Sproule

ESTIMATION OF THE PROSPECTIVE RESOURCES OF RECONNAISSANCE ENERGY AFRICA LTD. IN BOTSWANA AND NAMIBIA

(AS OF JUNE 30, 2020)

sproule.com

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Introduction

This report was prepared by Sproule International Limited (“Sproule”) at the request of Mr. Scot Evans, COO of Reconnaissance Energy Africa Ltd. Reconnaissance Energy Africa Ltd. is hereinafter referred to as "the Company". The effective date of this report is June 30, 2020 and it was prepared for the Company during July 2020 for the purpose of assessing the potential hydrocarbon resources of the Company’s interests in Botswana and Namibia. This report consists of an estimation of the unrisked and risked best estimate prospective P&NG resources on the Company’s lands.

The preparation date of this report is July 17, 2020. This date is subsequent to the effective date and refers to the last date on which information, relating to the period ending on the effective date, was received and considered in the preparation of this report.

Evaluation Scope

Resource Estimation Guidelines

The resource data presented in this report, which includes prospective resource volumes, was prepared in accordance with the Canadian Oil and Gas Evaluation Handbook (the “COGE Handbook”). The COGE Handbook is incorporated by reference in National Instrument 51-101 (“NI 51-101”).

The COGE Handbook Section 1.3.5 defines prospective resources as those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective resources have both an associated chance of discovery and a chance of development. Prospective resources may be further subdivided in accordance with the level of certainty associated with recoverable estimates assuming their discovery and development and may be subclassified based on project maturity.

The prospective resources were estimated using the Company’s data, comparison with analogous basins within South Africa and North America, and volumetric calculations based on analogue data, including published data and Sproule’s internal files which helped establish all reservoir parameters.

Property

This report presents an evaluation of the prospective resources on the Company’s lands. The Company’s lands are in northwestern Botswana and northeastern Namibia and are currently undeveloped. The Company’s properties are at an early conceptual stage of development.

Initial Development Plan

The development scenario presented in this evaluation was based on the provided Company initial development plan which was reviewed by Sproule. The development scenario represents the initial steps the Company will take during which it will gather a significant amount of the geological data necessary to better understand the full hydrocarbon potential of the Company's lands. It should also provide data to determine if additional potential could exist within the basin.

Evaluation Data and Procedures

At the request of the Company, no economic evaluation was completed for the prospective P&NG resources on the Company's lands.

Sources of Data

Various data, pertinent to the evaluation of the prospective resources located on the Company's lands, were obtained from public data sources and the Company as follows:

Public sources of Data

- literature and other published information regarding hydrocarbon potential in Southern Africa
- Sproule's non-confidential internal files
- analogous reservoir data from public domain

Company sources of Data

- conceptual study
- interpretation of the aeromagnetic data
- analogous well log
- presentations

Accuracy and Reliance on Data

All property descriptions, legal titles, aeromagnetic data interpretation, initial work plan and other data that were obtained from the Company or from public sources were accepted as represented, without any further investigation by Sproule.

Investment Decisions

The prospective resource estimations provided in this report were conducted using very limited data over the Company's land and some data from neighboring basins in South Africa and worldwide. Therefore, the results of these estimations should be used cautiously in making investment decisions.

Field Inspections

In the preparation of this evaluation, field inspections of the properties were not performed. The relevant engineering and geoscience data were obtained from the Company, from public sources and from the non-confidential files at Sproule. No material information regarding the resource evaluation would have been obtained by an on-site visit.

Evaluation Software

For this evaluation, Sproule utilized the GeoX software (version 5.8) developed by GeoKnowledge to complete the probabilistic assessment. The functionality of the program is not the responsibility of Sproule, and results were accepted as calculated by the model. Sproule's responsibility is limited to the quality of the data input and reasonableness of the outcoming results.

Evaluation Results and Presentations

Evaluation Standards

This report has been prepared by Sproule using current geological and engineering knowledge, techniques and computer software. It has been prepared within the Code of Ethics of the Association of Professional Engineers and Geoscientists of Alberta ("APEGA").

The prospective resource estimates presented in this report was prepared in accordance with the COGE Handbook. It adheres in all material aspects to the principles and definitions established by the Calgary Chapter of the Society of Petroleum Evaluation Engineers. The COGE Handbook is incorporated by reference in NI 51-101.

Report Contents

This report is included in one (1) volume which consists of an Introduction, Summary, Discussion and Appendices. The Introduction includes the summary of evaluation standards and procedures and pertinent author certificates; the Summary includes high-level summaries of the evaluation; and the Discussion includes general commentaries pertaining to the evaluation of the prospective resources. Resource definitions, abbreviations, units and conversion factors are included in Appendices A and B, respectively. The Engagement Agreement has been included as Appendix C; it presents the terms and conditions of the consulting services, and the representations and warranties of the Company.

Erroneous Data

Sproule reserves the right to review all calculations made, referred to, or included in this report and to revise the estimates as a result of erroneous data supplied by the Company or information that exists but was not made available to us, which becomes known subsequent to the preparation of this report.

Cautionary Statements

Data Quality

The accuracy of prospective resource estimates is, in part, a function of the quality and quantity of available data and of engineering and geological interpretation and judgment. Given the data provided at the time this report was prepared, the estimates presented herein are considered reasonable. However, they should be accepted with the understanding that the estimates are based on limited data and as additional data or reservoir evaluation information becomes available subsequent to the report effective date; then revision of the estimates may be required. These revisions may be material.

Forward-Looking Statements

The evaluation process involves modeling to reasonably predict future outcomes. Inherent in the modeling process, however, are limitations which may indirectly affect scenarios and forecasts of future events.

This report contains forward-looking statements including expectations of future production. Information concerning prospective resources may also be deemed to be forward-looking as estimates involve the implied assessment that the resources described can be profitably produced in the future. These statements are based on current expectations that involve a number of risks and uncertainties, which could cause actual results to differ from those anticipated. These risks include, but are not limited to: the geological and development risks, the underlying risks of the oil and gas industry (i.e., corporate commitment, regulatory approval, operational risks in development, exploration and production); potential

delays or changes in plans with respect to exploration or development projects or capital expenditures; the uncertainty of resource estimations; the uncertainty of estimates and projections relating to production; costs and expenses; health, safety and environmental factors; commodity prices; and exchange rate fluctuation.

Equivalent Volumes

BOE's (or 'McfGE's' or other applicable units of equivalency) may be misleading, particularly if used in isolation. A BOE conversion ratio of 6 Mcf:1 bbl (or 'An McfGE conversion ratio of 1 bbl:6 Mcf') is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead.

Rounding

Due to rounding, certain totals may not be consistent from one presentation to the next.

Certification

Report Preparation

The report entitled “Estimation of the Prospective Resources of Reconnaissance Energy Africa Ltd. in Botswana and Namibia (As of June 30, 2020)” was prepared by the following Sproule personnel:

Jul. 21, 2020
Alec Kovaltchouk, P.Geo.
VP, Geoscience

Jul. 21, 2020
Suryanarayana Karri, P.Geoph.
Petrophysical Specialist

Jul. 21, 2020
Cameron P. Six, P.Eng.
Senior Petroleum Engineer

Responsible Member Validation

Sproule International Limited is a member of the Association of Professional Engineers and Geoscientists of Alberta and our permit number is P06151. This report has been reviewed and validated by the following Responsible Members of Sproule:

Steven J. Golko, P.Eng.
Senior VP, Consulting Services
Date: Jul. 21, 2020 **Membership:** 80169

Victor Verkhogliad, Ph.D., P.Geol.
Manager, Geoscience
Date: Jul. 21, 2020 **Membership:** 78403

Certificate

Alec Kovaltchouk, P.Geo.

I, Alec Kovaltchouk, VP, Geoscience of Sproule, 900, 140 Fourth Avenue SW, Calgary, Alberta, declare the following:

1. I hold the following degree:
   a. M.Sc. Geochemistry (1981) University of Lviv, Lviv, Ukraine

2. I am a registered professional:
   a. Professional Geoscientist (P.Geo.), Province of Alberta, Canada

3. I am a member of the following professional organizations:
   a. Association of Professional Engineers and Geoscientists of Alberta (APEGA)
   b. Canadian Society of Petroleum Geologists (CSPG)

4. I am a qualified reserves evaluator and reserves auditor as defined in National Instrument 51-101.

5. My contribution to the report entitled “Estimation of the prospective resources of Reconnaissance Energy Africa Ltd. in Botswana and Namibia (As of June 30, 2020)” is based on my geoscience knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule. I did not undertake a field inspection of the properties.

6. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of Reconnaissance Energy Africa Ltd.

Jul. 21, 2020
Alec Kovaltchouk, P.Geo.
VP, Geoscience

Certificate

Suryanarayana Karri, P.Geoph.

I, Suryanarayana Karri, Petrophysical Specialist of Sproule, 900, 140 Fourth Avenue SW, Calgary, Alberta, declare the following:

1. I hold the following degrees:
   a. M.Sc. Engineering Physics and Instrumentation (1983), Osmania University, Hyderabad, India

2. I am a registered professional:
   a. Professional Geophysicist (P.Geoph.), Province of Alberta, Canada

3. I am a member of the following professional organizations:
   a. Association of Professional Engineers and Geoscientists of Alberta (APEGA)
   b. Society of Petroleum Engineers (SPE)
   c. The Society of Petrophysicists and Well Log Analysts (SPWLA)
   d. American Association of Petroleum Geologists (AAPG)

4. I am a qualified reserves evaluator and reserves auditor as defined in National Instrument 51-101.

5. My contribution to the report entitled “Estimation of the prospective resources of Reconnaissance Energy Africa Ltd. in Botswana and Namibia (As of June 30, 2020)” is based on my geoscience knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule. I did not undertake a field inspection of the properties.

6. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of Reconnaissance Energy Africa Ltd.

Jul. 21, 2020
Suryanarayana Karri, P.Geoph.
Petrophysical Specialist

Certificate

Cameron P. Six, P.Eng.

I, Cameron P. Six, Senior Petroleum Engineer of Sproule, 900, 140 Fourth Avenue SW, Calgary, Alberta, declare the following:

1. I hold the following degree:
   a. B.Sc. (with Distinction) Chemical Engineering (1979) University of Calgary, Calgary AB, Canada

2. I am a registered professional:
   a. Professional Engineer (P.Eng.) Province of Alberta, Canada

3. I am a member of the following professional organizations:
   a. Association of Professional Engineers and Geoscientists of Alberta (APEGA)
   b. Society of Petroleum Engineers (SPE)

4. I am a qualified reserves evaluator and reserves auditor as defined in National Instrument 51-101.

5. My contribution to the report entitled “Estimation of the prospective resources of Reconnaissance Energy Africa Ltd. in Botswana and Namibia (As of June 30, 2020)” is based on my engineering knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule. I did not undertake a field inspection of the properties.

6. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of Reconnaissance Energy Africa Ltd.

Jul. 21, 2020
Cameron P. Six, P.Eng.
Senior Petroleum Engineer

Certificate

Steven J. Golko, P.Eng.

I, Steven J. Golko, Senior VP, Consulting Services of Sproule, 900, 140 Fourth Avenue SW, Calgary, Alberta, declare the following:

1. I hold the following degree:
   a. B.Sc. Petroleum Engineering (2006), University of Alberta, Edmonton AB, Canada

2. I am a registered Professional:
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3. I am a member of the following professional organizations:
   a. Association of Professional Engineers and Geoscientists of Alberta (APEGA)
   b. Society of Petroleum Engineers (SPE)
   c. Society of Petroleum Evaluation Engineers (SPEE)

4. I am a qualified reserves evaluator and reserves auditor as defined in National Instrument 51-101.

5. My contribution to the report entitled “Estimation of the prospective resources of Reconnaissance Energy Africa Ltd. in Botswana and Namibia (As of June 30, 2020)” is based on my engineering knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule. I did not undertake a field inspection of the properties.

6. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of Reconnaissance Energy Africa Ltd.

Jul. 21, 2020
Steven J. Golko, P.Eng.
Senior VP, Consulting Services

Certificate

Victor Verkhogliad, P.Geol.

I, Victor Verkhogliad, Manager, Geoscience of Sproule, 900, 140 Fourth Avenue SW, Calgary, Alberta, declare the following:

1. I hold the following degrees:
   a. B.Sc. Geology (1979), Lviv State University, Ukraine
   b. M.Sc. Prospecting and Exploring Ore Deposits (1981), Lviv State University, Ukraine
   c. Ph.D. Geology (1988) The National Academy of Sciences of Ukraine, Kiev

2. I am a registered professional:
   a. Professional Geologist (P.Geol.) Province of Alberta, Canada
   b. Professional Geologist (P.Geol.) Province of Saskatchewan, Canada

3. I am a member of the following professional organizations:
   a. Association of Professional Engineers and Geoscientists of Alberta (APEGA)
   b. Association of Professional Engineers & Geoscientists of Saskatchewan (APEGS)
   c. Canadian Society of Petroleum Geologists (CSPG)
   d. American Association of Petroleum Geologists (AAPG)
   e. Society of Petroleum Engineers (SPE)

4. I am a qualified reserves evaluator and reserves auditor as defined in National Instrument 51-101.

5. My contribution to the report entitled “Estimation of the prospective resources of Reconnaissance Energy Africa Ltd. in Botswana and Namibia (As of June 30, 2020)” is based on my geological knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule. I did not undertake a field inspection of the properties.

6. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of Reconnaissance Energy Africa Ltd.

Jul. 21, 2020
Victor Verkhogliad, Ph.D., P.Geol.
Manager, Geoscience

Summary

This report consists of an evaluation of the unrisked and risked best estimate Prospective P&NG Resources of the Company's lands in Botswana and Namibia.

The resource definitions and ownership classification used in this evaluation are the standards defined by the COGE Handbook reserve and resource definitions and are consistent with NI 51-101. The COGE Handbook Section 1.3.5 defines prospective resources as those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective Resources have both an associated chance of discovery and a chance of development.

The results and conclusions of this report are mostly based on the results of work conducted by Sproule for Reconnaissance Oil & Gas Corporation in 2018 and presented in the report titled "Estimation of Prospective Resources of Reconnaissance Oil & Gas Corporation in NE Namibia (As of June 30, 2018)". The scope of work for the 2018 report was to assess the unrisked and risked potential hydrocarbon resources of Reconnaissance Energy Namibia (Pty) Ltd. (a wholly-owned subsidiary of Reconnaissance Oil & Gas Corporation) interests in NE Namibia. The detailed work in 2018 included:

- review the geological work performed by the Company and other evaluators, including the basin modelling concept and magnetic data interpretation to confirm the structural and tectonic setting of the area which should lead to confirmation of the prospectivity;
- undertake a review of all available data such as existing regional studies, internet search materials, and data provided by the Company to find the best analogues;
- determine the ranges of the reservoir parameters (i.e. net pay, porosity, water saturation) and prospective aerial extent;
- build probabilistic models using GeoX software developed by GeoKnowledge to estimate the unrisked Low, Best and High undiscovered petroleum initially in place;
- estimate the range of recovery factors which will be included in probabilistic recoverable volume estimate runs;
- estimate the geological chance of success (GCoS) risk factor;
- estimate the Mean risked Company-interest prospective resources;
- estimate chance of development (COD) risk and thus chance of commerciality (COC) (product of GCoS and COD).

Since the 2018 Sproule report was issued, a new company has become the ultimate parent of the Reconnaissance affiliate holding the Namibia acreage. Reconnaissance Energy Africa Ltd. (formerly Lund Enterprises) is a TSXV-listed company with which the shareholders of Reconnaissance Oil & Gas

Corporation did a reverse takeover in August 2019. Consequently, Reconnaissance Energy Africa Ltd. now controls 100 percent of Reconnaissance Energy Namibia (Pty) Ltd., which is the licensee of PEL 73.

No new drilling or any other work has occurred on the Namibia asset since Sproule issued the 2018 report and therefore, Sproule's estimates of Petroleum Initially-In-Place, recoverable resource volumes, geological and development risks are unchanged from those estimated in the 2018 report and all abovementioned volume and risk estimates are still valid, as was stated in the updated Sproule report issued on April 22, 2020.

