field, in which it holds a 100 percent interest and is the operator, through its wholly-owned subsidiary Zhaikmunai LLP. Zhaikmunai holds an interest in certain oil and gas properties in the Chinarevskoye license area located in the Republic of Kazakhstan. Zhaikmunai entered into both a License and Production Sharing Agreement (PSA) with the Republic of Kazakhstan in May 1997 and in October 1997, respectively. The PSA sets out the parameters for the exploration and development of the field and the fees, basis for production sharing, and the taxes payable to the Republic of Kazakhstan.

Zhaikmunai entered into both a License and Production Sharing Agreement (PSA) with the Republic of Kazakhstan in March 2013 for the Rostoshinskye Field. The PSA sets out the parameters for the exploration and development of the field and the fees, basis for production sharing, and the taxes payable to the Republic of Kazakhstan.

The properties audited by Ryder Scott represent 100 percent of the total net proved and probable liquid hydrocarbon reserves and 100 percent of the total net proved and probable gas reserves of Nostrum as of December 31, 2020. This audit also represents 100 percent of the total liquid hydrocarbon 2C contingent resources volumes and 100 percent of the total gas 2C contingent resources volumes of Nostrum as of December 31, 2020.

As prescribed by the Society of Petroleum Engineers in Paragraph 2.2(f) of the Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information (SPE auditing standards), a reserves audit is defined as "the process of reviewing certain of the pertinent facts interpreted and assumptions made that have resulted in an estimate of reserves and/or Reserves Information prepared by others and the rendering of an opinion about (1) the appropriateness of the methodologies employed; (2) the adequacy and quality of the data relied upon; (3) the depth and thoroughness of the reserves estimation process; (4) the classification of reserves appropriate to the relevant definitions used; and (5) the reasonableness of the estimated reserves quantities and/or Reserves Information." Reserves Information may consist of various estimates pertaining to the extent and value of petroleum properties.

Based on our review, including the data, technical processes and interpretations presented by Zhaikmunai, it is our opinion that the overall procedures and methodologies utilized by Zhaikmunai in preparing their estimates of the proved and probable reserves, future production and discounted future net income as of December 31, 2020 comply with the 2018 SPE-PRMS definitions and guidelines and that the overall proved and probable reserves, future production and discounted future net income for the reviewed properties as estimated by Zhaikmunai are, in the aggregate by category, reasonable within the established audit tolerance guidelines of 10 percent as set forth in the SPE auditing standards. Furthermore, we have applied the same auditing standards to the contingent resources volumes included herein and have found them to be similarly reasonable within a 10 percent tolerance.

The estimated reserves and future net income presented in this report, as of December 31, 2020, are related to hydrocarbon prices based on varying price parameters. As a result of both economic and political forces, there is substantial uncertainty regarding the forecasting of future hydrocarbon prices. Consequently, actual future prices may vary considerably from the prices assumed in this report. The recoverable reserves volumes and the income attributable thereto have a direct relationship to the hydrocarbon prices actually received; therefore, volumes of reserves actually recovered and amounts of income actually received may differ significantly from the estimated quantities presented in this report. The contingent resources presented below have not been projected or economically evaluated. However, the net reserves and net income data as estimated by Zhaikmunai attributable to Zhaikmunai's interest in properties that we reviewed are summarized as follows:

Corporate Parameters
Zhaikmunai LLP
Estimated Future Reserves and Income Derived
Through the Terms of the Production Sharing Agreements
Between the Republic of Kazakhstan and Zhaikmunai LLP
Chinarevskoye License Area
As of December 31, 2020

Audited by Ryder Scott	Producing	Undeveloped	Total Proved
Gross Reserves			
Oil/Condensate – Mbbl	10,017	796	10,813
Plant Products – Mbbl	3,471	131	3,602
Gas – MMcf	75,562	1,768	77,330
Income Data ($M)			
Future Gross Revenue	$593,312	$41,228	$634,540
Deductions	430,482	27,688	458,170
Future Net Income (FNI)	$162,830	$13,540	$176,370
Discounted FNI @ 10%	$126,248	$ 5,094	$131,342

Audited by Ryder Scott	Probable	Total Proved & Probable
Gross Reserves		
Oil/Condensate – Mbbl	4,204	15,017
Plant Products – Mbbl	1,072	4,674
Gas – MMcf	25,257	102,587
Income Data ($M)		
Future Gross Revenue	$253,168	$887,708
Deductions	160,791	618,961
Future Net Income (FNI)	$ 92,377	$268,747
Discounted FNI @ 10%	$ 50,292	$181,634

In the Chinarevskoye License Area, the Biyski-Afoninski West & NW reservoir contingencies are related to a need for development of successful drilling and hydraulic fracturing techniques to develop economic oil and gas volumes. Also included are Contingent Resource volumes from production beyond the current license expiration date of December 31, 2031 which is contingent on the company being granted a license extension. The remaining Contingent Resource volumes are contingent on drilling additional wells not currently in the drilling program due to current technical uncertainty, risk and marginal economics.

Table 1 - Contingent 2C Resources in the Chinarevskoye License Area as of December 31, 2020

Reservoir	Oil/Condensate (Mbbl)	Plant Products (Mbbl)	Sales Gas, (MMcf)	Total MBOE
Biyski/Afoninski NE	383.605	348.362	8,357	2,300,886
Biyski/Afoninski NW	2,397.947	1,385.910	33,247	10,025,587
Biyski/Afoninski West	8,217.950	5,204.848	124,860	36,863,909
Tournaisian South	811.849	767.256	17,737	4,908,944
Mullinski South	3,748.208	764.578	13,126	6,977,008
Mullinski NE	4,102.905	1,028.844	17,663	8,447,697
Ardatovski NE	560.238	589.357	27,179	6,252,158
Ardatovski S	4,189.323	2,357.667	108,727	26,959,336
Filippovski	218.975	136.252	4,243	1,151,826
Tournaisian NE	6,400.065	1,033.467	11,102	9,517,851
Tournaisian West	2,746.918	4,762.311	17,089	10,717,504
Mullinski North	234.584	51.033	617	401,515
Bashkirian NE & W	2,000.542	143.651	531	2,243,899
Frasnian N	1,433.770	63.225	1,396	1,759,102
Vorobyovski N	2,777.782	1,510.505	69,659	17,366,023
Total	**40,224.661**	**20,147.266**	**455,534**	**145,893,247**

Note: Oil Equivalent calculated using conversion factor 5.327 mcf/boe

The Contingent Resources in the Rostoshinskoye Field are contingent on a firm, commercially viable development project, operator commitment to the project and completion within a reasonable time frame.

Table 2 - Contingent 2C Resources in the Trident License Area as of December 31, 2020

Reservoir	Oil/Condensate (Mbbl)	Plant Products (Mbbl)	Sales Gas, (MMcf)	Total MBOE
Rostoshinskoye	52.861	767.488	180,201	31,362,969
Total	**52.861**	**767.488**	**180,201**	**31,362,969**

Note: Oil Equivalent calculated using conversion factor 5.90 mcf/boe

Liquid hydrocarbons are expressed in standard 42 U.S. gallon barrels and shown herein as thousands of barrels (Mbbl). All gas volumes are reported on an "as sold basis" expressed in millions of cubic feet (MMcf) at the official temperature and pressure base of the area in which the gas reserves are located. MBOE means thousands of barrels of oil equivalent. The revenues, deductions, and income data in this report are expressed as thousands of U.S. dollars ($M).

The future gross revenue is the total revenue received after selling volumes available for sale. The deductions comprise the normal direct costs of operating the wells, recompletion costs, drilling and completion costs, gas processing plant fees, variable costs for oil, condensate and plant products (LPG), transportation fees, other infrastructure costs, production bonus payments, general administrative overhead, taxation due to the Republic of Kazakhstan under the Chinarevskoye Production Sharing Agreement and abandonment costs. The future net income is future gross revenue less the aforementioned deductions, and has not been adjusted for outstanding loans that may exist nor does it include any adjustment for cash on hand or undistributed income.

Reserves Included in This Report

The proved and probable reserves included herein conform to the definitions of reserves sponsored and approved by the SPE, WPC, AAPG, SPEE, SEG, SPWLA and EAGE as set forth in the 2018 SPE-PRMS and where applicable, based on varying price and constant cost parameters (SPE-PRMS forecast case). The estimated quantities of reserves presented in this report, based on varying price and constant cost parameters (SPE-PRMS forecast case), may differ significantly from the quantities which would be estimated using constant price and cost parameters (SPE-PRMS constant case). The contingent resources included in this report also conform to SPE-PRMS definitions, however, no economic criteria have been applied. Abridged versions of the SPE-PRMS reserves and contingent resources terms and definitions used herein are included as attachments to this report and entitled "PETROLEUM RESERVES and RESOURCES CLASSIFICATIONS and DEFINITIONS."

The various reserves development and production status categories are defined in the attachment to this report entitled "PETROLEUM RESERVES STATUS DEFINITIONS and GUIDELINES." The developed proved non-producing reserves included herein consist of the shut-in status category.

The proved, probable and contingent resources gas volumes presented herein do not include volumes of gas consumed in operations as reserves.

Recoverable petroleum resources may be classified according to the SPE-PRMS into one of three principal resources classifications: prospective resources, contingent resources, or reserves. Only two of these three resources classifications are addressed in this report (i.e., contingent resources and reserves). The distinction between prospective and contingent resources depends on whether or not there exists one or more wells and other data indicating the potential for moveable hydrocarbons (e.g. the discovery status). Discovered petroleum resources may be classified as either contingent resources or as reserves depending on the chance that if a project is implemented it will reach commercial producing status (e.g. chance of commerciality - P_c). The distinction between various "classifications" of resources and reserves relates to their discovery status and increasing chance of commerciality. Commerciality is not solely determined based on the economic status of a project which refers to the situation where the income from an operation exceeds the expenses involved in, or attributable to, that operation. Conditions addressed in the determination of commerciality also include technological, economic, legal, environmental, social, and governmental factors. While economic factors are generally related to costs

and product prices, the underlying influences include, but are not limited to, market conditions, transportation and processing infrastructure, fiscal terms and taxes. At Zhaikmunai's request, this report addresses only the proved and probable reserves attributable to the properties reviewed herein and a statement of the contingent resources attributed to both licenses.

Certain estimated recoverable volumes have been classified as contingent resources in this report due to one or more contingencies. These contingencies are related to hurdle rates, commodity prices, improved completion technology and lower drilling and completion costs are some of the reasons the volumes included in this report have been classified as contingent resources.

All reserves and resources estimates involve an assessment of the uncertainty relating the likelihood that the actual remaining quantities recovered will be greater or less than the estimated quantities determined as of the date the estimate is made. The uncertainty depends chiefly on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data. Estimates will generally be revised only as additional geologic or engineering data becomes available or as economic conditions change. Discussions of reserves and contingent resources are presented below with general descriptions of the risks and uncertainties related to each of these resources classifications.

Reserves are "those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions." The relative degree of uncertainty may be conveyed by placing reserves into one of two principal categories, either proved or unproved.

Proved oil and gas reserves are "those quantities of petroleum that, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods, and government regulations."

Unproved reserves are less certain to be recovered than proved reserves and may be further sub-categorized as probable and possible reserves to denote progressively increasing uncertainty in their recoverability. Probable reserves are "those additional reserves that analysis of geoscience and engineering data indicates are less likely to be recovered than proved reserves but more certain to be recovered than possible reserves." For probable reserves, it is "equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated proved plus probable reserves" (cumulative 2P volumes). Possible reserves are "those additional reserves that analysis of geoscience and engineering data indicates are less likely to be recoverable than probable reserves." For possible reserves, the "total quantities ultimately recovered from the project have a low probability to exceed the sum of the proved plus probable plus possible reserves" (cumulative 3P volumes).

The reserves included herein were estimated using deterministic methods and are presented as incremental and cumulative quantities. Under the deterministic incremental approach, discrete quantities of reserves are estimated and assigned separately as proved, probable or possible based on their individual level of uncertainty. For reserves estimated using the deterministic cumulative approach, quantities of reserves are estimated and assigned as 1P, 2P or 3P based on the level of uncertainty for the cumulative volume. Under the deterministic cumulative approach, 1P denotes the low estimate, 2P denotes the best estimate and 3P denotes the high estimate.

Estimates of reserves may increase or decrease as a result of future operations, effects of regulation by governmental agencies or geopolitical risks. As a result, the estimates of oil and gas reserves have an intrinsic uncertainty. The reserves included in this report are therefore estimates only

and should not be construed as being exact quantities. They may or may not be actually recovered, and if recovered, the revenues therefrom and the actual costs related thereto could be more or less than the estimated amounts.

Contingent Resources

Contingent resources are "those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development projects, but which are not currently considered to be commercially recoverable owing to one or more contingencies." The contingent resources included herein were estimated using deterministic methods and presented as cumulative quantities. For contingent resources estimated using the deterministic cumulative approach, quantities of contingent resources are estimated and assigned as 1C, 2C or 3C based on the level of uncertainty for the cumulative volume. Under the deterministic cumulative approach, 1C denotes the low estimate, 2C denotes the best estimate and 3C denotes the high estimate. It follows that aggregating different categories of discrete incremental contingent resources to represent cumulative quantities such as 2C (C1 plus C2) and 3C (2C plus C3) denotes greater uncertainty with each successive aggregation.

There may be a significant risk that accumulations containing contingent resources will not achieve commercial production. Moreover, estimates of resources may increase or decrease as a result of future operations, effects of regulation by governmental agencies or geopolitical risks. As a result, the estimates of oil and gas resources have an intrinsic uncertainty. The contingent resources included in this report are therefore estimates only and should not be construed as being exact quantities. They may or may not be actually recovered, and if recovered, could be more or less than the estimated amounts.

Audit Data, Methodology, Procedure and Assumptions

The estimation of reserves and resources quantities involves two distinct determinations. The first determination results in the estimation of the quantities of recoverable oil and gas and the second determination results in the estimation of the uncertainty associated with those estimated quantities. The process of estimating the quantities of recoverable oil and gas reserves relies on the use of certain generally accepted analytical procedures. These analytical procedures fall into three broad categories or methods: (1) performance-based methods, (2) volumetric-based methods and (3) analogy. These methods may be used individually or in combination by the evaluator in the process of estimating the quantities of reserves and resources. Evaluators must select the method or combination of methods which in their professional judgment is most appropriate given the nature and amount of reliable geoscience and engineering data available at the time of the estimate, the established or anticipated performance characteristics of the reservoir being evaluated, and the stage of development or producing maturity of the property.

In many cases, the analysis of the available geoscience and engineering data and the subsequent interpretation of these data may indicate a range of possible outcomes in an estimate, irrespective of the method selected by the evaluator. When a range in the quantity of recoverable hydrocarbons is identified, the evaluator must determine the uncertainty associated with the incremental quantities of those recoverable hydrocarbons. If the quantities are estimated using the deterministic incremental approach, the uncertainty for each discrete incremental quantity is addressed by the reserves category assigned by the evaluator. Therefore, it is the categorization of incremental recoverable quantities that addresses the inherent uncertainty in the estimated quantities reported. If the quantities are estimated using the deterministic cumulative approach, the level of uncertainty is addressed for the cumulative volume based on the reserves or resources category assigned by the evaluator. Therefore, it is the categorization of

the cumulative recoverable quantities that addresses the inherent uncertainty in the estimated quantities reported.

Estimates of reserves and resources quantities and their associated categories or classifications may be revised in the future as additional geoscience or engineering data become available. Furthermore, estimates of the recoverable quantities and their associated categories or classifications may also be revised due to other factors such as changes in economic conditions, results of future operations, effects of regulation by governmental agencies or geopolitical or economic risks as previously noted herein.

The proved and probable reserves, prepared by Zhaikmunai, for the properties that we reviewed were estimated by performance methods or analogy. Approximately one hundred percent of the proved producing reserves attributable to producing wells that we reviewed were estimated by performance methods. These performance methods include decline curve analysis which utilized extrapolations of historical production and pressure data available through December 2020, in those cases where such data were considered to be definitive. The data utilized in this analysis were furnished to Ryder Scott by Zhaikmunai and were considered sufficient for the purpose thereof.

The proved developed non-producing reserves included here-in were estimated by analogy or volumetrics. The proved and probable undeveloped reserves and contingent reources that we reviewed were estimated by analogy or volumetrics. The data utilized were considered sufficient for the purpose thereof. The probable reserve volumes include both developed and undeveloped reserves. Probable developed reserves (behind pipe) are volumes attributable to existing wells based on performance data from similar projects.

To estimate recoverable oil and gas reserves and related future net cash flows or contingent resources volumes, we consider many factors and assumptions including, but not limited to, the use of reservoir parameters derived from geological, geophysical and engineering data which cannot be measured directly, economic criteria based on the cost and price assumptions as noted herein, and forecasts of future production rates. Under the SPE-PRMS Section 1.1.0.6, “reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions.”

As stated previously, proved, probable and possible reserves must be demonstrated to be commercially recoverable under defined conditions, operating methods and governmental regulations from a given date forward. To confirm that the proved and probable reserves reviewed by us meet the SPE-PRMS guidelines to be commercially recoverable, we have reviewed certain primary economic data utilized by Zhaikmunai relating to hydrocarbon prices and costs as noted herein. As mentioned earlier, the contingent resources we reviewed were not projected or economically evaluated.

Zhaikmunai furnished us with hydrocarbon price parameters for the properties reviewed by us. Estimates of future price parameters have been revised in the past because of changes in governmental policies, changes in hydrocarbon supply and demand, and variations in general economic conditions. The price parameters used in this report may be revised in the future for similar reasons.

The future sales price of exported crude oil and stabilized condensate is estimated to average $45.00/bbl *($345/tonne)* for 2021, $50.00/bbl *($382/tonne)* for 2022, $60.00/bbl *($458/tonne)* for 2023, and $60.00/bbl *($458/tonne)* for 2024 and thereafter. The future price of domestic crude oil is estimated to average $23.00/bbl *($166/tonne)* for 2021, $25.00/bbl *($180/tonne)* for 2022, $30.00/bbl *($216/tonne)* for 2023, and $30.00/bbl *($216/tonne)* for 2024 and thereafter.

The future sales price of exported LPG is estimated to average $23.15/bbl *($275/tonne)* for 2021, $29.46/bbl *($350/tonne)* for 2022, $33.67/bbl *($400/tonne)* for 2023, and $33.67/bbl *($400/tonne)* for 2024 and thereafter. The future sales price of domestic LPG is estimated to average $11.62/bbl *($138/tonne)* for 2021, $14.73/bbl *($175/tonne)* for 2022, $16.83/bbl *($200/tonne)* for 2023, and $16.83/bbl *($200/tonne)* for 2024 and thereafter.

The future sales price of domestic gas is estimated to average $0.57/mcf *($20/'000m^3)* for 2021, $0.65/mcf *($23/'000m^3)* for 2022, $0.79/mcf *($28/'000m^3)* for 2023, $0.85/mcf *($30/'000m^3)* for 2024, and $0.85/mcf *($30/'000m^3)* for 2025 and thereafter.

Product prices which were actually used for each property reviewed by us reflect adjustments for gravity, quality, local conditions, gathering and transportation fees and/or distance from market, referred to herein as "differentials." The differentials used in the preparation of this report were furnished to us by Zhaikmunai. The differentials furnished to us were accepted as factual data and reviewed by us for their reasonableness; however, we have not conducted an independent verification of the data used by Zhaikmunai to determine these differentials.

The effects of derivative instruments designated as price hedges of oil and gas quantities are not reflected in Zhaikmunai's individual property evaluations.

Operating costs furnished by Zhaikmunai are based on budgeted operating expenses and include only those costs directly applicable to the leases or wells for the properties reviewed by us. The operating costs include a portion of general and administrative costs allocated directly to the leases and wells. For operated properties, the operating costs include an appropriate level of corporate general administrative and overhead costs The operating costs furnished by Zhaikmunai were accepted as factual data and reviewed by us for their reasonableness; however, we have not conducted an independent verification of the data used by Zhaikmunai. No deduction was made for loan repayments, interest expenses, or exploration and development prepayments that were not charged directly to the leases or wells.

Development costs furnished by Zhaikmunai are based on authorizations for expenditure for the proposed work or actual costs for similar projects. The development costs furnished by Zhaikmunai were accepted as factual data and reviewed by us for their reasonableness; however, we have not conducted an independent verification of the data used by Zhaikmunai. The estimated net cost of abandonment after salvage was included by Zhaikmunai for properties where abandonment costs net of salvage were material. Zhaikmunai's estimates of the net abandonment costs were accepted without independent verification.

Because of the direct relationship between volumes of undeveloped reserves and development plans, we include in the undeveloped reserves category only those volumes assigned to undeveloped locations, which we reviewed, that we have been assured will definitely be drilled. In accordance with SPE-PRMS guidelines, "a reasonable time frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While 5 years is recommended as a benchmark, a longer time frame could be applied where, for example, development of an economic project is deferred at the option of the producer for, among other things, market-related reasons, or to meet contractual or strategic objectives." Zhaikmunai has assured us of their intent, commitment, and ability to proceed with the development activities included in this report and that they are not aware of any legal, regulatory, or political obstacles that would significantly alter their plans. Furthermore, Zhaikmunai has also assured us that for the audited properties, any development beyond "a reasonable time frame" is in accordance with the above mentioned guidelines.

Current costs used by Zhaikmunai were held constant throughout the life of the properties.

Zhaikmunai's forecasts of future production rates are based on historical performance from wells currently on production. If no production decline trend has been established, future production rates were held constant, or adjusted for the effects of curtailment where appropriate, until a decline in ability to produce was anticipated. An estimated rate of decline was then applied until depletion of the reserves. If a decline trend has been established, this trend was used as the basis for estimating future production rates.

Analog well data and other related information were used by Zhaikmunai to estimate the anticipated initial production rates for those wells or locations that are not currently producing. For reserves not yet on production, sales were estimated to commence at an anticipated date furnished by Zhaikmunai. Wells or locations that are not currently producing may start producing earlier or later than anticipated in Zhaikmunai's estimates due to unforeseen factors causing a change in the timing to initiate production. Such factors may include delays due to weather, the availability of rigs, the sequence of drilling and completing wells and/or constraints set by regulatory bodies.

The future production rates from wells currently on production or wells or locations that are not currently producing may be more or less than estimated because of changes including, but not limited to, reservoir performance, operating conditions related to surface facilities, compression and artificial lift, pipeline capacity and/or operating conditions, producing market demand and/or allowables or other constraints set by regulatory bodies.

The reserves reported herein are limited to the period prior to expiration of current contracts providing the legal right to produce or a revenue interest in such production unless there is a reasonable expectation that an extension, a renewal or a new contract will be granted. A reasonable expectation is noted as representing a high degree of confidence that an extension, a renewal, or new contract will be granted. The contingent resources reported herein may be subject to a contract providing the legal right to produce or a revenue interest in such production, which is subject to negotiations.

Furthermore, properties in the different license areas may be subjected to substantially varying contractual fiscal terms that affect the net revenue to Zhaikmunai for the production of these volumes. The prices and economic return received for these net volumes can vary materially based on the terms of these contracts. Therefore, when applicable, Ryder Scott reviewed the fiscal terms of such existing or proposed contracts and discussed with Zhaikmunai the net economic benefit attributed to such operations for the determination of the net hydrocarbon volumes and income thereof. Ryder Scott has not conducted an exhaustive audit or verification of such contractual information. Neither our review of such contractual information or our acceptance of Zhaikmunai's representations regarding such contractual information should be construed as a legal opinion on this matter.

Ryder Scott did not evaluate country and geopolitical risks in the country where Zhaikmunai operates or has interests. Zhaikmunai's operations may be subject to various levels of governmental controls and regulations. These controls and regulations may include, but may not be limited to, matters relating to land tenure and leasing contract terms, the legal rights to produce hydrocarbons including the granting, extension or termination of production sharing contracts, the fiscal terms of various production sharing contracts, drilling and production practices, environmental protection, marketing and pricing policies, royalties, various taxes and levies including income tax, and foreign trade and investment and are subject to change from time to time. Such changes in governmental regulations and policies may cause volumes of proved and probable reserves actually recovered and amounts of proved and probable income actually received to differ significantly from the estimated quantities.

The estimates of reserves and contingent resources presented herein were based upon a review of the properties in which Zhaikmunai derives an interest; however, we have not made any field

examination of the properties. No consideration was given in this report to potential environmental liabilities that may exist nor were any costs included by Zhaikmunai for potential liabilities to restore and clean up damages, if any, caused by past operating practices.

Certain technical personnel of Zhaikmunai are responsible for the preparation of reserves and contingent resources estimates on new properties and for the preparation of revised estimates, when necessary, on old properties. These personnel assembled the necessary data and maintained the data and workpapers in an orderly manner. We consulted with these technical personnel and had access to their workpapers and supporting data in the course of our audit.

Zhaikmunai has informed us that they have furnished us all of the material accounts, records, geological and engineering data, and reports and other data required for this investigation. In performing our audit of Zhaikmunai's forecast of future proved and probable production and income, we have relied upon data furnished by Zhaikmunai with respect to property interests derived, production and well tests from examined wells, normal direct costs of operating the wells or leases, other costs such as transportation and/or processing fees, ad valorem and production taxes, development costs, development plans, abandonment costs after salvage, product prices, adjustments or differentials to product prices, geological structural and isochore maps, well logs, core analyses, and pressure measurements. Ryder Scott reviewed such factual data for its reasonableness; however, we have not conducted an independent verification of the data furnished by Zhaikmunai. We consider the factual data furnished to us by Zhaikmunai to be appropriate and sufficient for the purpose of our review of Zhaikmunai's estimates of reserves and future net income. In summary, we consider the assumptions, data, methods and analytical procedures used by Zhaikmunai and as reviewed by us appropriate for the purpose hereof, and we have used all such methods and procedures that we consider necessary and appropriate under the circumstances to render the conclusions set forth herein.