However, in 2020, Reconnaissance Energy Africa Ltd. acquired 2.45 million acres of land in northwestern Botswana adjacent to its land in Namibia (licence PEL 001) and located within the same Okavango River Basin. As a result, the Company has requested Sproule to update the prospective resources including the new acquired lands in Botswana. The interests in Botswana are held by Reconnaissance Energy Botswana (Pty) Ltd, a wholly-owned subsidiary of Reconnaissance Energy Africa Ltd.

This report includes estimates of the prospective resources in Namibia (unchanged since the 2018 report), and the estimates of the prospective resources in Botswana on the Company's land. In addition, combined prospective resources within both the Namibia and Botswana licences are also presented in this report. The undiscovered PIIP and prospective resources included in this report represent the unconventional (tight gas, shale gas and tight oil) resources on the Company's lands and do not include potential conventional prospective resources. There could be additional potential conventional hydrocarbon accumulations on Company lands that will be better defined after drilling one or several wells on the Company lands.

The Company interest estimates of Petroleum Initially-in-Place and prospective resources in Namibia, Botswana and aggregated for blocks in both countries are present in Table S-1 below. Note that the Company interest for the Botswana acreage shown are 100 percent, representing the working interest at June 30, 2020. On June 10, 2020, Reconnaissance Energy Botswana (Pty) Ltd. entered into a Farmout Option Agreement with Reconnaissance Energy Corporation (the Farmee) whereby the Farmee has the option to acquire a 50 percent interest in the Botswana lands up to three years after the contract grant date. If this option is exercised in the future, then Reconnaissance Energy Botswana (Pty) Ltd.'s working interest in the Botswana acreage would be reduced to 50 percent.

Table S-1

Company Interest Low, Best, and High Estimates of Undiscovered PIIP and Prospective Resources for Reconnaissance Energy Africa Ltd. in Namibia, Botswana and Aggregated (as of June 30, 2020)

Area	Fluid Type[7,8]	Undiscovered Petroleum Initially-In-Place (UPIIP)[9]			Prospective Resources [4]			
		Unrisked			Unrisked			Risked[5,6]
		Low[1]	Best[2]	High[3]	Low[1]	Best[2]	High[3]	Best[2]
Namibia Blocks	Light Oil (MMbbl) Case	180.8	12,018.40	24,496.70	8.1	831.2	1,539.80	73.1
	Gas (Bcf) Case	1,678.90	106,552.60	223,434.30	510	35,752.10	71,154.10	3,146.20
Botswana Block	Light Oil (MMbbl) Case	141.0	6,155.70	13,123.60	6.4	424.8	858.9	37.4
	Gas (Bcf) Case	1,357.10	54,696.60	123,242.60	407.8	18,356.80	39,145.50	1,615.40
Arithmetically Aggregated Namibia and Botswana Blocks	Light Oil (MMbbl) Case	321.8	18,174.10	37,620.30	14.5	1,256.00	2,398.70	110.5
	Gas (Bcf) Case	3,036.00	161,249.20	346,676.90	917.8	54,108.90	110,299.60	4,761.60
Probabilistically Aggregated Namibia and Botswana Blocks	Light Oil (MMbbl) Case	215.3	16,336.30	33,541.50	9.6	1,126.80	2,104.90	99.2
	Gas (Bcf) Case	2,022.30	145,443.00	304,037.10	606.8	48,763.80	98,477.00	4,291.20

(1) Low represents the P90 volume estimate

(2) Best represents the mean volume estimate

(3) High represents the P10 volume estimate

(4) Prospective Resources are sub-classified as Prospective - Leads (Risked = Best Estimate *8.8%)

(5) It is mathematically invalid to determine a risked success-case distribution for any probability level other than the mean itself by multiplying an unrisked success case by the geological chance of success

(6) Risked: An 8.8 percent chance of discovery risk (91.2 percent chance of no discovery)

(7) Oil resources are presented in millions of barrels

(8) Gas resources are presented in billions of cubic feet

(9) UPIIP represents that quantity of petroleum that is estimated, as of June 30, 2020, to be contained in accumulations yet to be discovered

All undiscovered or prospective oil or gas resources in this report are presented in million barrels of oil and billion cubic feet of raw gas, respectively.

Discussion

Lands

The Company's property in Namibia includes six license blocks, namely 1719, 1720, 1721, 1819, 1820 and 1821 (all of Petroleum Exploration Licence, or PEL, 73) with a total area of 6.3 million acres. The Company's property in Botswana includes PEL 001 of 2.45 million acres in size. Both licences are located within the Okavango River Basin as shown in Figure 1.

Geological Evaluation

As was mentioned above, the prospective resource estimates are mostly based on the work conducted by Sproule in 2018, details of which are described below. In addition, for this report, Sproule completed an estimate of the prospective resources within the Company's land in Botswana. Since the lands in Botswana are a continuation of the same Kavango Basin, Sproule used the same methodology and reservoir parameters (except area distribution) as for the Namibia lands for estimation of the prospective resources in Botswana. The undiscovered PIIP and prospective resources included in this report represent the unconventional (tight gas, shale gas and tight oil) resources on the Company's lands and do not include potential conventional prospective resources. There could be additional potential conventional hydrocarbon accumulations on Company lands that will be better defined after drilling one or several wells on the Company lands.

Geology Review Summary

The Company is targeting equivalent rocks to the hydrocarbon-prone unconventional deposits within the Karoo Group of the Main Karoo Basin in South Africa. The main producing formations within the Main Karoo Basin are the Prince Albert, Whitehill and Collingham, all of the Lower Ecca Group.

The Prince Albert Formation within the Karoo Basin of South Africa is composed of mudstones with shales and some small sandstone units. The overlying Whitehill Formation is comprised of fine-grained, finely laminated black organic rich shale. The shales contain dolomite lenses near the base. The Collingham Formation is comprised of dark grey mudstones, intercalated with thin yellow clay-like layers of ashfall tuff. At the top of the formation, the mudstone grades into sandstone (Claire Geel at el, 2013).[1]

The Company has interpreted high-resolution aero-magnetic data documenting a very deep untested sub-basin (Kavango) with optimal conditions for preserving a thick interval of organic-rich marine shales in the lower portion of the Karoo Super Group. Maximum depth to basement is estimated at over 9 kilometres. The Company has also completed structural and geological interpretations of magnetic inversion profiles, backfilling the basin with stratigraphic section of Precambrian, Permian and Cretaceous sediments.

As per the Company's concept, the formational equivalents to the Lower Ecca Group will be preserved in the untested deeper portions of the Kavango Basin. The Company suggests that these target sediments lie in a previously unrecognized Karoo Basin along major trans-African lineaments that link northeast Namibia to the better-known Karoo rift basins in eastern Africa. After reviewing the available data and literature, Sproule found this concept to be reasonable.

Sproule's Resource Estimation

Sproule used a probabilistic method to estimate the prospective resources on the Company's land. The ranges of area and all reservoir parameters including gross thickness, net-to-gross ratio, porosity, water saturation and formation volume factor were input as distributions and were estimated by Sproule using all available data. The P90, P10, P50 and Mean values for each reservoir parameter were estimated from these distributions and were used as inputs for the probabilistic analysis of hydrocarbons in place. To estimate the recoverable volumes (prospective resources), Sproule used the ranges of recovery factors as inputs for probabilistic runs. The chance of discovery or geological chance of success (GCoS) was also estimated to facilitate estimation of the risked prospective resources (only mean volumes). Finally, Sproule estimated the chance of commerciality (product of the chance of development and GCoS). Note that since the basin is untested, Sproule estimated resources for two scenarios, being gas only or oil only.

As no data is available for the Kavango Basin and this play is in the conceptual stage of maturity, Sproule used analogue data obtained from different sources (referenced within the text and at the end of this report) including the Company's interpretations, internet and literature data (mostly from the Karoo Basin in South Africa), as well as Sproule's internal data and general knowledge. The most significant data utilized was the strip log from Stratigraphic Test #1, located approximately 375 km west of the Company's land, which was provided by the Company. As a result, the ranges of all reservoir parameters were estimated using interpreted distributions. The low and high ends on each distribution were checked for reasonableness and adjusted if needed. The ranges of parameters used in the resource estimations are shown in Table 1 and discussed below.