Audit Opinion

In our opinion, Zhaikmunai's estimates of future reserves and contingent resources for the reviewed properties were prepared in accordance with generally accepted petroleum engineering and evaluation principles for the estimation of future reserves as set forth in the Society of Petroleum Engineers' Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information and, in the aggregate, we found no bias in the utilization and analysis of data in estimates for these properties.

The overall proved reserves, future production and discounted future net income for the reviewed properties as estimated by Zhaikmunai are, in the aggregate, reasonable within the established audit tolerance guidelines of 10 percent as set forth in the Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information promulgated by the Society of Petroleum Engineers. Ryder Scott found the processes and controls used by Zhaikmunai in their estimation of proved reserves to be effective.

Furthermore, the probable reserves, future production and discounted future net income, respectively and in aggregate, were also found to be reasonably estimated within a tolerance of 10 percent for the reviewed properties. Ryder Scott also found the processes and controls used by Zhaikmunai in their estimation of the probable reserves to be effective.

Lastly, the 2C contingent resources volumes we reviewed were, in aggregate, also found to be reasonably estimated within a tolerance of 10 percent for the reviewed properties. Ryder Scott found the processes and controls used by Zhaikmunai in their estimation of the 2C contingent resources to be effective.

We were in reasonable agreement with Zhaikmunai 's estimates of proved and probable reserves, future production and discounted future net income and 2C contingent reources volumes for the properties which we reviewed. It is our opinion that on an aggregate basis, by category, the data presented herein for the properties that we reviewed fairly reflects the estimated net reserves, future production and discounted future net income and contingent resources volumes owned by Zhaikmunai.

Acknowledgement

Nostrum Oil and Gas PLC prepared explanatory notes on Zhaikmunai's reserves and contingent resources, and auditing practices for the assets located in Western Kazakhstan (Chinarevskoye & Rostoshinskoye Fields).

Standards of Independence and Professional Qualification

Ryder Scott is an independent petroleum engineering consulting firm that has been providing petroleum consulting services throughout the world since 1937. Ryder Scott is employee-owned and maintains offices in Houston, Texas; Denver, Colorado; and Calgary, Alberta, Canada. We have approximately eighty engineers and geoscientists on our permanent staff. By virtue of the size of our firm and the large number of clients for which we provide services, no single client or job represents a material portion of our annual revenue. We do not serve as officers or directors of any privately-owned or publicly-traded oil and gas company and are separate and independent from the operating and investment decision-making process of our clients. This allows us to bring the highest level of independence and objectivity to each engagement for our services.

Ryder Scott actively participates in industry-related professional societies and organizes an annual public forum focused on the subject of reserves evaluations and SEC regulations. Many of our staff have authored or co-authored technical papers on the subject of reserves related topics. We encourage our staff to maintain and enhance their professional skills by actively participating in ongoing continuing education.

Prior to becoming an officer of the Company, Ryder Scott requires that staff engineers and geoscientists have received professional accreditation in the form of a registered or certified professional engineer's license or a registered or certified professional geoscientist's license, or the equivalent thereof, from an appropriate governmental authority or a recognized self-regulating professional organization. Regulating agencies require that, in order to maintain active status, a certain amount of continuing education hours be completed annually, including an hour of ethics training. Ryder Scott fully supports this technical and ethics training with our internal requirement mentioned above.

We are independent petroleum engineers with respect to Zhaikmunai. Neither we nor any of our employees have any financial interest in the subject properties, and neither the employment to do this work nor the compensation is contingent on our estimates of reserves for the properties which were reviewed.

The results of this audit, presented herein, are based on technical analysis conducted by teams of geoscientists and engineers from Ryder Scott. The professional qualifications of the undersigned, the technical person primarily responsible for overseeing, reviewing and approving the review of the reserves information discussed in this report, are included as an attachment to this letter.

Terms of Usage

This report was prepared for the exclusive use and sole benefit of Nostrum Oil & Gas PLC and Zhaikmunai LLP and may not be put to other use without our prior written consent for such use. The data and work papers used in the preparation of this report are available for examination by authorized parties in our offices. Please contact us if we can be of further service.

Very truly yours,

RYDER SCOTT COMPANY, L.P.
TBPE Firm Registration No. F-1580

James L. Baird, P.E.
Colorado License No. 41521
Advising Senior Vice President

JLB (LPC)/pl

Professional Qualifications of Primary Technical Person

The conclusions presented in this report are the result of technical analysis conducted by teams of geoscientists and engineers from Ryder Scott Company, L.P. James Larry Baird was the primary technical person responsible for overseeing the estimate of the reserves.

Mr. Baird, an employee of Ryder Scott Company, L.P. (Ryder Scott) since 2006, is an Advising Senior Vice President responsible for coordinating and supervising staff and consulting engineers of the company in ongoing reservoir evaluation studies worldwide. Before joining Ryder Scott, Mr. Baird served in a number of engineering positions with Gulf Oil Corporation (1970-1973), Northern Natural Gas (1973-1975) and Questar Exploration & Production (1975-2006). For more information regarding Mr. Baird's geographic and job specific experience, please reference the Ryder Scott Company website at www.ryderscott.com/Experience/Employees.

Mr. Baird earned a Bachelor of Science degree in Petroleum Engineering from the University of Missouri at Rolla in 1970. He is a registered Professional Engineer in the States of Colorado and Utah. He is also a Legion of Honor member of the Society of Petroleum Engineers.

In addition to gaining experience and competency through prior work experience, several State Boards of Professional Engineers require a minimum number of hours of continuing education annually, including at least one hour in the area of professional ethics, which Mr. Baird fulfills as part of his registration in two states. As part of his continuing education, Mr. Baird attends internally presented training as well as public forums relating to the definitions and disclosure guidelines contained in the United States Securities and Exchange Commission Title 17, Code of Federal Regulations, Modernization of Oil and Gas Reporting, and Final Rule released January 14, 2009 in the Federal Register. Mr. Baird attends additional hours of formalized internal and external training covering such topics as the SPE/WPC/AAPG/SPEE Petroleum Resources Management System, analysis techniques for unconventional reservoirs, reserves evaluation methods, petroleum economic evaluation methods, various production and reservoir analysis software, regulatory issues, ethics for consultants, and much more.

Based on his educational background, professional training and more than 50 years of practical experience in the estimation and evaluation of petroleum reserves, Mr. Baird has attained the professional qualifications as a Reserves Estimator and Reserves Auditor set forth in Article III of the "Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information" promulgated by the Society of Petroleum Engineers as of June 2019.

PETROLEUM RESERVES and RESOURCES CLASSIFICATIONS and DEFINITIONS

As Adapted From:
2018 PETROLEUM RESOURCES MANAGEMENT SYSTEM (SPE-PRMS)[1]
Sponsored and Approved by:
SOCIETY OF PETROLEUM ENGINEERS (SPE)
WORLD PETROLEUM COUNCIL (WPC)
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS (AAPG)
SOCIETY OF PETROLEUM EVALUATION ENGINEERS (SPEE)
SOCIETY OF EXPLORATION GEOPHYSICISTS (SEG)
SOCIETY OF PETROPHYSICISTS AND WELL LOG ANALYSTS (SPWLA)
EUROPEAN ASSOCIATION OF GEOSCIENTISTS & ENGINEERS (EAGE)

SECTION A - PREAMBLE - RESERVES

Reserves are those quantities of petroleum which are anticipated to be commercially recovered from known accumulations from a given date forward under defined conditions. All reserve estimates involve some degree of uncertainty. The uncertainty depends chiefly on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data. The relative degree of uncertainty may be conveyed by placing reserves into one of two principal classifications, either proved or unproved. Unproved reserves are less certain to be recovered than proved reserves and may be further sub-classified as probable and possible reserves to denote progressively increasing uncertainty in their recoverability.

Estimation of reserves is done under conditions of uncertainty. The method of estimation is called deterministic if a single best estimate of reserves is made based on known geological, engineering, and economic data. The method of estimation is called probabilistic when the known geological, engineering, and economic data are used to generate a range of estimates and their associated probabilities. Identifying reserves as proved, probable, and possible has been the most frequent categorization method and gives an indication of the probability of recovery. Because of the differences in uncertainty, caution should be exercised when aggregating reserves of different categories.

Reserves estimates will generally be revised as additional geologic or engineering data becomes available or as economic conditions change.

Reserves may be attributed to either natural energy or improved recovery methods. Improved recovery methods include all methods for supplementing natural reservoir energy or altering natural forces in the reservoir to increase ultimate recovery. Examples of such methods are pressure maintenance, cycling, waterflooding, thermal methods, chemical flooding, and the use of miscible and immiscible displacement fluids. Other improved recovery methods may be developed in the future as petroleum technology continues to evolve.

[1] Petroleum Resources Management System prepared by the Oil and Gas Reserves Committee of the Society of Petroleum Engineers (SPE); reviewed and jointly sponsored by the World Petroleum Council (WPC), the American Association of Petroleum Geologists (AAPG), the Society of Petroleum Evaluation Engineers (SPEE), Society of Exploration Geophysicists (SEG), Society of Petrophysicists and Well Log Analysts (SPWLA), and European Association of Geoscientists & Engineers (EAGE), March 2007 and revised June 2018.

Reserves may be attributed to either conventional or unconventional petroleum accumulations under the SPE-PRMS. Petroleum accumulations are considered as either conventional or unconventional based on the nature of their in-place characteristics, extraction method applied, or degree of processing prior to sale. Examples of unconventional petroleum accumulations include coalbed or coalseam methane (CBM/CSM), basin-centered gas (low permeability), tight gas and tight oil (low permeability), shale gas, gas hydrates, natural bitumen (very high viscosity oil) and oil shale deposits. These unconventional accumulations may require specialized extraction technology and/or significant processing prior to sale. The SPE-PRMS acknowledges unconventional petroleum accumulations as reserves regardless of their in-place characteristics, the extraction method applied, or the degree of processing required.

Reserves do not include quantities of petroleum being held in inventory and may be reduced for usage, processing losses and/or non-hydrocarbons that must be removed prior to sale.

SPE-PRMS RESERVES DEFINITIONS

In March 2007, the Society of Petroleum Engineers (SPE), World Petroleum Council (WPC), American Association of Petroleum Geologists (AAPG), and Society of Petroleum Evaluation Engineers (SPEE) jointly approved the "Petroleum Resources Management System" ("SPE-PRMS"); subsequently also supported by the Society of Exploration Geophysicists (SEG), Society of Petrophysicists and Well Log Analysts (SPWLA), and European Association of Geoscientists & Engineers (EAGE). SPE-PRMS was revised in June 2018. The SPE-PRMS consolidates, builds on, and replaces guidance previously contained in the 2000 "Petroleum Resources Classification and Definitions" and the 2001 "Guidelines for the Evaluation of Petroleum Reserves and Resources" publications.

The intent of the SPE, WPC, AAPG, SPEE, SEG, SPWLA, and EAGE in approving additional categories beyond proved reserves is to facilitate consistency among professionals using such terms. In presenting these definitions, none of these organizations are recommending public disclosure of reserves categorized as unproved. Public disclosure of the quantities categorized as unproved reserves is left to the discretion of the countries or companies involved and should not be construed as replacing guidelines for public disclosures under the guidelines established by regulatory and/or other governmental agencies.

Reference should be made to the full SPE-PRMS for the complete definitions and guidelines as the following definitions, descriptions and explanations rely wholly or in part on excerpts from the SPE-PRMS document (direct passages excerpted from the SPE-PRMS document are denoted in italics and footnoted with Section references herein).

RESERVES DEFINITIONS

Reserves. *Reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must satisfy four criteria: they must be discovered, recoverable, commercial and remaining based on the development project(s) applied. Reserves are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by the development and production status.*[2]

[2] Table 1, "Reserves", Definition & Guidelines

ADDITIONAL TERMS USED IN RESERVES EVALUATIONS (SPE-PRMS DEFINITIONS)

Improved recovery. Improved Recovery is *the extraction of additional petroleum, beyond primary recovery, from naturally occurring reservoirs by supplementing the natural forces in the reservoir. It includes waterflooding and gas injection for pressure maintenance, secondary processes, tertiary processes and any other means of supplementing natural reservoir recovery processes. Improved recovery also includes thermal and chemical processes to improve the in-situ mobility of viscous forms of petroleum. (Also called enhanced recovery.)*[3]

Improved recovery projects must meet the same Reserves technical and commercial maturity criteria as primary recovery projects.[4] Similarly there should be an expectation that the project will be economically viable, which includes *the requirement that there is evidence of firm intention to proceed with development within a reasonable time-frame*[5] *(*generally within 5 years; further delays should be clearly justified). If there is significant project risk, the forecast incremental recoveries should be classified as Contingent Resources.

The judgment on commerciality is based on pilot project results within the subject reservoir or by comparison to a reservoir with analogous rock and fluid properties and where a similar established improved recovery project has been successfully applied.[6]

Incremental recoveries through improved recovery methods that have yet to be established through routine, commercially successful applications are included as Reserves only after a favorable production response from the subject reservoir from either (a) a representative pilot or (b) an installed portion of the project, where the response provides support for the analysis on which the project is based. The improved recovery project's resources will remain classified as Contingent Resources Development Pending until the pilot has demonstrated both technical and commercial feasibility and the full project passes the Justified for Development "decision gate." [7]

The types of in-place petroleum resources defined as conventional and unconventional may require different evaluation approaches and/or extraction methods. However, the PRMS resources definitions, together with the classification system, apply to all types of petroleum accumulations regardless of the in-place characteristics, extraction method applied, or degree of processing required.[8]

A project is commercial when there is evidence of a firm intention to proceed with development within a reasonable time-frame. Typically, this requires that the best estimate case meet or exceed the minimum evaluation decision criteria (e.g., rate of return, investment payout time). There must be a reasonable expectation that all required internal and external approvals will be forthcoming. Also, there must be evidence of a technically mature, feasible development plan and the essential social, environmental, economic, political, legal, regulatory, decision criteria, and contractual conditions are met.[9]

A reasonable time-frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While five years is recommended as a benchmark, a longer time-frame could be applied where justifiable; for example, development of economic projects that take longer than five years to be developed or are deferred to meet contractual or strategic objectives. In

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3 Appendix A, "Improved Recovery"
4 Section 2.3.4.2
5 Table 1, "Reserves", Guidelines
6 Section 2.3.4.3
7 Section 2.3.4.4
8 Section 2.4.0.1
9 Appendix A, "Commercial"

all cases, the justification for classification as Reserves should be clearly documented.[10]

PROVED RESERVES (SPE-PRMS DEFINITIONS)

Proved oil and gas reserves. *Proved Reserves are those quantities of petroleum that, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward from known reservoirs under defined economic conditions, operating methods, and government regulations. If deterministic methods are used, the term "reasonable certainty" is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the estimate.*

The area of the reservoir considered as Proved includes:

(1) the area delineated by drilling and defined by fluid contacts, if any, and

(2) adjacent undrilled portions of the reservoir that can reasonably be judged as continuous with it and commercially productive on the basis of available geoscience and engineering data. [11]

In the absence of data on fluid contacts, Proved quantities in a reservoir are limited by the lowest known hydrocarbons (LKH) as seen in a well penetration unless otherwise indicated by definitive geoscience, engineering, or performance data. Such definitive information may include pressure gradient analysis and seismic indicators. Seismic data alone may not be sufficient to define fluid contacts for Proved. (see "2001 Supplemental Guidelines", Chapter 8).

Reserves in undeveloped locations may be classified as Proved provided that:

A. The locations are in undrilled areas of the reservoir that can be judged with reasonable certainty to be commercially mature and economically productive.

B. Interpretations of available geoscience and engineering data indicate with reasonable certainty that the objective formation is laterally continuous with drilled Proved locations.

For Proved Reserves, the recovery efficiency applied to these reservoirs should be defined based on a range of possibilities supported by analogs and sound engineering judgment considering the characteristics of the Proved area and the applied development program.[12]

PROBABLE RESERVES (SPE-PRMS DEFINITIONS)

Probable oil and gas reserves*. Probable Reserves are those additional Reserves that analysis of geoscience and engineering data indicates are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves. It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the 2P estimate.*

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10 Section 2.1.2.3

11 Table 3, "Proved Reserves", Definition & Guidelines

12 Table 3, "Proved Reserves", Definition & Guidelines

Probable Reserves may be assigned to areas of a reservoir adjacent to Proved where data control or interpretations of available data are less certain. The interpreted reservoir continuity may not meet the reasonable certainty criteria. Probable estimates also include incremental recoveries associated with project recovery efficiencies beyond that assumed for Proved.[13]

POSSIBLE RESERVES (SPE-PRMS DEFINITIONS)

Possible oil and gas reserves*. Possible Reserves are those additional reserves that analysis of geoscience and engineering data indicates are less likely to be recoverable than Probable Reserves. The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P), which is equivalent to the high-estimate scenario. When probabilistic methods are used, there should be at least a 10% probability (P10) that the actual quantities recovered will equal or exceed the 3P estimate.*

Possible Reserves may be assigned to areas of a reservoir adjacent to Probable where data control and interpretations of available data are progressively less certain. Frequently, this may be in areas where geoscience and engineering data are unable to clearly define the area and vertical reservoir limits of economic production from the reservoir by a defined, commercially mature project. Possible estimates also include incremental quantities associated with project recovery efficiencies beyond that assumed for Probable.[14]

SECTION B - PREAMBLE – RESERVES & RESOURCES

Reserves and resources classification systems are intended to provide a consistent approach to estimating petroleum quantities and evaluating projects and thereby allow the evaluator to follow the progression of changes in the exploration and production life cycle of a reservoir, field, or project that arise as a result of obtaining more technical information or as a result of a change in the economic status. Most systems incorporate terminology to describe the progression of a project from the delineation of an initial prospect, to the confirmation of the prospect through exploration drilling, onto the appraisal and development phase, and finally from initial production through depletion. *The evaluation elements consider the risk of geologic discovery and the technical uncertainties together with a determination of the chance of achieving the commercial maturation status of a petroleum project.*[15] These reserves and resources definitions thus provide the decision making framework to manage risk and uncertainty through the classification and categorization of the recoverable hydrocarbon volumes.

The term resources as used herein is intended to encompass all quantities of petroleum naturally occurring within the Earth's crust, both discovered and undiscovered (whether recoverable or unrecoverable), plus those quantities already produced. Further it includes all types of petroleum whether currently considered as conventional or unconventional resources.[16]

Reserves are a subset of resources and *are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must satisfy four criteria: discovered, recoverable, commercial, and remaining (as of the evaluation's effective date) based on the development project(s) applied.*[17]

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13 Table 3, "Probable Reserves", Definition & Guidelines
14 Table 3, "Possible Reserves", Definition & Guidelines
15 Section 1.0.0.1 A
16 Section 1.1.0.2
17 Section 1.1.0.6 A 1

All reserves and resources estimates involve some degree of uncertainty. The uncertainty depends chiefly on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data. Estimates will generally be revised as additional geologic or engineering data becomes available or as economic conditions change. Commercial factors must also be considered in the classification of resources.

Estimation of reserves and resources is done under conditions of uncertainty. The method of estimation is called deterministic if a single best estimate of reserves and resources is made based on known geological, engineering, and economic data. The method of estimation is called probabilistic when the known geological, engineering, and economic data are used to generate a range of estimates and their associated probabilities. Because of the differences in uncertainty, caution should be exercised when aggregating quantities of petroleum from different reserves categories and/or resources classifications.

Reserves and resources may be attributed to either natural energy or improved recovery methods. Improved recovery methods include all methods for supplementing natural reservoir energy or altering natural forces in the reservoir to increase ultimate recovery. Examples of such methods are pressure maintenance, cycling, waterflooding, thermal methods, chemical flooding, and the use of miscible and immiscible displacement fluids. Other improved recovery methods may be developed in the future as petroleum technology continues to evolve.

Reserves and resources may be attributed to either conventional or unconventional petroleum accumulations under the SPE-PRMS. Petroleum accumulations are considered as either conventional or unconventional based on the nature of their in-place characteristics, extraction method applied, or degree of processing prior to sale. Examples of unconventional petroleum accumulations include coalbed or coalseam methane (CBM/CSM), basin-centered gas (low permeability), tight gas and tight oil (low permeability), shale gas, gas hydrates, natural bitumen (very high viscosity oil) and oil shale deposits. These unconventional accumulations may require specialized extraction technology and/or significant processing prior to sale. The SPE-PRMS acknowledges unconventional petroleum accumulations as reserves and resources regardless of their in-place characteristics, the extraction method applied, or the degree of processing required.

Reserves and resources do not include quantities of petroleum being held in inventory and may be reduced for usage, processing losses and/or non-hydrocarbons that must be removed prior to sale.

SPE-PRMS RESOURCES DEFINITIONS

In March 2007, the Society of Petroleum Engineers (SPE), World Petroleum Council (WPC), American Association of Petroleum Geologists (AAPG), and Society of Petroleum Evaluation Engineers (SPEE) jointly approved the “Petroleum Resources Management System” (“SPE-PRMS”); subsequently supported by the Society of Exploration Geophysicists (SEG), Society of Petrophysicists and Well Log Analysts (SPWLA), and European Association of Geoscientists & Engineers (EAGE). SPE-PRMS was revised in June 2018. The SPE-PRMS consolidates, builds on, and replaces guidance previously contained in the 2000 “Petroleum Resources Classification and Definitions” and the 2001 “Guidelines for the Evaluation of Petroleum Reserves and Resources” publications.

Reference should be made to the full SPE-PRMS for the complete definitions and guidelines as the following definitions, descriptions and explanations rely wholly or in part on excerpts from the SPE-PRMS document (direct passages excerpted from the SPE-PRMS document are denoted in italics and footnoted with Section references herein). For convenience, Table 1: “Recoverable Resources Classes and Sub-Classes” from the SPE-PRMS has been reproduced in full and included as an attachment to this document.

The SPE-PRMS incorporates the petroleum initially-in-place as well as the recoverable and unrecoverable petroleum quantities into a common resources classification framework. *Petroleum is defined as a naturally occurring mixture consisting of hydrocarbons in the gaseous, liquid, or solid state.*[18]

The SPE-PRMS defines the major resources classes: Production, Reserves, Contingent Resources, and Prospective Resources, as well as Unrecoverable petroleum. The basic classification scheme requires establishment of criteria for a petroleum discovery and thereafter the distinction between commercial (Reserves) and sub-commercial projects (Contingent Resources) in known accumulations. Under this classification scheme, estimated recoverable quantities from accumulations that have yet to be discovered are termed Prospective Resources. Further, the SPE-PRMS includes all types of petroleum whether currently considered "conventional" or "unconventional".

Figure 1 shown at the end of this document is a graphical representation of the SPE-PRMS resources classification system. The SPE-PRMS "classifies" reserves and resources according to project maturity and increasing *chance of commerciality* (vertical axis), *which is the chance that a project will be committed for development and reach commercial producing status.*[19] It also "categorizes" reserves and resources according to the *range of uncertainty* (horizontal axis) *of the estimated quantities potentially recoverable from an accumulation by a project*.[20] The following definitions apply to the major subdivisions within the resources classification:

RESOURCES CLASSIFICATION (SPE-PRMS)

Recoverable petroleum resources as described herein may be classified into one of three principal resources classifications: Prospective Resources, Contingent Resources, or Reserves. The distinction between Prospective and Contingent Resources depends on whether or not there exists one or more wells and other data indicating the potential for moveable hydrocarbons (e.g. the discovery status). Discovered petroleum resources may be classified as either Contingent Resources or as Reserves depending on the chance that if a project is implemented it will reach commercial producing status (e.g. chance of commerciality). The distinction between various "classifications" of Resources and Reserves relates to their discovery status and increasing chance of commerciality as described herein.

TOTAL PETROLEUM-INITIALLY-IN-PLACE

Total Petroleum-Initially-in-Place (PIIP) is all quantities of petroleum that are estimated to exist originally in naturally occurring accumulations, discovered and undiscovered, before production.[21]

Total Petroleum-Initially-in-Place may be subdivided into Discovered Petroleum-Initially-in-Place and Undiscovered Petroleum-Initially-in-Place, with Discovered Petroleum-Initially-in-Place being limited to known accumulations.

It is recognized that not all of the Petroleum-Initially-in-Place quantities may constitute potentially recoverable resources since the estimation of the proportion which may be recoverable can be subject to significant uncertainty and will change with variations in commercial circumstances, technological developments and data availability.

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[18] Section 1.1.0.1
[19] Section 1.1.0.4
[20] Section 1.1.0.4
[21] Section 1.1.0.5 A

Given the aforementioned constraints, a portion of the Petroleum-Initially-in-Place may need to be classified as Unrecoverable.

DISCOVERED PETROLEUM-INITIALLY-IN-PLACE

Discovered PIIP is the quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations before production.[22]

Discovered PIIP may be subdivided into Commercial and Sub-commercial categories, with the estimated potentially recoverable portion being classified as Reserves and Contingent Resources respectively, as defined below.