Table 1						
Input Parameters for the Probabilistic Model of the Blocks in Namibia and Botswana (As of June 30, 2020)						
Area	Parameter	Distribution type	P90	Mean	P10	Data Source
Namibia Blocks 1719, 1720, 1721, 1819, 1820, 1821	Area (km^2)	LN5010	203.1	2,061.6	5018.4	Aeromagnetic
	Gross Reservoir Thickness (m)	Ln2LoHi	15	105.9	248.3	Analogue
	Net/gross Ratio (%)	Ln2LoHi	19.7	42.6	72	Analogue
	Porosity (%)	Ln2LoHi	1	3.86	8	Analogue
	Gas Saturation (%)	StrechBetaP99_P1	64.4	74	84.7	Analogue
	Oil Saturation (%)	StrechBetaP99_P1	64.4	74	84.7	Analogue
	Gas Formation Factor, Bg (scf/scf)	Ln2LoHi	0.0009	0.0008	0.00075	Analogue
	Oil Formation Factor, Bo (bbl/STB)	Ln2LoHi	1.5	1.32	1.15	Analogue
	Recovery Factor, Gas (%)	Ln2LoHi	20	33.6	50	Analogue
	Recovery Factor, Oil (%)	Ln2LoHi	1.99	7	14.3	Analogue
Botswana Block	Area (km^2)	LN5010	163.7	955.9	2174.7	Aeromagnetic
	Gross Reservoir Thickness (m)	Ln2LoHi	15	105.9	248.3	Analogue
	Net/gross Ratio (%)	Ln2LoHi	19.7	42.6	72	Analogue
	Porosity (%)	Ln2LoHi	1	3.86	8	Analogue
	Gas Saturation (%)	StrechBetaP99_P1	64.4	74	84.7	Analogue
	Oil Saturation (%)	StrechBetaP99_P1	64.4	74	84.7	Analogue
	Gas Formation Factor, Bg (scf/scf)	Ln2LoHi	0.0009	0.0008	0.00075	Analogue
	Oil Formation Factor, Bo (bbl/STB)	Ln2LoHi	1.5	1.32	1.15	Analogue
	Recovery Factor, Gas (%)	Ln2LoHi	20	33.6	50	Analogue
	Recovery Factor, Oil (%)	Ln2LoHi	1.99	7	14.3	Analogue

Table 1 (Continued)						
Input Parameters for the Probabilistic Model of the Blocks in Namibia and Botswana (As of June 30, 2020)						
Area	Parameter	Distribution type	P90	Mean	P10	Data Source
Namibia and Botswana Blocks Combined Acreage	Area (km^2)	LN5010	224.1	2,742.0	7030.3	Aeromagnetic
	Gross Reservoir Thickness (m)	Ln2LoHi	15	105.9	248.3	Analogue
	Net/gross Ratio (%)	Ln2LoHi	19.7	42.6	72	Analogue
	Porosity (%)	Ln2LoHi	1	3.86	8	Analogue
	Gas Saturation (%)	StrechBetaP99_P1	64.4	74	84.7	Analogue
	Oil Saturation (%)	StrechBetaP99_P1	64.4	74	84.7	Analogue
	Gas Formation Factor, Bg (scf/scf)	Ln2LoHi	0.0009	0.0008	0.00075	Analogue
	Oil Formation Factor, Bo (bbl/STB)	Ln2LoHi	1.5	1.32	1.15	Analogue
	Recovery Factor, Gas (%)	Ln2LoHi	20	33.6	50	Analogue
	Recovery Factor, Oil (%)	Ln2LoHi	1.99	7	14.3	Analogue

Area

To estimate the area ranges, Sproule used the Company interpretation of the aeromagnetic data. The deepest parts of the basin (blue colour) were assumed to be the low case, and the shallower parts (yellow colour) to be the high case (Figure 2). Note that these areas are not necessarily present in the P_{90} and P_{10} cases. The area ranges were estimated separately for lands in each country, as well as for combined lands representing the entire basin potential.

Gross Reservoir Thickness

The closest analogue to the Kavango Basin is the Owambo Basin located to the west, in the centre of northern Namibia (Figure 3). Several wells were drilled in this basin with no test or logs available. The key data point in the Owambo Basin is the Stratigraphic Test #1 well located approximately 375 km west of the Company's land. This well intersected deposits equivalent to the Lower Ecca Group (Dwyka and Prince Albert formations) of about 213 metres thickness. From the literature (Thomas E. Hoak at el, 2014)[8], it is known that the well was drilled in the deepest part of the Owambo Basin. Therefore, Sproule used this gross thickness for a high case. To build a distribution, the maximum gross thickness of about 700 metres was used as a Lower Ecca Group thickness in the Karoo Basin (EIA/ARI World Shale Gas and Shale Oil Resource Assessment (May 2013).[5]

Net-to-Gross Ratio

As per the EIA/ARI World Shale Gas and Shale Oil Resource Assessment (May 2013)[5], the net-to-gross ratio for each of the three formations of the Lower Ecca Group ranges between 0.3 and 0.5. Assuming the deposits may include some more conventional rock intervals, Sproule used an average net-to-gross ratio of about 0.4 as the mean value, truncating a high point of distribution at 1.0. The ratios were also checked for reasonableness against the shale and "hybrid" shale plays in North America such as the Barnett, Eagle Ford, and Montney.

Porosity

Several different sources indicate that the shales of the Karoo Supergroup are very tight. The porosity range found in the literature is between 0.4 and 3.7 percent (Claire Geel at el, 2013; Claire Geel at el, 2014)[1,4]. However, taking into consideration that the expected rocks are a mix of shale and more conventional deposits, the porosity range of 1 to 8 percent was used for the porosity distribution.

Gas/Oil Saturation

Sproule could not find any information about hydrocarbon saturation in the Karoo Basin. To build a saturation distribution, Sproule used internal data and general knowledge of similar deposits in North America such as the Montney, Bakken, Eagle Ford, and Niobrara.

Formation Volume Factor

To estimate the formation volume factor for oil (Bo), Sproule used the data for unconventional plays in North America summarized in the EIA/ARI World Shale Gas and Shale Oil Resource Assessment (May 17, 2013)[5]. Different formations with normal or slightly over-pressured reservoirs (Barnett, Wolfcamp, Niobrara) were reviewed for their Bo value. As a result, the range of Bo between 1.1 and 1.5 was used for the distribution.

To estimate the formation volume factor for gas (Bg), Sproule used the expected pressure and temperature gradients to calculate the ranges of potential formation pressure and temperature. The assumed depth of the target reservoirs was estimated from the Company basin interpretation to be between 1.5 and 2.5 kilometres. The range of reservoir pressure was estimated at 2,300 to 3,800 psi with the formation temperature being in the range of 125 to 175^0 Fahrenheit using the plots of gas-formation volume factors (John C. Calhoun Jr., 1953).[10]

Recovery Factor

The recovery factor ranges for gas and oil were estimated using Sproule's internal data and general knowledge of the shale and "hybrid" plays in North America such as the Montney, Bakken, Barnett, and Eagle Ford. The range of recovery factors for gas was estimated at 20 to 60 percent, while the range of recovery factors for oil was estimated at about 2 to 14 percent.

Geological Chance of Success

The chance of discovery is defined as the estimated probability that exploration activities will confirm the existence of a significant accumulation of potentially recoverable petroleum. The leads on Company land carry very high risk because all geological risk factors are poorly defined with almost no information available at the present time. The data adequacy assessment matrix (Figure 4), proposed by Rose and Associates, was employed to estimate the risk for each geologic parameter. Probabilities were assigned for each exploration geology component. As no data is available for the Kavango Basin, the value of 0.5 for each component (50/50 chance of success) was used representing low confidence for most geological components. The exception was the trap/seal component where 0.7 was used as it has a lower risk to be an issue in this unconventional play. The resultant geological chance of success value was estimated to be 8.8 percent, as summarized in Table 2 below.