KNOWN ACCUMULATION

The SPE-PRMS defines an accumulation as *an individual body of naturally occurring petroleum in a reservoir*.[23] For an accumulation to be considered as "known", it must have been discovered. Discovered is defined as *a petroleum accumulation where one or several exploratory wells through testing, sampling, and/or logging have demonstrated the existence of a significant quantity of potentially recoverable hydrocarbons and thus have established a known accumulation.*[24] The SPE-PRMS states that in this context, *"significant" implies that there is evidence of a sufficient quantity of petroleum to justify estimating the in-place volume demonstrated by the well(s) and for evaluating the potential for technical recovery.*[25] Known accumulations may contain Reserves and/or Contingent Resources.

RESERVES

Reserves are defined as those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must further satisfy four criteria: discovered, recoverable, commercial, and remaining (as of the evaluation's effective date) based on the development project(s) applied.[26]

Reserves are further categorized in accordance with the range of uncertainty and should be sub-classified based on project maturity and/or characterized by development and production status.[27] Reference should be made to the full SPE-PRMS for the complete definitions and guidelines.

CONTINGENT RESOURCES

Contingent Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations, by the application of development project(s) not currently considered to be commercial owing to one or more contingencies. Contingent Resources have an associated chance of development. Contingent Resources may include, for example, projects for which there are currently no viable markets, or where commercial recovery is dependent on technology under development, or where evaluation of the accumulation is insufficient to clearly assess

[22] *Section 1.1.0.5 B*
[23] Appendix A, "Accumulation"
[24] Appendix A, "Discovered"
[25] Appendix A, "Discovered"
[26] Section 1.1.0.6 A.1.
[27] Section 1.1.0.6 A.3

commerciality. Contingent Resources are further categorized in accordance with the range of uncertainty associated with the estimates and should be sub-classified based on project maturity and/or economic status.[28] Reference should be made to the full SPE-PRMS for the complete definitions and guidelines.

UNDISCOVERED PETROLEUM-INITIALLY-IN-PLACE

Undiscovered PIIP is that quantity of petroleum estimated, as of a given date, to be contained within accumulations yet to be discovered.[29]

The estimated potentially recoverable portion of Undiscovered PIIP is classified as Prospective Resources, as defined below.

PROSPECTIVE RESOURCES

Prospective Resources are 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 geologic 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.[30] Reference should be made to the full SPE-PRMS for the complete definitions and guidelines.

UNRECOVERABLE

Unrecoverable Resources are that portion of either discovered or undiscovered PIIP evaluated, as of a given date, to be unrecoverable by the currently defined project(s). A portion of these quantities may become recoverable in the future as commercial circumstances change, technology is developed, or additional data are acquired. The remaining portion may never be recovered because of physical/chemical constraints represented by subsurface interaction of fluids and reservoir rocks.[31]

ADDITIONAL TERMS USED IN RESOURCES CLASSIFICATION (SPE-PRMS)

CHANCE OF COMMERCIALITY

The “Chance of Commerciality”, as denoted in the SPE-PRMS and as shown in Figure 1, is *the estimated probability that the project will achieve commercial maturity to be developed. For Prospective Resources, this is the product of the chance of geologic discovery and the chance of development. For Contingent Resources and Reserves, it is equal to the chance of development.*[32]

The chance of commerciality is determined by the probability of a discrete event occurring. In the context of the SPE-PRMS, the discrete event is comprised of one of several conditions, as noted below, which impact the project’s commercial viability.

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[28] Section 1.1.0.6 B.
[29] Section 1.1.0.6 C.
[30] Section 1.1.0.6 D.
[31] Section 1.1.0.6 E.
[32] Appendix A, “Chance of Commerciality”

The commercial viability of a development project within a field's development plan is dependent on a forecast of the conditions that will exist during the time period encompassed by the project. Conditions include technical, economic (e.g., hurdle rates, commodity prices), operating and capital costs, marketing, sales route(s), and legal, environmental, social, and governmental factors forecast to exist and impact the project during the time period being evaluated. While economic factors can be summarized as forecast costs and product prices, the underlying influences include, but are not limited to, market conditions (e.g., inflation, market factors, and contingencies), exchange rates, transportation and processing infrastructure, fiscal terms, and taxes.[33]

A project may constitute the development of a well, a single reservoir, or a small field; an incremental development in a producing field; or the integrated development of a field or several fields together with the associated processing facilities (e.g., compression).[34] *An accumulation or potential accumulation of petroleum is often subject to several separate and distinct projects that are at different stages of exploration or development. Thus, an accumulation may have recoverable quantities in several resources classes simultaneously.*[35]

COMMERCIALITY APPLIED TO RESERVES

Discovered recoverable quantities (Contingent Resources) may be considered commercially mature, and thus attain Reserves classification, if the entity claiming commerciality has demonstrated a firm intention to proceed with development. This means the entity has satisfied the internal decision criteria (typically rate of return at or above the weighted average cost-of-capital or the hurdle rate). Commerciality is achieved with the entity's commitment to the project and all of the following criteria:

A. *Evidence of a technically mature, feasible development plan.*

B. *Evidence of financial appropriations either being in place or having a high likelihood of being secured to implement the project.*

C. *Evidence to support a reasonable time-frame for development.*

D. *A reasonable assessment that the development projects will have positive economics and meet defined investment and operating criteria. This assessment is performed on the estimated entitlement forecast quantities and associated cash flow on which the investment decision is made (see Section 3.1.1, Net Cash-Flow Evaluation).*

E. *A reasonable expectation that there will be a market for forecast sales quantities of the production required to justify development. There should also be similar confidence that all produced streams (e.g., oil, gas, water, CO_2) can be sold, stored, re-injected, or otherwise appropriately disposed.*

F. *Evidence that the necessary production and transportation facilities are available or can be made available.*

G. *Evidence that legal, contractual, environmental, regulatory, and government approvals are in place or will be forthcoming, together with resolving any social and economic concerns.*[36]

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[33] Section 1.2.0.10
[34] Section 1.2.0.4
[35] Section 1.2.0.8
[36] Section 2.1.2.1

To be included in the Reserves class, a project must be sufficiently defined to establish both its technical and commercial viability as noted above *(in Section 2.1.2.1). There must be a reasonable expectation that all required internal and external approvals will be forthcoming and evidence of firm intention to proceed with development within a reasonable time-frame. A reasonable time-frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While five years is recommended as a benchmark, a longer time-frame could be applied where justifiable; for example, development of economic projects that take longer than five years to be developed or are deferred to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented.*[37]

For a project to be included in a Reserves class, *there must be a high confidence in the commercial maturity and economic producibility of the reservoir as supported by actual production or formation tests. In certain cases, Reserves may be assigned on the basis of well logs and/or core analysis that indicate that the subject reservoir is hydrocarbon-bearing and is analogous to reservoirs in the same area that are producing or have demonstrated the ability to produce on formation tests.*[38]

COMMERCIALITY APPLIED TO CONTINGENT RESOURCES

Potentially recoverable quantities from known accumulations that *are not currently considered to be commercially recoverable owing to one or more contingencies*[39] should be classified as Contingent Resources.

Based on assumptions regarding future conditions and the impact on ultimate economic viability, projects currently classified as Contingent Resources may be broadly divided into two groups:

A. ***Economically Viable Contingent Resources*** *are those quantities associated with technically feasible projects where cash flows are positive under reasonably forecasted conditions but are not Reserves because it does not meet the commercial criteria defined* above *(in Section 2.1.2.).*

B. ***Economically Not Viable Contingent Resources*** *are those quantities for which development projects are not expected to yield positive cash flows under reasonable forecast conditions.*[40]

Unrecoverable Resources *are that portion of either discovered or undiscovered PIIP evaluated, as of a given date, to be unrecoverable by the currently defined project(s).*[41]

RESOURCES CATEGORIZATION (SPE-PRMS)

All estimates of the quantities of petroleum potentially recoverable from an accumulation classified as having Prospective or Contingent Resources or Reserves involve uncertainty. The relative degree of uncertainty may be conveyed by placing the estimated quantities into one of several “categories” as described herein.

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[37] Section 2.1.2.3
[38] Table 1 “Reserves”, Guidelines
[39] Table 1, “Contingent Resources”, Definition
[40] Section 2.1.3.7.1
[41] Section 1.1.0.6 E.

RANGE OF UNCERTAINTY

The Range of Uncertainty, as denoted in the SPE-PRMS and as shown in Figure 1, reflects a range of estimated quantities potentially recoverable from an accumulation by a project. *Evaluators may assess recoverable quantities and categorize results by uncertainty using the deterministic incremental method, the deterministic scenario (cumulative) method, geostatistical methods, or probabilistic methods (see Section 4.2, Resources Assessment Methods). Also, combinations of these methods may be used.*[42]

DETERMINISTIC METHODS (SPE-PRMS)

For estimates using Deterministic Methods, an evaluator chooses *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.*[43]

In the deterministic method, quantities are estimated by taking a discrete value or array of values for each input parameter to produce a discrete result. For the low-, best- and high-case estimates, the internally consistent deterministic inputs are selected to reflect the resultant confidence of the project scenario and the constraints applied for the resources category and resources class. A single outcome of recoverable quantities is derived for each deterministic increment or scenario. Two approaches are included in the deterministic method—the scenario (or cumulative) method and the incremental method—and should yield similar results.[44]

RESERVES

For Reserves, the general cumulative terms low/best/high forecasts are used to estimate the resulting 1P/2P/3P quantities, respectively. The associated incremental quantities are termed Proved (P1), Probable (P2) and Possible (P3).[45]

CONTINGENT RESOURCES

For Contingent Resources, the range of uncertainty is generally expressed in deterministic scenario (cumulative) terms or in terms of probability using probabilistic methods. *For Contingent Resources, the general cumulative terms low/best/high estimates are used to estimate the resulting 1C/2C/3C quantities, respectively. The terms C1, C2, and C3 are defined for incremental quantities of Contingent Resources.*[46]

Should evaluators choose to characterize the range of uncertainty for Contingent in discrete incremental quantities, they should denote such quantities as such and provide sufficient detail in their report to allow an independent evaluator or auditor to clearly understand the basis for estimation and categorization of the recoverable quantities.

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42 Section 2.2.2.1
43 Appendix A, “Deterministic Method”
44 Section 4.2.1.1
45 Section 2.2.2.2
46 Section 2.2.2.3

PROSPECTIVE RESOURCES

For Prospective Resources, the range of uncertainty is generally expressed in deterministic scenario (cumulative) terms as low, best and high estimates or in terms of probability using probabilistic methods. *For Prospective Resources, the general cumulative terms low/best/high estimates also apply and are used to estimate the resulting 1U/2U/3U quantities. No specific terms are defined for incremental quantities within Prospective Resources.*[47]

BEST ESTIMATE

To best communicate uncertainty in estimates of resources volumes, a range of potential results can be reported. However, if a single representative result is required to be reported, the "best estimate" should represent *the most realistic assessment of recoverable quantities. If probablilstic methods are used, there should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the best estimate.*[48] The term "best estimate" is used here as a generic expression for the estimate considered being closest to the quantity that will actually be recovered from the accumulation between the date of the estimate and the time of abandonment. *The best estimate is generally considered to represent the sum of Proved and Probable estimates (2P) for Reserves or 2C when Contingent Resources are cited, when aggregating a field, multiple fields, or an entity's resources.*[49] *It should be noted that under the deterministic incremental method, discrete estimates are made for each category and should not be aggregated without due consideration of associated confidence.*[50] In the case of Contingent Resources and Prospective Resources, the best estimate would be represented by the 2C and 2U, respectively. If probabilistic methods are used, this term would generally be a measure of central tendency of the uncertainty distribution (most likely/mode, median/P50 or mean). The terms "Low Estimate" and "High Estimate" should provide a reasonable assessment of the range of uncertainty in the Best Estimate.

PROBABILISTIC METHODS (SPE-PRMS)

If probabilistic methods are used, these estimated quantities should be based on methodologies analogous to those applicable to the definitions of Reserves, Contingent Resources and Prospective Resources; therefore, in general, the resulting probabilities should correspond to the deterministic (cumulative) terms as follows:

- There should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the 1P, 1C or 1U (Low Estimate).
- There should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the 2P, 2C or 2U (Best Estimate).
- There should be at least a 10% probability (P10) that the quantities actually recovered will equal or exceed the 3P, 3C or 3U (High Estimate).

COMPARABILITY OF SIMILAR RESERVES AND RESOURCES CATEGORIES

As indicated in Figure 1, the 1C, 2C and 3C Contingent Resources estimates and the 1U, 2U and 3U Prospective Resources estimates of potentially recoverable volumes should reflect some comparability with the reserves categories of Proved (1P), Proved plus Probable (2P) and Proved plus

47 Section 2.2.2.4
48 Appendix A, "Best Estimate", Definition
49 Section 2.2.2.10
50 Section 2.2.2.11

Probable plus Possible (3P), respectively. *While there may be significant chance that sub-commercial and undiscovered accumulations will not achieve commercial production, it is useful to consider the range of potentially recoverable quantities independent of such likelihood when considering what resources class to assign the project quantities.*[51]

Without new technical information, there should be no change in the distribution of technically recoverable resources and the categorization boundaries when conditions are satisfied to reclassify a project from Contingent Resources to Reserves.[52]

AGGREGATION

Petroleum quantities classified as Reserves, Contingent Resources, or Prospective Resources should not be aggregated with each other without a clear understanding and explanation of the technical and commercial risk involved with their classification. In particular, there may be a chance that accumulations containing Contingent Resources and/or Prospective Resources will not achieve commercial maturity.[53] Similarly, reserves and resources of different categories should not be aggregated with each other without due consideration of the significant differences in the criteria associated with their categorization.

[51] Section 2.2.1.6
[52] Section 2.2.2.6
[53] Section 4.2.6.1

RESOURCES CLASSIFICATION SYSTEM (SPE-PRMS)

GRAPHICAL REPRESENTATION

Figure 1 is a graphical representation of the SPE-PRMS resources classification framework. *The horizontal axis reflects the range of uncertainty of estimated quantities potentially recoverable from an accumulation by a project, while the vertical axis represents the chance of commerciality, which is the chance that a project will be committed for development and reach commercial producing status.*[54]

Figure 1
SPE-PRMS
RESOURCES CLASSIFICATION FRAMEWORK

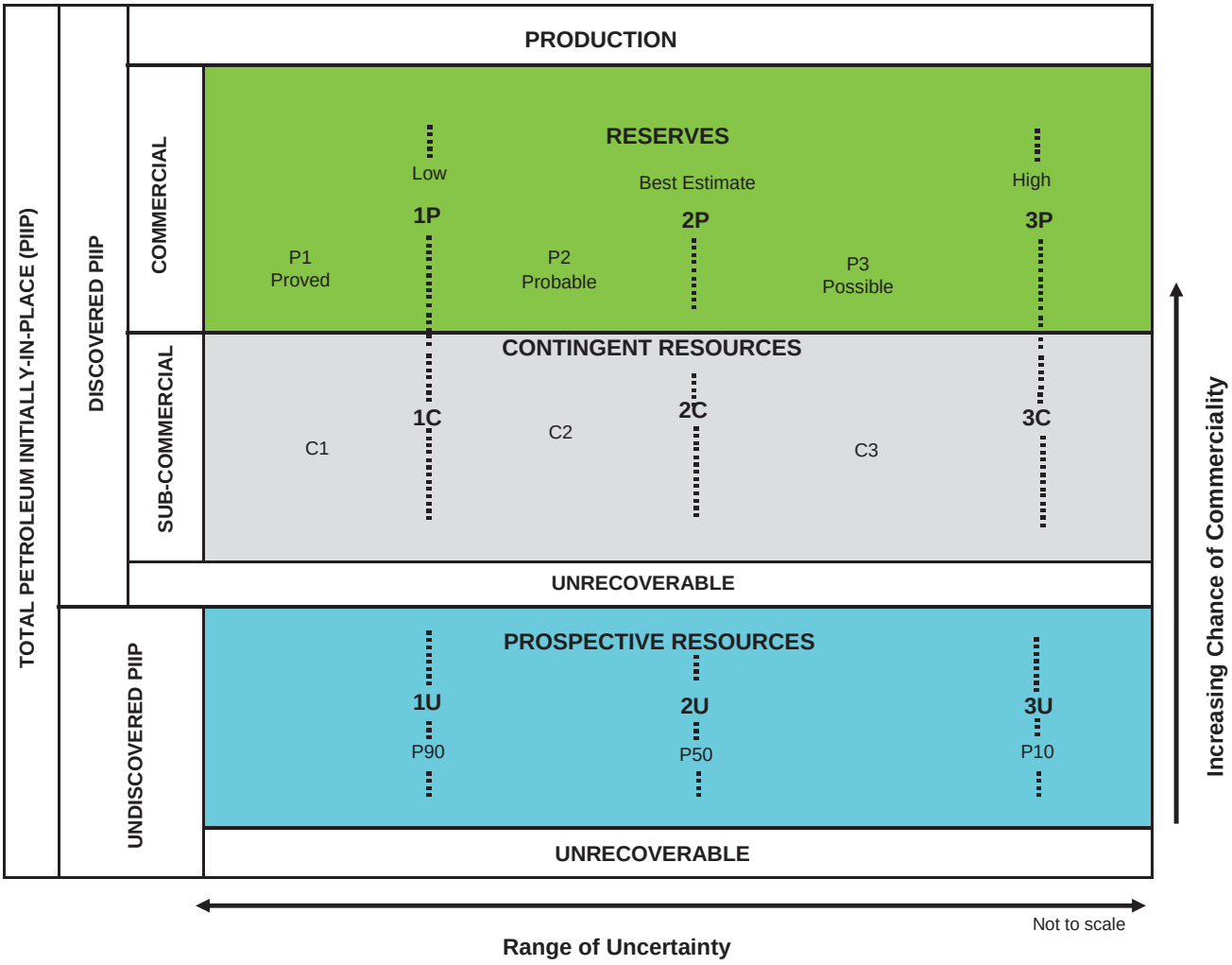

Figure 1.1-Resources classification framework

[54] Section 1.1.0.4

RESOURCES CLASSIFICATION SYSTEM (SPE-PRMS)

GRAPHICAL REPRESENTATION

Figure 2 is a graphical illustration of the manner in which SPE-PRMS resources *may be sub-classified according to project maturity levels and the associated actions (i.e., business decisions) required to move a project toward commercial production.*[55]

Figure 2
SPE-PRMS
SUB-CLASSES BASED ON PROJECT MATURITY

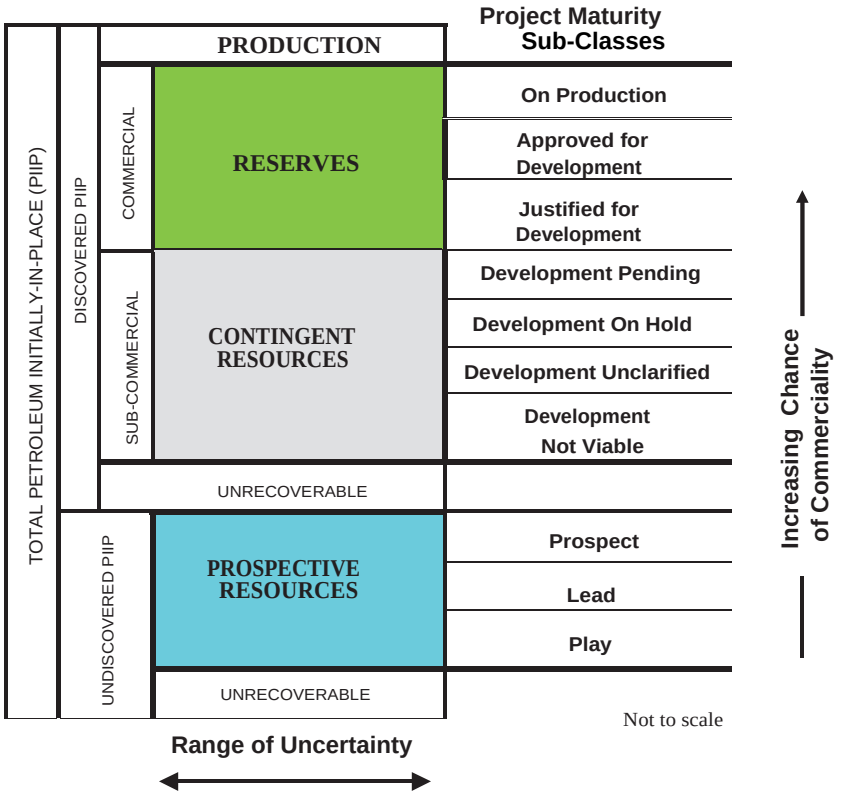

Figure 2.1—Sub-classes based on project maturity

[55] Section 2.1.3.5.1

Table 1—Recoverable Resources Classes and Sub-Classes[1]

Class/Sub-Class	Definition	Guidelines
Reserves	Reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions.	Reserves must satisfy four criteria: discovered, recoverable, commercial, and remaining based on the development project(s) applied. Reserves are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by the development and production status. To be included in the Reserves class, a project must be sufficiently defined to establish its commercial viability (see Section 2.1.2, Determination of Commerciality). This includes the requirement that there is evidence of firm intention to proceed with development within a reasonable time-frame. A reasonable time-frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While five years is recommended as a benchmark, a longer time-frame could be applied where, for example, development of an economic project is deferred at the option of the producer for, among other things, market-related reasons or to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented. To be included in the Reserves class, there must be a high confidence in the commercial maturity and economic producibility of the reservoir as supported by actual production or formation tests. In certain cases, Reserves may be assigned on the basis of well logs and/or core analysis that indicate that the subject reservoir is hydrocarbon-bearing and is analogous to reservoirs in the same area that are producing or have demonstrated the ability to produce on formation tests.
On Production	The development project is currently producing or capable of producing and selling petroleum to market.	The key criterion is that the project is receiving income from sales, rather than that the approved development project is necessarily complete. Includes Developed Producing Reserves. The project decision gate is the decision to initiate or continue economic production from the project.
Approved for Development	All necessary approvals have been obtained, capital funds have been committed, and implementation of the development project is ready to begin or is under way.	At this point, it must be certain that the development project is going ahead. The project must not be subject to any contingencies, such as outstanding regulatory approvals or sales contracts. Forecast capital expenditures should be included in the reporting entity's current or following year's approved budget. The project decision gate is the decision to start investing capital in the construction of production facilities and/or drilling development wells.

Class/Sub-Class	Definition	Guidelines
Justified for Development	Implementation of the development project is justified on the basis of reasonable forecast commercial conditions at the time of reporting, and there are reasonable expectations that all necessary approvals/contracts will be obtained.	To move to this level of project maturity, and hence have Reserves associated with it, the development project must be commercially viable at the time of reporting (see Section 2.1.2, Determination of Commerciality) and the specific circumstances of the project. All participating entities have agreed and there is evidence of a committed project (firm intention to proceed with development within a reasonable time-frame}) There must be no known contingencies that could preclude the development from proceeding (see Reserves class). The project decision gate is the decision by the reporting entity and its partners, if any, that the project has reached a level of technical and commercial maturity sufficient to justify proceeding with development at that point in time.
Contingent Resources	Those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development projects, but which are not currently considered to be commercially recoverable owing to one or more contingencies.	Contingent Resources may include, for example, projects for which there are currently no viable markets, where commercial recovery is dependent on technology under development, where evaluation of the accumulation is insufficient to clearly assess commerciality, where the development plan is not yet approved, or where regulatory or social acceptance issues may exist. Contingent Resources are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by the economic status.
Development Pending	A discovered accumulation where project activities are ongoing to justify commercial development in the foreseeable future.	The project is seen to have reasonable potential for eventual commercial development, to the extent that further data acquisition (e.g., drilling, seismic data) and/or evaluations are currently ongoing with a view to confirming that the project is commercially viable and providing the basis for selection of an appropriate development plan. The critical contingencies have been identified and are reasonably expected to be resolved within a reasonable time-frame. Note that disappointing appraisal/evaluation results could lead to a reclassification of the project to On Hold or Not Viable status. The project decision gate is the decision to undertake further data acquisition and/or studies designed to move the project to a level of technical and commercial maturity at which a decision can be made to proceed with development and production.

Class/Sub-Class	Definition	Guidelines
Development on Hold	A discovered accumulation where project activities are on hold and/or where justification as a commercial development may be subject to significant delay.	The project is seen to have potential for commercial development. Development may be subject to a significant time delay. Note that a change in circumstances, such that there is no longer a probable chance that a critical contingency can be removed in the foreseeable future, could lead to a reclassification of the project to Not Viable status. The project decision gate is the decision to either proceed with additional evaluation designed to clarify the potential for eventual commercial development or to temporarily suspend or delay further activities pending resolution of external contingencies.
Development Unclarified	A discovered accumulation where project activities are under evaluation and where justification as a commercial development is unknown based on available information.	The project is seen to have potential for eventual commercial development, but further appraisal/evaluation activities are ongoing to clarify the potential for eventual commercial development. This sub-class requires active appraisal or evaluation and should not be maintained without a plan for future evaluation. The sub-class should reflect the actions required to move a project toward commercial maturity and economic production.
Development Not Viable	A discovered accumulation for which there are no current plans to develop or to acquire additional data at the time because of limited production potential.	The project is not seen to have potential for eventual commercial development at the time of reporting, but the theoretically recoverable quantities are recorded so that the potential opportunity will be recognized in the event of a major change in technology or commercial conditions. The project decision gate is the decision not to undertake further data acquisition or studies on the project for the foreseeable future.
Prospective Resources	Those quantities of petroleum that are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations.	Potential accumulations are evaluated according to the chance of geologic discovery and, assuming a discovery, the estimated quantities that would be recoverable under defined development projects. It is recognized that the development programs will be of significantly less detail and depend more heavily on analog developments in the earlier phases of exploration.
Prospect	A project associated with a potential accumulation that is sufficiently well defined to represent a viable drilling target.	Project activities are focused on assessing the chance of geologic discovery and, assuming discovery, the range of potential recoverable quantities under a commercial development program.
Lead	A project associated with a potential accumulation that is currently poorly defined and requires more data acquisition and/or evaluation to be classified as a Prospect.	Project activities are focused on acquiring additional data and/or undertaking further evaluation designed to confirm whether or not the Lead can be matured into a Prospect. Such evaluation includes the assessment of the chance of geologic discovery and, assuming discovery, the range of potential recovery under feasible development scenarios.
Play	A project associated with a prospective trend of potential prospects, but that requires more data acquisition and/or evaluation to define specific Leads or Prospects.	Project activities are focused on acquiring additional data and/or undertaking further evaluation designed to define specific Leads or Prospects for more detailed analysis of their chance of geologic discovery and, assuming discovery, the range of potential recovery under hypothetical development scenarios.