Table 2

Estimation of the Geological Chance of Success (GCoS)

Formation	Lead	Trap and Seal(1)	Reservoir Presence(2)	Reservoir Quality(3)	Source and Migration(4)	GCoS
Lower Ecca Group	Blocks in Namibia and Botswana	0.7	0.5	0.5	0.5	0.088

1) Trap and Seal [fraction] is the probability that the trap area and top-seal conditions are sufficient to contain at least one accumulation in the play with minimum hydrocarbon volume or more.
2) Reservoir Presence [fraction] is the probability that the reservoir thickness condition is sufficient to contain at least one accumulation with minimum hydrocarbon volume or more.
3) Reservoir Quality [fraction] is the probability that the reservoir condition is of sufficient quality to allow recovery of minimum hydrocarbon volumes or more from at least one accumulation.
4) Source and Migration [fraction] is the probability that the source richness, maturation, migration and timing conditions are sufficient to charge at least one accumulation with the minimum recoverable hydrocarbon volume or more.

Prospective Resource Assessment

There is a great deal of uncertainty in the ranges of basic reservoir parameters, such as area, porosity, net hydrocarbon pay thickness, fluid composition and water saturation. In the event of a discovery, the actual values may vary significantly from those estimated by Sproule, affecting the volume of hydrocarbon estimated to be present. Other factors, such as reservoir pressure and temperature, density and oil viscosity, will affect the volume of oil or gas that can be recovered. Additional reservoir parameters, such as permeability and the specific mineralogy of the reservoir rock may affect the efficiency of the recovery

process. Recovery of the resources may also be affected by well performance, reliability of production and process facilities.

Sproule has assessed the prospective resources on Company land using probabilistic models developed in GeoX. Tables 3 and 4 below present the unrisked undiscovered petroleum initially-in-place and also the unrisked prospective resources in Namibia and Botswana, respectively, for both cases, oil only and gas only. The mean values of oil and gas prospective resources were risked using the estimated geological chance of success. Note that the Company interest for the Botswana acreage shown are 100 percent, representing the working interest at June 30, 2020. On June 10, 2020, Reconnaissance Energy Botswana (Pty) Ltd. entered into a Farmout Option Agreement with Reconnaissance Energy Corporation (the Farmee) whereby the Farmee has the option to acquire a 50 percent interest in the Botswana lands up to three years after the contract grant date. If this option is exercised in the future, then Reconnaissance Energy Botswana (Pty) Ltd.'s working interest in the Botswana acreage would be reduced to 50 percent.

Table 3

Low, Best, and High Estimates of Undiscovered PIIP and Prospective Resources for Reconnaissance Energy Africa Ltd. in NE Namibia (As of June 30, 2020)

Gross Volumes (100% WI)

Area	Fluid Type[7,8]	Undiscovered Petroleum Initially-In-Place (UPIIP)[9]			Prospective Resources [4]			
		Unrisked			Unrisked			Risked[5,6]
		Low[1]	Best[2]	High[3]	Low[1]	Best[2]	High[3]	Best[2]
Blocks 1719, 1720, 1721, 1819, 1820, 1821	Light Oil (MMbbl) Case	200.9	13,353.8	27,218.5	9.02	923.6	1,710.9	81.3
	Gas (Bcf) Case	1,865.4	118,391.8	248,260.3	566.7	39,724.5	79,060.1	3,495.8

Company Interest Volumes (90% WI)

Area	Fluid Type[7,8]	Undiscovered Petroleum Initially-In-Place (UPIIP)[9]			Prospective Resources [4]			
		Unrisked			Unrisked			Risked[5,6]
		Low[1]	Best[2]	High[3]	Low[1]	Best[2]	High[3]	Best[2]
Blocks 1719, 1720, 1721, 1819, 1820, 1821	Light Oil (MMbbl) Case	180.8	12,018.4	24,496.7	8.1	831.2	1,539.8	73.1
	Gas (Bcf) Case	1,678.9	106,552.6	223,434.3	510.0	35,752.1	71,154.1	3,146.2

(1) Low represents the P90 volume estimate

(2) Best represents the mean volume estimate

(3) High represents the P10 volume estimate

(4) Prospective Resources are sub-classified as Prospective - Leads (Risked = Best*8.8%)

(5) It is mathematically invalid to determine a risked success-case distribution for any probability level other than the mean itself by multiplying an unrisked success case by the geological chance of success

(6) Risked: An 8.8 percent chance of discovery risk (91.2 percent chance of no discovery)

(7) Oil resources are presented in millions of barrels

(8) Gas resources are presented in billions of cubic feet

(9) UPIIP represents that quantity of petroleum that is estimated, as of June 30, 2020, to be contained in accumulations yet to be discovered

Table 4

Low, Best, and High Estimates of Undiscovered PIIP and Prospective Resources for Reconnaissance Energy Africa Ltd. in Botswana (As of June 30, 2020)

Gross Volumes (100% WI)

Area	Fluid Type[7,8]	Undiscovered Petroleum Initially-In-Place (UPIIP)[9]			Prospective Resources [4]			
		Unrisked			Unrisked			Risked[5,6]
		Low[1]	Best[2]	High[3]	Low[1]	Best[2]	High[3]	Best[2]
Botswana Block	Light Oil (MMbbl) Case	141.0	6155.7	13123.6	6.41	424.8	858.9	37.4
	Gas (Bcf) Case	1,357.1	54,696.6	123,242.6	407.8	18,356.8	39,145.5	1,615.4

Company Interest Volumes (100% WI)

Area	Fluid Type[7,8]	Undiscovered Petroleum Initially-In-Place (UPIIP)[9]			Prospective Resources [4]			
		Unrisked			Unrisked			Risked[5,6]
		Low[1]	Best[2]	High[3]	Low[1]	Best[2]	High[3]	Best[2]
Botswana Block	Light Oil (MMbbl) Case	141.0	6,155.7	13,123.6	6.4	424.8	858.9	37.4
	Gas (Bcf) Case	1,357.1	54,696.6	123,242.6	407.8	18,356.8	39,145.5	1,615.4

(1) Low represents the P90 volume estimate

(2) Best represents the mean volume estimate

(3) High represents the P10 volume estimate

(4) Prospective Resources are sub-classified as Prospective - Leads (Risked = Best*8.8%)

(5) It is mathematically invalid to determine a risked success-case distribution for any probability level other than the mean itself by multiplying an unrisked success case by the geological chance of success

(6) Risked: An 8.8 percent chance of discovery risk (91.2 percent chance of no discovery)

(7) Oil resources are presented in millions of barrels

(8) Gas resources are presented in billions of cubic feet

(9) UPIIP represents that quantity of petroleum that is estimated, as of June 30, 2020, to be contained in accumulations yet to be discovered

At the request of the Company, Sproule calculated aggregate volumes of prospective resources on the combined Namibia and Botswana lands. Tables 5 and 6 below present two methods of aggregation, arithmetic and probabilistic, respectively. The arithmetic method is a simple summation of the resource volumes in Namibia and Botswana. The probabilistic method, which is more appropriate, involves probabilistic estimation of the resources using the total area of the combined Namibia and Botswana licences as one input. Geologically, it is more appropriate as both licenses are located within the same Kavango Basin.

Table 5

Low, Best, and High Estimates of Arithmetically Aggregated Undiscovered PIIP and Prospective Resources for Reconnaissance Energy Africa Ltd. in Namibia and Botswana (As of June 30, 2020)

Gross Volumes (100% WI)

Area	Fluid Type[7,8]	Undiscovered Petroleum Initially-In-Place (UPIIP)[9]			Prospective Resources [4]			
		Unrisked			Unrisked			Risked[5,6]
		Low[1]	Best[2]	High[3]	Low[1]	Best[2]	High[3]	Best[2]
Namibia and Botswana Blocks	Light Oil (MMbbl) Case	341.9	19,509.5	40,342.1	15.4	1,348.4	2,569.8	118.7
	Gas (Bcf) Case	3,222.5	173,088.4	371,502.9	974.5	58,081.3	118,205.6	5,111.2

Company Interest Volumes (90% WI in Namibia and 100% WI in Botswana)

Area	Fluid Type[7,8]	Undiscovered Petroleum Initially-In-Place (UPIIP)[9]			Prospective Resources [4]			
		Unrisked			Unrisked			Risked[5,6]
		Low[1]	Best[2]	High[3]	Low[1]	Best[2]	High[3]	Best[2]
Namibia and Botswana Blocks	Light Oil (MMbbl) Case	321.8	18,174.1	37,620.3	14.5	1,256.0	2,398.7	110.5
	Gas (Bcf) Case	3,036.0	161,249.2	346,676.9	917.8	54,108.9	110,299.6	4,761.6