PETROLEUM RESERVES STATUS DEFINITIONS and GUIDELINES

As Adapted From:
2018 PETROLEUM RESOURCES MANAGEMENT SYSTEM (SPE-PRMS)
Sponsored and Approved by:
SOCIETY OF PETROLEUM ENGINEERS (SPE)
WORLD PETROLEUM COUNCIL (WPC)
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS (AAPG)
SOCIETY OF PETROLEUM EVALUATION ENGINEERS (SPEE)
SOCIETY OF EXPLORATION GEOPHYSICISTS (SEG)
SOCIETY OF PETROPHYSICISTS AND WELL LOG ANALYSTS (SPWLA)
EUROPEAN ASSOCIATION OF GEOSCIENTISTS & ENGINEERS (EAGE)

RESERVES

Reserves status categories define the development and producing status of wells and reservoirs. The SPE-PRMS Table 2 defines the reserves status categories as follows:

DEVELOPED RESERVES (SPE-PRMS DEFINITIONS)

Developed Reserves are expected quantities to be recovered from existing wells and facilities.

Reserves are considered developed only after the necessary equipment has been installed, or when the costs to do so are relatively minor compared to the cost of a well. Where required facilities become unavailable, it may be necessary to reclassify Developed Reserves as Undeveloped. Developed Reserves may be further sub-classified as Producing or Non-Producing.

Developed Producing

Developed Producing Reserves are expected quantities to be recovered from completion intervals that are open and producing at the effective date of the estimate.

Improved recovery reserves are considered producing only after the improved recovery project is in operation.

Developed Non-Producing

Developed Non-Producing Reserves include shut-in and behind-pipe Reserves.

Shut-In

Shut-in Reserves are expected to be recovered from:

1. *completion intervals that are open at the time of the estimate but which have not yet started producing;*
2. *wells which were shut-in for market conditions or pipeline connections; or*
3. *wells not capable of production for mechanical reasons.*

Behind-Pipe

Behind-pipe Reserves are expected to be recovered from zones in existing wells that will require additional completion work or future re-completion before start of production with minor cost to access these reserves.

In all cases, production can be initiated or restored with relatively low expenditure compared to the cost of drilling a new well.

UNDEVELOPED RESERVES (SPE-PRMS DEFINITIONS)

Undeveloped Reserves are quantities expected to be recovered through future significant investments.

Undeveloped Reserves are to be produced:

- *(1) from new wells on undrilled acreage in known accumulations;*
- *(2) from deepening existing wells to a different (but known) reservoir;*
- *(3) from infill wells that will increase recovery, or*
- *(4) where a relatively large expenditure (e.g. when compared to the cost of drilling a new well) is required to*
  - *(a) recomplete an existing well or*
  - *(b) install production or transportation facilities for primary or improved recovery projects.*

Corporate Parameters

Nostrum Oil & Gas PLC

Table 1

Estimated Future Reserves and Income

Derived Through the Terms of the Production Sharing Agreements

Between the Republic of Kazakhstan and Zhaikmunai LLP

Chinarevskoye License Area

As of December 31, 2020

	Proved			Probable	Total
	Producing	Undeveloped	Total Proved	Total Probable	Proved & Probable
Gross Reserves					
Oil/Condensate – Mbbl	10,017	796	10,813	4,204	15,017
Plant Products – Mbbl	3,471	131	3,602	1,072	4,674
Gas – MMcf	75,562	1,768	77,330	25,257	102,587
Income Data ($M)					
Future Gross Revenue	593,312	41,228	634,540	253,168	887,708
Deductions	430,482	27,688	458,170	160,791	618,961
Future Net Income (FNI)	162,830	13,540	176,370	92,377	268,747
Discounted FNI @ 10%	126,248	5,094	131,342	50,292	181,634

Corporate Parameters
Nostrum Oil & Gas PLC
Table 2
Estimated Future Reserves and Income
Derived Through the Terms of the Production Sharing Agreements
Between the Republic of Kazakhstan and Zhaikmunai LLP
Chinarevskoye License Area
As of December 31, 2020

GRAND SUMMARY
TOTAL PROVED + PROBABLE RESERVES

Gross production

Period	Number of wells	Oil / cond barrels	Plant products barrels	Gas MMCF
2021	48	2,546,405	840,574	17,892
2022	50	2,106,103	690,639	14,911
2023	55	1,881,788	595,396	13,004
2024	56	1,754,318	549,952	12,747
2025	55	1,435,537	448,692	10,264
2026	55	1,212,779	371,488	8,335
2027	54	1,046,641	313,427	6,917
2028	51	912,833	266,830	5,806
2029	49	799,489	228,707	4,911
2030	48	703,031	197,505	4,199
2031	46	617,671	170,635	3,603
Total		**15,016,594**	**4,673,846**	**102,587**

Sales volumes

Period	Oil / cond barrels	Plant products barrels	Sales gas MMCF
2021	2,447,447	840,574	16,460
2022	2,023,055	690,639	13,718
2023	1,807,075	595,396	11,964
2024	1,684,442	549,952	11,727
2025	1,375,940	448,692	9,442
2026	1,160,844	371,488	7,668
2027	1,000,799	313,427	6,363
2028	872,082	266,830	5,341
2029	763,258	228,707	4,371
2030	670,804	197,505	3,738
2031	589,096	170,635	3,207
Total	**14,394,842**	**4,673,846**	**93,999**

Average prices

Period	Oil / cond $/bbl	Gas $/MCF
2021	45.00	0.57
2022	50.00	0.65
2023	60.00	0.78
2024	60.00	0.86
2025	60.00	0.86
2026	60.00	0.86
2027	60.00	0.86
2028	60.00	0.86
2029	60.00	0.86
2030	60.00	0.86
2031	60.00	0.86
Total	**57.73**	**0.81**

Future gross revenue ($M)

Period	from Oil / cond	from Plant products	from Gas	Total
2021	90,295	19,474	9,401	119,170
2022	83,763	20,364	8,967	113,095
2023	91,355	20,064	9,319	120,738
2024	85,106	18,533	10,121	113,760
2025	68,984	15,120	8,149	92,253
2026	57,849	12,519	6,618	76,986
2027	49,647	10,562	5,492	65,700
2028	43,090	8,992	4,610	56,692
2029	37,593	7,707	3,772	49,073
2030	32,958	6,656	3,226	42,839
2031	28,885	5,750	2,767	37,403
Total	**669,527**	**145,740**	**72,441**	**887,708**

Deductions ($M)

Period	Operating costs	Transportation	Development costs	Taxes	Total
2021	43,478	16,568	12,784	14,989	87,818
2022	36,586	13,542	7,518	14,355	72,001
2023	33,824	12,077	37,113	15,189	98,202
2024	32,464	11,363	5,381	14,476	63,684
2025	28,814	8,693	2,702	12,752	52,962
2026	25,975	6,909	2,233	11,439	46,557
2027	23,760	5,671	1,885	10,405	41,721
2028	21,924	4,722	1,609	9,568	37,823
2029	20,355	3,960	1,383	8,841	34,540
2030	19,012	3,374	1,198	8,193	31,776
2031	17,819	2,886	23,567	7,606	51,877
Total	**304,011**	**89,764**	**97,373**	**127,813**	**618,961**

Future net income ($M)

Period	Annual	Cumulative	Discounted @10%
2021	31,353	31,353	28,503
2022	41,094	72,446	33,962
2023	22,535	94,982	16,931
2024	50,076	145,058	34,203
2025	39,291	184,349	24,397
2026	30,429	214,778	17,176
2027	23,979	238,757	12,305
2028	18,869	257,626	8,802
2029	14,533	272,159	6,163
2030	11,063	283,222	4,265
2031	(14,475)	268,747	(5,073)
Total	**268,747**		**181,634**

Notes
Gross production = Total production from wellheads after shrinkage
Sales volumes = Volumes available for sale: Gross production less losses in processing, transportation and own use fuel gas
Average prices = gross reference price excluding marketing discounts
Operating costs = Operating costs plus General administrative
Taxes = Royalty, Government Profit Share, Corporate Income Tax, Customs Export Duty

Corporate Parameters
Nostrum Oil & Gas PLC
Table 3
Estimated Future Reserves and Income
Derived Through the Terms of the Production Sharing Agreements
Between the Republic of Kazakhstan and Zhaikmunai LLP
Chinarevskoye License Area
As of December 31, 2020

GRAND SUMMARY
TOTAL PROVED RESERVES

Gross production

Period	Number of wells	Oil / cond barrels	Plant products barrels	Gas MMCF
2021	46	2,426,503	809,244	17,206
2022	46	1,828,943	617,324	13,287
2023	47	1,439,174	481,797	10,381
2024	47	1,189,213	391,761	8,363
2025	45	945,044	312,318	6,687
2026	45	763,638	253,154	5,435
2027	40	621,247	206,745	4,457
2028	38	513,283	170,831	3,701
2029	35	424,730	140,992	3,063
2030	34	356,360	117,867	2,571
2031	33	304,462	99,802	2,181
Total		**10,812,595**	**3,601,835**	**77,330**

Sales volumes

Period	Oil / cond barrels	Plant products barrels	Sales gas MMCF
2021	2,331,970	809,244	15,829
2022	1,756,333	617,324	12,224
2023	1,380,494	481,797	9,551
2024	1,139,271	391,761	7,694
2025	904,720	312,318	6,152
2026	730,582	253,154	5,000
2027	594,026	206,745	3,967
2028	490,534	170,831	3,294
2029	405,632	140,992	2,726
2030	340,170	117,867	2,288
2031	290,494	99,802	1,941
Total	**10,364,226**	**3,601,835**	**70,665**

Average prices

Period	Oil / cond $/bbl	Gas $/MCF
2021	45.00	0.57
2022	50.00	0.65
2023	60.00	0.78
2024	60.00	0.86
2025	60.00	0.86
2026	60.00	0.86
2027	60.00	0.86
2028	60.00	0.86
2029	60.00	0.86
2030	60.00	0.86
2031	60.00	0.86
Total	**57.73**	**0.81**

Future gross revenue ($M)

Period	from Oil / cond	from Plant products	from Gas	Total
2021	85,997	18,748	9,040	113,786
2022	72,630	18,202	7,991	98,824
2023	69,449	16,236	7,439	93,124
2024	56,992	13,202	6,640	76,834
2025	45,118	10,525	5,309	60,951
2026	36,329	8,531	4,315	49,175
2027	29,466	6,967	3,423	39,856
2028	24,275	5,757	2,842	32,874
2029	20,012	4,751	2,353	27,116
2030	16,746	3,972	1,975	22,692
2031	14,270	3,363	1,675	19,308
Total	**471,283**	**110,254**	**53,003**	**634,540**

Deductions ($M)

Period	Operating costs	Transportation	Development costs	Taxes	Total
2021	42,539	15,761	10,050	14,467	82,818
2022	33,943	11,710	3,968	12,956	62,577
2023	28,332	8,967	14,613	12,604	64,517
2024	24,186	7,100	3,331	11,152	45,769
2025	20,489	5,495	2,702	9,603	38,289
2026	17,555	4,331	2,233	8,436	32,555
2027	15,136	3,435	1,885	7,509	27,965
2028	13,155	2,777	1,609	6,787	24,329
2029	11,448	2,231	1,383	6,196	21,258
2030	10,034	1,831	1,198	5,725	18,787
2031	8,849	1,528	23,567	5,363	39,306
Total	**225,666**	**65,167**	**66,540**	**100,797**	**458,170**

Future net income ($M)