(1) Low represents the P90 volume estimate

(2) Best represents the mean volume estimate

(3) High represents the P10 volume estimate

(4) Prospective Resources are sub-classified as Prospective - Leads (Risked = Best*8.8%)

(5) It is mathematically invalid to determine a risked success-case distribution for any probability level other than the mean itself by multiplying an unrisked success case by the geological chance of success

(6) Risked: An 8.8 percent chance of discovery risk (91.2 percent chance of no discovery)

(7) Oil resources are presented in millions of barrels

(8) Gas resources are presented in billions of cubic feet

(9) UPIIP represents that quantity of petroleum that is estimated, as of June 30, 2020, to be contained in accumulations yet to be discovered

Table 6

Low, Best, and High Estimates of Probabilistically Aggregated Undiscovered PIIP and Prospective Resources for Reconnaissance Energy Africa Ltd. in Namibia and Botswana (As of June 30, 2020)

Gross Volumes (100% WI)

Area	Fluid Type[7,8]	Undiscovered Petroleum Initially-In-Place (UPIIP)[9]			Prospective Resources [4]			
		Unrisked			Unrisked			Risked[5,6]
		Low[1]	Best[2]	High[3]	Low[1]	Best[2]	High[3]	Best[2]
Namibia and Botswana Blocks	Light Oil (MMbbl) Case	231.5	17,565.9	36,066.1	10.3	1,211.6	2,263.3	106.6
	Gas (Bcf) Case	2,174.5	156,390.3	326,921.6	652.5	52,434.2	105,889.2	4,614.2

Company Interest Volumes (90% WI in Namibia and 100% WI in Botswana)

Area	Fluid Type[7,8]	Undiscovered Petroleum Initially-In-Place (UPIIP)[9]			Prospective Resources [4]			
		Unrisked			Unrisked			Risked[5,6]
		Low[1]	Best[2]	High[3]	Low[1]	Best[2]	High[3]	Best[2]
Namibia and Botswana Blocks	Light Oil (MMbbl) Case	215.3	16,336.3	33,541.5	9.6	1,126.8	2,104.9	99.2
	Gas (Bcf) Case	2,022.3	145,443.	304,037.1	606.8	48,763.8	98,477.0	4,291.2

(1) Low represents the P90 volume estimate

(2) Best represents the mean volume estimate

(3) High represents the P10 volume estimate

(4) Prospective Resources are sub-classified as Prospective - Leads (Risked = Best*8.8%)

(5) It is mathematically invalid to determine a risked success-case distribution for any probability level other than the mean itself by multiplying an unrisked success case by the geological chance of success

(6) Risked: An 8.8 percent chance of discovery risk (91.2 percent chance of no discovery)

(7) Oil resources are presented in millions of barrels

(8) Gas resources are presented in billions of cubic feet

(9) UPIIP represents that quantity of petroleum that is estimated, as of June 30, 2020, to be contained in accumulations yet to be discovered

These resources have not yet been discovered and there is no certainty that any portion will be discovered. Even if discovered, there is no certainty that it will be commercially viable to produce any portion of the resources.

Engineering Evaluation

Chance of Development Risk and Chance of Commerciality

The chance of development risk factor was estimated by Sproule by identifying the key non-technical contingencies specific to the Company's potential project assuming a discovery is made and assigning a probability that each will be overcome to facilitate the project proceeding. The non-technical contingencies, the chance of resolving each contingency and the aggregate chance of development risk factor are detailed in Table 7 below. The key non-technical contingencies are Infrastructure and Market Access and Social License.

Table 7

Chance of Development Risk Factor
(As of June 30, 2020)

Contingencies	Chance of Development
Regulatory Approval	0.9
Economic Factors	0.9
Corporate Commitment	1
Timing of Production and Development	0.9
Market Access	0.7
Political Factors	0.9
Social License	0.8
Aggregate Chance of Development	**0.37**

Prospective resources carry the risk related to chance of discovery or geological chance of success (GCoS), as well as the chance of development (CoD) if a discovery is made, as described above. Sproule estimated the chance of discovery of the prospective resources to be 8.8 percent (Table 2). Combined with the above chance of development risk (37 percent), a 3.3 percent chance of commerciality (CoC) should be applied to the unrisked best estimate prospective resources volumes to reflect the risked for chance of commerciality prospective resources.

Thus, the Company interest best estimate risked prospective resources volumes (risked for both GCoS and CoD) were estimated to be 27 million barrels (light oil case) or 1,164.1 billion cubic feet (gas case) in Namibia; and 13.8 million barrels (light oil case) or 597.7 billion cubic feet (gas case) in Botswana.

Combined Company interest best estimate risked prospective resources volumes (risked for both GCoS and COD) were estimated to be 40.9 million barrels (light oil case) or 1,761.8 billion cubic feet (gas case) in Namibia and Botswana aggregated arithmetically. If aggregated probabilistically, combined Company interest best estimate risked prospective resources volumes (risked for both GCoS and COD) were estimated to be 36.7 million barrels (light oil case) or 1,587.7 billion cubic feet (gas case). Table 8 below summarizes these volumes.

Table 8

Company Interest Prospective Resource Estimates Risked for the Chance of Commerciality in Namibia, Botswana and Aggregated (As of June 30, 2020)

Area	Fluid Type[8,9]	Undiscovered Petroleum Initially-In-Place (UPIIP)[10]			Prospective Resources [4]				
		Unrisked			Unrisked			Risked[5,6] for GCoS	Risked[7] for CoC
		Low[1]	Best[2]	High[3]	Low[1]	Best[2]	High[3]	Best[2]	Best[2]
Namibia Blocks	Light Oil (MMbbl) Case	180.8	12,018.4	24,496.7	8.1	831.2	1,539.8	73.1	27.0
	Gas (Bcf) Case	1,678.9	106,552.6	223,434.3	510.0	35,752.1	71,154.1	3,146.2	1,164.1
Botswana Block	Light Oil (MMbbl) Case	141.0	6,155.7	13,123.6	6.4	424.8	858.9	37.4	13.8
	Gas (Bcf) Case	1,357.1	54,696.6	123,242.6	407.8	18,356.8	39,145.5	1,615.4	597.7
Arithmetically Aggregated Namibia and Botswana Blocks	Light Oil (MMbbl) Case	321.8	18,174.10	37,620.30	14.5	1,256.00	2,398.70	110.5	40.9
	Gas (Bcf) Case	3,036.00	161,249.20	346,676.90	917.8	54,108.90	110,299.60	4,761.60	1,761.80
Probabilistically Aggregated Namibia and Botswana Blocks	Light Oil (MMbbl) Case	215.3	16,336.30	33,541.50	9.6	1,126.80	2,104.90	99.2	36.7
	Gas (Bcf) Case	2,022.30	145,443.00	304,037.10	606.8	48,763.80	98,477.00	4,291.20	1,587.70

(1) Low represents the P90 volume estimate

(2) Best represents the mean volume estimate

(3) High represents the P10 volume estimate

(4) Prospective Resources are sub-classified as Prospective - Leads (Risked = Best*8.8%)

(5) It is mathematically invalid to determine a risked success-case distribution for any probability level other than the mean itself by multiplying an unrisked success case by the geological chance of success

(6) Risked for GCoS: An 8.8 percent chance of discovery risk (91.2 percent chance of no discovery)

(7) Risked for CoC: A 3.3 percent chance of commerciality risk (combined risk of discovery and risk of development; CoC=GCoS*CoD or 8.8%*37%=3.3%)

(8) Oil resources are presented in millions of barrels

(9) Gas resources are presented in billions of cubic feet

(10) UPIIP represents that quantity of petroleum that is estimated, as of June 30, 2020, to be contained in accumulations yet to be discovered

These resources have not yet been discovered and there is no certainty that any portion will be discovered. Even if discovered, there is no certainty that it will be commercially viable to produce any portion of the resources.

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Appendix A

Petroleum Resources Management System 2018 -

Resource Classification and Categorization Guidelines Excerpt

2.0 Classification and Categorization Guidelines

2.0.0.1 To consistently characterize petroleum projects, evaluations of all resources should be conducted in the context of the full classification *system* shown in Figure 1.1. These guidelines reference this classification system and support an evaluation in which projects are "classified" based on their chance of commerciality, P_c (the vertical axis labeled Chance of Commerciality), and estimates of recoverable and marketable quantities associated with each project are "categorized" to reflect uncertainty (the horizontal axis). The actual workflow of classification versus categorization varies with individual projects and is often an iterative analysis leading to a final report. Report here refers to the presentation of evaluation results within the entity conducting the assessment and should not be construed as replacing requirements for public disclosures under guidelines established by regulatory and/or other government agencies.

2.1 Resources Classification

2.1.0.1 The PRMS classification establishes criteria for the classification of the total PIIP. A determination of a discovery differentiates between discovered and undiscovered PIIP. The application of a project further differentiates the recoverable from unrecoverable resources. The project is then evaluated to determine its maturity status to allow the classification distinction between commercial and sub-commercial projects. PRMS requires the project's recoverable resources quantities to be classified as either Reserves, Contingent Resources, or Prospective Resources.

2.1.1 Determination of Discovery Status

2.1.1.1 A discovered petroleum accumulation is determined to exist when one or more exploratory wells have established through testing, sampling, and/or logging the existence of a significant quantity of potentially recoverable hydrocarbons and thus have established a known accumulation. In the absence of a flow test or sampling, the discovery determination requires confidence in the presence of hydrocarbons and evidence of producibility, which may be supported by suitable producing analogs (see Section 4.1.1, Analogs). In this context, "significant" implies that there is evidence of a sufficient quantity of petroleum to justify estimating the in-place quantity demonstrated by the well(s) and for evaluating the potential for commercial recovery.

2.1.1.2 Where a discovery has identified recoverable hydrocarbons, but is not considered viable to apply a project with established technology or with technology under development, such quantities may be classified as Discovered Unrecoverable with no Contingent Resources. In future evaluations, as appropriate for petroleum resources management purposes, a portion of these unrecoverable quantities may become recoverable resources as either commercial circumstances change or technological developments occur.

2.1.2 Determination of Commerciality

2.1.2.1 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.

2.1.2.2 The commerciality test for Reserves determination is applied to the best estimate (P50) forecast quantities, which upon qualifying all commercial and technical maturity criteria and constraints become the *2P* Reserves. Stricter cases [e.g., low estimate (P90)] may be used for decision purposes or to investigate the range of commerciality (see Section 3.1.2, Economic Criteria). Typically, the low- and high-case project scenarios may be evaluated for sensitivities when considering project risk and upside opportunity.

2.1.2.3 To be included in the Reserves class, a project must be sufficiently defined to establish both its technical and commercial viability as noted 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.

2.1.2.4 While PRMS guidelines require financial appropriations evidence, they do not require that project financing be confirmed before classifying projects as Reserves. However, this may be another external reporting requirement. In many cases, financing is conditional upon the same criteria as above. In general, if there is not a reasonable expectation that financing or other forms of commitment (e.g., farm-outs) can be arranged so that the development will be initiated within a reasonable time-frame, then the project should be classified as Contingent Resources. If financing is reasonably expected to be in place at the time of the final investment decision (FID), the project's resources may be classified as Reserves.

2.1.3 Project Status and Chance of Commerciality

2.1.3.1 Evaluators have the option to establish a more detailed resources classification reporting system that can also provide the basis for portfolio management by subdividing the chance of commerciality axis according to project maturity. Such sub-classes may be characterized qualitatively by the project maturity level descriptions and associated quantitative chance of reaching commercial status and being placed on production.

2.1.3.2 As a project moves to a higher level of commercial maturity in the classification (see Figure 1.1 vertical axis), there will be an increasing chance that the accumulation will be commercially developed and the project quantities move to Reserves. For Contingent and Prospective Resources, this is further expressed as a chance of commerciality, P_c, which incorporates the following underlying chance component(s):

A. The chance that the potential accumulation will result in the discovery of a significant quantity of petroleum, which is called the "chance of geologic discovery," P_g.

B. Once discovered, the chance that the known accumulation will be commercially developed is called the "chance of development," P_d.

2.1.3.3 There must be a high degree of certainty in the chance of commerciality, P_c, for Reserves to be assigned; for Contingent Resources, $P_c = P_d$; and for Prospective Resources, P_c is the product of P_g and P_d.

2.1.3.4 Contingent and Prospective Resources can have different project scopes (e.g., well count, development spacing, and facility size) as development uncertainties and project definition mature.

2.1.3.5 Project Maturity Sub-Classes

2.1.3.5.1 As Figure 2.1 illustrates, development projects and associated recoverable quantities 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.

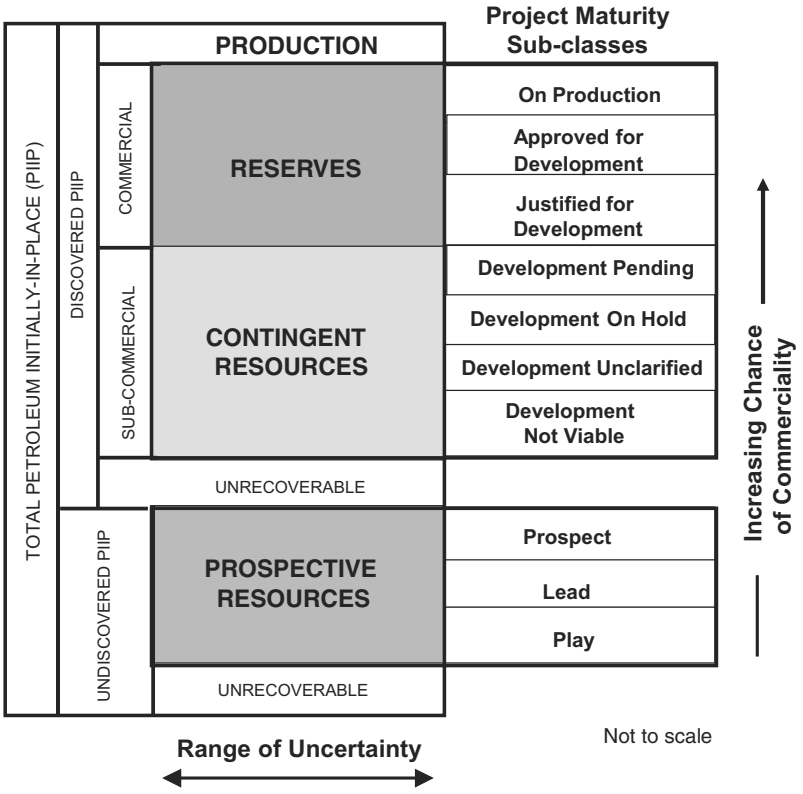


Figure 2.1—Sub-classes based on project maturity

2.1.3.5.2. Maturity terminology and definitions for each project maturity class and sub-class are provided in Table I. This approach supports the management of portfolios of opportunities at various stages of exploration, appraisal, and development. Reserve sub-classes must achieve commerciality while Contingent and Prospective Resources sub-classes may be supplemented by associated quantitative estimates of chance of commerciality to mature.

2.1.3.5.3 Resources sub-class maturation is based on those actions that progress a project through final approvals to implementation and initiation of production and product sales. The boundaries between different levels of project maturity are frequently referred to as project "decision gates."

2.1.3.5.4 Projects that are classified as Reserves must meet the criteria as listed in Section 2.1.2, Determination of Commerciality. Projects sub-classified as Justified for Development are agreed upon by the managing entity and partners as commercially viable and have support to advance the project, which includes a firm intent to proceed with development. All participating entities have agreed to the project and there are no known contingencies to the project from any official entity that will have to formally approve the project.

2.1.3.5.5 Justified for Development Reserves are reclassified to Approved for Development after a FID has been made. Projects should not remain in the Justified for Development sub-class for extended time periods without positive indications that all required approvals are expected to be obtained without undue delay. If there is no longer the reasonable expectation of project execution (i.e., historical track record of execution, project progress), the project shall be reclassified as Contingent Resources.