Period	Annual	Cumulative	Discounted @10%
2021	30,968	30,968	28,153
2022	36,247	67,216	29,957
2023	28,607	95,823	21,493
2024	31,064	126,887	21,217
2025	22,663	149,550	14,072
2026	16,620	166,170	9,382
2027	11,890	178,060	6,102
2028	8,545	186,605	3,986
2029	5,858	192,463	2,484
2030	3,905	196,368	1,506
2031	(19,998)	176,370	(7,009)
Total	**176,370**		**131,342**

Notes
Gross production = Total production from wellheads after shrinkage
Sales volumes = Volumes available for sale: Gross production less losses in processing, transportation and own use fuel gas
Average prices = gross reference price excluding marketing discounts
Operating costs = Operating costs plus General administrative
Taxes = Royalty, Government Profit Share, Corporate Income Tax, Customs Export Duty

Corporate Parameters
Nostrum Oil & Gas PLC
Estimated Future Reserves and Income
Derived Through the Terms of the Production Sharing Agreements
Between the Republic of Kazakhstan and Zhaikmunai LLP
Chinarevskoye License Area
As of December 31, 2020

Table 4

GRAND SUMMARY
TOTAL PROVED PRODUCING RESERVES

Gross production

Period	Number of wells	Oil / cond barrels	Plant products barrels	Gas MMCF
2021	44	2,400,718	796,439	17,053
2022	44	1,780,003	602,936	12,993
2023	43	1,357,531	468,198	10,151
2024	43	1,059,566	371,114	8,091
2025	41	835,471	295,976	6,481
2026	41	670,634	239,896	5,275
2027	36	541,144	195,724	4,328
2028	34	444,330	161,653	3,596
2029	31	364,792	133,279	2,976
2030	30	304,138	111,378	2,499
2031	29	258,366	94,283	2,120
Total		**10,016,693**	**3,470,875**	**75,562**

Sales volumes

Period	Oil / cond barrels	Plant products barrels	Sales gas MMCF
2021	2,307,470	796,439	15,688
2022	1,709,473	602,936	11,954
2023	1,302,806	468,198	9,339
2024	1,016,175	371,114	7,444
2025	800,723	295,976	5,963
2026	642,337	239,896	4,695
2027	518,037	195,724	3,852
2028	425,132	161,653	3,200
2029	348,786	133,279	2,649
2030	290,644	111,378	2,224
2031	246,781	94,283	1,887
Total	**9,608,364**	**3,470,875**	**68,893**

Average prices

Period	Oil / cond $/bbl	Gas $/MCF
2021	45.00	0.57
2022	50.00	0.65
2023	60.00	0.78
2024	60.00	0.86
2025	60.00	0.86
2026	60.00	0.86
2027	60.00	0.86
2028	60.00	0.86
2029	60.00	0.86
2030	60.00	0.86
2031	60.00	0.86
Total	**57.73**	**0.81**

Future gross revenue ($M)

Period	from Oil / cond	from Plant products	from Gas	Total
2021	85,139	18,452	8,960	112,551
2022	70,717	17,778	7,814	96,310
2023	65,680	15,778	7,275	88,732
2024	51,079	12,506	6,424	70,009
2025	40,131	9,974	5,146	55,251
2026	32,103	8,084	4,051	44,239
2027	25,830	6,596	3,324	35,750
2028	21,148	5,447	2,762	29,357
2029	17,296	4,491	2,286	24,073
2030	14,380	3,753	1,919	20,052
2031	12,182	3,177	1,628	16,988
Total	**435,686**	**106,036**	**51,590**	**593,312**

Deductions ($M)

Period	Operating costs	Transportation	Development costs	Taxes	Total
2021	41,600	15,653	7,317	14,304	78,874
2022	33,673	11,440	3,968	12,671	61,752
2023	27,858	8,676	3,488	11,986	52,007
2024	23,428	6,711	3,331	10,177	43,646
2025	19,852	5,180	2,702	8,782	36,517
2026	17,012	4,056	2,233	7,749	31,051
2027	14,661	3,219	1,885	6,906	26,672
2028	12,739	2,595	1,609	6,268	23,211
2029	11,078	2,075	1,383	5,744	20,280
2030	9,703	1,696	1,198	5,332	17,929
2031	8,550	1,410	23,567	5,016	38,542
Total	**220,155**	**62,709**	**52,681**	**94,936**	**430,482**

Future net income ($M)

Period	Annual	Cumulative	Discounted @10%
2021	33,676	33,676	30,615
2022	34,558	68,234	28,560
2023	36,725	104,959	27,592
2024	26,363	131,322	18,006
2025	18,734	150,056	11,632
2026	13,188	163,244	7,444
2027	9,078	172,322	4,658
2028	6,146	178,468	2,867
2029	3,793	182,261	1,609
2030	2,124	184,385	819
2031	(21,554)	162,830	(7,555)
Total	**162,830**		**126,248**

Notes
Gross production = Total production from wellheads after shrinkage
Sales volumes = Volumes available for sale: Gross production less losses in processing, transportation and own use fuel gas
Average prices = gross reference price excluding marketing discounts
Operating costs = Operating costs plus General administrative
Taxes = Royalty, Government Profit Share, Corporate Income Tax, Customs Export Duty

Corporate Parameters

Nostrum Oil & Gas PLC

Table 5

Estimated Future Reserves and Income

Derived Through the Terms of the Production Sharing Agreements

Between the Republic of Kazakhstan and Zhaikmunai LLP

Chinarevskoye License Area

As of December 31, 2020

GRAND SUMMARY

TOTAL PROVED UNDEVELOPED RESERVES

Gross production

Period	Number of wells	Oil / cond barrels	Plant products barrels	Gas MMCF
2021	2	25,786	12,805	153
2022	2	48,939	14,388	294
2023	4	81,643	13,599	230
2024	4	129,647	20,648	272
2025	4	109,573	16,342	206
2026	4	93,003	13,258	160
2027	4	80,103	11,021	129
2028	4	68,952	9,178	105
2029	4	59,938	7,713	87
2030	4	52,222	6,489	72
2031	4	46,096	5,519	61
Total		**795,902**	**130,960**	**1,768**

Sales volumes

Period	Oil / cond barrels	Plant products barrels	Sales gas MMCF
2021	24,501	12,805	141
2022	46,859	14,388	270
2023	77,687	13,599	211
2024	123,096	20,648	250
2025	103,997	16,342	189
2026	88,245	13,258	306
2027	75,990	11,021	115
2028	65,402	9,178	94
2029	56,846	7,713	77
2030	49,525	6,489	64
2031	43,713	5,519	54
Total	**755,862**	**130,960**	**1,771**

Average prices

Period	Oil / cond $/bbl	Gas $/MCF
2021	45.00	0.57
2022	50.00	0.65
2023	60.00	0.78
2024	60.00	0.86
2025	60.00	0.86
2026	60.00	0.86
2027	60.00	0.86
2028	60.00	0.86
2029	60.00	0.86
2030	60.00	0.86
2031	60.00	0.86
Total	**57.73**	**0.81**

Future gross revenue ($M)

Period	from Oil / cond	from Plant products	from Gas	Total
2021	858	297	80	1,235
2022	1,913	424	177	2,514
2023	3,770	458	165	4,392
2024	5,913	696	216	6,824
2025	4,986	551	163	5,700
2026	4,226	447	264	4,936
2027	3,635	371	99	4,106
2028	3,127	309	81	3,517
2029	2,716	260	67	3,043
2030	2,366	219	55	2,640
2031	2,088	186	47	2,320
Total	**35,597**	**4,218**	**1,413**	**41,228**

Deductions ($M)

Period	Operating costs	Transportation	Development costs	Taxes	Total
2021	939	108	2,733	163	3,943
2022	270	270	-	284	824
2023	474	292	11,125	619	12,510
2024	758	390	-	975	2,123
2025	637	315	-	820	1,772
2026	543	275	-	687	1,505
2027	474	217	-	603	1,294
2028	416	183	-	519	1,118
2029	370	157	-	451	978
2030	331	135	-	393	858
2031	299	118	-	347	764
Total	**5,511**	**2,458**	**13,858**	**5,861**	**27,688**

Future net income ($M)

Period	Annual	Cumulative	Discounted @10%
2021	(2,708)	(2,708)	(2,462)
2022	1,690	(1,018)	1,396
2023	(8,117)	(9,136)	(6,099)
2024	4,701	(4,434)	3,211
2025	3,928	(506)	2,439
2026	3,432	2,926	1,937
2027	2,812	5,738	1,443
2028	2,399	8,137	1,119
2029	2,065	10,202	876
2030	1,781	11,984	687
2031	1,556	13,540	546
Total	**13,540**		**5,094**

Notes

Gross production = Total production from wellheads after shrinkage

Sales volumes = Volumes available for sale: Gross production less losses in processing, transportation and own use fuel gas

Average prices = gross reference price excluding marketing discounts

Operating costs = Operating costs plus General administrative

Taxes = Royalty, Government Profit Share, Corporate Income Tax, Customs Export Duty

Includes volumes of Proved Developed Non-Producing (PDNP)

Corporate Parameters

Nostrum Oil & Gas PLC

Table 6

Estimated Future Reserves and Income

Derived Through the Terms of the Production Sharing Agreements

Between the Republic of Kazakhstan and Zhaikmunai LLP

Chinarevskoye License Area

As of December 31, 2020

GRAND SUMMARY

TOTAL PROBABLE RESERVES

Gross production

Period	Number of wells	Oil / cond barrels	Plant products barrels	Gas MMCF
2021	2	119,901	31,330	686
2022	4	277,160	73,315	1,623
2023	8	442,614	113,599	2,623
2024	9	565,105	158,191	4,384
2025	10	490,493	136,374	3,577
2026	10	449,141	118,335	2,900
2027	14	425,394	106,682	2,460
2028	13	399,550	95,999	2,105
2029	14	374,759	87,716	1,848
2030	14	346,671	79,638	1,629
2031	13	313,210	70,833	1,422
Total		**4,203,999**	**1,072,012**	**25,257**

Sales volumes

Oil / cond barrels	Plant products barrels	Sales gas MMCF
115,477	31,330	631
266,722	73,315	1,494
426,581	113,599	2,413
545,172	158,191	4,034
471,220	136,374	3,291
430,262	118,335	2,668
406,772	106,682	2,397
381,548	95,999	2,047
357,626	87,716	1,645
330,635	79,638	1,449
298,602	70,833	1,266
4,030,616	**1,072,012**	**23,334**

Average prices

Oil / cond $/bbl	Gas $/MCF
45.00	0.57
50.00	0.65
60.00	0.78
60.00	0.86
60.00	0.86
60.00	0.86
60.00	0.86
60.00	0.86
60.00	0.86
60.00	0.86
60.00	0.86
57.73	**0.81**

Future gross revenue ($M)

Period	from Oil / cond	from Plant products	from Gas	Total
2021	4,298	726	360	5,385
2022	11,132	2,162	976	14,271
2023	21,906	3,828	1,880	27,614
2024	28,114	5,331	3,481	36,926
2025	23,867	4,596	2,840	31,302
2026	21,520	3,988	2,303	27,810
2027	20,181	3,595	2,068	25,844
2028	18,816	3,235	1,767	23,818
2029	17,581	2,956	1,420	21,956
2030	16,213	2,684	1,251	20,147
2031	14,615	2,387	1,092	18,095
Total	**198,243**	**35,486**	**19,438**	**253,168**

Deductions ($M)

Operating costs	Transportation	Development costs	Taxes	Total
939	806	2,733	522	5,000
2,643	1,832	3,550	1,399	9,424
5,491	3,110	22,500	2,585	33,686
8,279	4,262	2,050	3,324	17,914
8,326	3,198	-	3,150	14,673
8,420	2,578	-	3,003	14,002
8,624	2,236	-	2,896	13,756
8,769	1,944	-	2,780	13,494
8,907	1,729	-	2,645	13,282
8,978	1,543	-	2,468	12,989
8,970	1,358	-	2,243	12,571
78,345	**24,597**	**30,833**	**27,016**	**160,791**

Future net income ($M)

Period	Annual	Cumulative	Discounted @10%
2021	384	384	350
2022	4,846	5,231	4,005
2023	(6,072)	(841)	(4,562)
2024	19,012	18,171	12,985
2025	16,629	34,799	10,325
2026	13,809	48,608	7,795
2027	12,089	60,697	6,203
2028	10,324	71,021	4,816
2029	8,675	79,696	3,679
2030	7,158	86,853	2,760
2031	5,523	92,377	1,936
Total	**92,377**		**50,292**

Notes

Gross production = Total production from wellheads after shrinkage

Sales volumes = Volumes available for sale: Gross production less losses in processing, transportation and own use fuel gas

Average prices = gross reference price excluding marketing discounts

Operating costs = Operating costs plus General administrative

Taxes = Royalty, Government Profit Share, Corporate Income Tax, Customs Export Duty

Includes Probable Developed and Undeveloped volumes, there is no Probable Non-Producing volumes