2.1.3.5.6 Projects classified as Contingent Resources have their sub-classes aligned with the entity's plan to manage its portfolio of projects. Thus, projects on known accumulations that are actively being studied, undergoing feasibility review, and have planned near-term operations (e.g., drilling) are placed in Contingent Resources Development Pending, while those that do not meet this test are placed into either Contingent Resources On Hold, Unclarified, or Not Viable.

2.1.3.5.7 Where commercial factors change and there is a significant risk that a project with Reserves will no longer proceed, the project shall be reclassified as Contingent Resources.

2.1.3.5.8 For Contingent Resources, evaluators should focus on gathering data and performing analyses to clarify and then mitigate those key conditions or contingencies that prevent commercial development. Note that the Contingent Resources sub-classes described above and shown in Figure 2.1 are recommended; however, entities are at liberty to introduce additional sub-classes that align with project management goals.

2.1.3.5.9 For Prospective Resources, potential accumulations may mature from Play, to Lead and then to Prospect based on the ability to identify potentially commercially viable exploration projects. The Prospective Resources are evaluated according to chance of geologic discovery, P_g, and chance of development, P_d, which together determine the chance of commerciality, P_c. Commercially recoverable quantities under appropriate development projects are then estimated. The decision at each exploration phase is whether to undertake further data acquisition and/or studies designed to move the Play through to a drillable Prospect with a project description range commensurate with the Prospective Resources sub-class.

2.1.3.6 Reserves Status

2.1.3.6.1 Once projects satisfy commercial maturity (criteria given in Table 1), the associated quantities are classified as Reserves. These quantities may be allocated to the following subdivisions based on the funding and operational status of wells and associated facilities within the reservoir development plan (Table 2 provides detailed definitions and guidelines):

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

1. **Developed Producing Reserves** are expected to be recovered from completion intervals that are open and producing at the time of the estimate.

2. **Developed Non-Producing Reserves** include shut-in and behind-pipe reserves with minor costs to access.

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

2.1.3.6.2 The distinction between the “minor costs to access” Developed Non-Producing Reserves and the “significant investment” needed to develop Undeveloped Reserves requires the judgment of the evaluator taking into account the cost environment. A significant investment would be a relatively large expenditure when compared to the cost of drilling and completing a new well. A minor cost would be a lower expenditure when compared to the cost of drilling and completing a new well.

2.1.3.6.3 Once a project passes the commercial assessment and achieves Reserves status, it is then included with all other Reserves projects of the same category in the same field for estimating combined future production and applying the economic limit test (see Section 3.1, Assessment of Commerciality).

2.1.3.6.4 Where Reserves remain Undeveloped beyond a reasonable time-frame or have remained Undeveloped owing to postponements, evaluations should be critically reviewed to document reasons for the delay in initiating development and to justify retaining these quantities within the Reserves class. While there are specific circumstances where a longer delay (see Section 2.1.2, Determination of Commerciality) is justified, a reasonable time-frame to commence the project is generally considered to be less than five years from the initial classification date.

2.1.3.6.5 Development and Production status are of significant importance for project portfolio management and financials. The Reserves status concept of Developed and Undeveloped status is based on the funding and operational status of wells and producing facilities within the development project. These status designations are applicable throughout the full range of Reserves uncertainty categories (1P, 2P, and 3P or Proved, Probable, and Possible). Even those projects that are Developed and On Production should have remaining uncertainty in recoverable quantities.

2.1.3.7 Economic Status

2.1.3.7.1 Projects may be further characterized by economic status. All projects classified as Reserves must be commercial under defined conditions (see Section 3.1, Assessment of Commerciality Assessment). 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 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.

2.1.3.7.2 The best estimate (or P50) production forecast is typically used for the economic evaluation for the commercial assessment of the project. The low case, when used as the primary case for a project decision, may be used to determine project economics. The economic evaluation of the project high case alone is not permitted to be used in the determination of the project’s commerciality.

2.1.3.7.3 For Reserves, the best estimate production forecast reflects a specific development scenario recovery process, a certain number and type of wells, facilities, and infrastructure.

2.1.3.7.4 The project's low-case scenario is tested to ensure it is economic, which is required for Proved Reserves to exist (see Section 2.2.2, Category Definitions and Guidelines). It is recommended to evaluate the low case and the high case (which will quantify the 3P Reserves) to convey the project downside risk and upside potential. The project development scenarios may vary in the number and type of wells, facilities, and infrastructure in Contingent Resources, but to recognize Reserves, there must exist the reasonable expectation to develop the project for the best-estimate case.

2.1.3.7.5 The economic status may be identified independently of, or applied in combination with, project maturity sub-classification to more completely describe the project. Economic status is not the only qualifier that allows defining Contingent or Prospective Resources sub-classes. Within Contingent Resources, applying the project status to decision gates (and/or incorporating them in a plan to execute) more appropriately defines whether the project is placed into the sub-class of either Development Pending versus On Hold, Not Viable, or Unclarified.

2.1.3.7.6 Where evaluations are incomplete and it is premature to clearly define the associated cash flows, it is acceptable to note that the project economic status is "undetermined."

2.2 Resources Categorization

2.2.0.1 The horizontal axis in the resources classification in Figure 1.1 defines the range of uncertainty in estimates of the quantities of recoverable, or potentially recoverable, petroleum associated with a project or group of projects. These estimates include the uncertainty components as follows:

A. The total petroleum remaining within the accumulation (in-place resources).

B. The technical uncertainty in the portion of the total petroleum that can be recovered by applying a defined development project or projects (i.e., the technology applied).

C. Known variations in the commercial terms that may impact the quantities recovered and sold (e.g., market availability; contractual changes, such as production rate tiers or product quality specifications) are part of project's scope and are included in the horizontal axis, while the chance of satisfying the commercial terms is reflected in the classification (vertical axis).

2.2.0.2 The uncertainty in a project's recoverable quantities is reflected by the 1P, 2P, 3P, Proved (P1), Probable (P2), Possible (P3), 1C, 2C, 3C, C1, C2, and C3; or 1U, 2U, and 3U resources categories. The commercial chance of success is associated with resources classes or sub-classes and not with the resources categories reflecting the range of recoverable quantities.

2.2.0.3 There must be a single set of defined conditions applied for resource categorization. Use of different commercial assumptions for categorizing quantities is referred to as "split conditions" and are not allowed. Frequently, an entity will conduct project evaluation sensitivities to understand potential implications when making project selection decisions. Such sensitivities may be fully aligned to resource categories or may use single parameters, groups of parameters, or variances in the defined conditions.

2.2.0.4 Moreover, a single project is uniquely assigned to a sub-class along with its uncertainty range. For example, a project cannot have quantities classified in both Contingent Resources and Reserves, for instance as 1C, 2P, and 3P. This is referred to as "split classification."

2.2.1 Range of Uncertainty

2.2.1.1 Uncertainty is inherent in a project's resources estimation and is communicated in PRMS by reporting a range of category outcomes. The range of uncertainty of the recoverable and/or potentially

recoverable quantities may be represented by either deterministic scenarios or by a probability distribution (see Section 4.2, Resources Assessment Methods).

2.2.1.2 When the range of uncertainty is represented by a probability distribution, a low, best, and high estimate shall be provided such that:

A. There should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the low estimate.

B. There should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the best estimate.

C. There should be at least a 10% probability (P10) that the quantities actually recovered will equal or exceed the high estimate.

2.2.1.3 In some projects, the range of uncertainty may be limited, and the three scenarios may result in resources estimates that are not significantly different. In these situations, a single value estimate may be appropriate to describe the expected result.

2.2.1.4 When using the deterministic scenario method, typically there should also be low, best, and high estimates, where such estimates are based on qualitative assessments of relative uncertainty using consistent interpretation guidelines. Under the deterministic incremental method, quantities for each confidence segment are estimated discretely (see Section 2.2.2, Category Definitions and Guidelines).

2.2.1.5 Project resources are initially estimated using the above uncertainty range forecasts that incorporate the subsurface elements together with technical constraints related to wells and facilities. The technical forecasts then have additional commercial criteria applied (e.g., economics and license cutoffs are the most common) to estimate the entitlement quantities attributed and the resources classification status: Reserves, Contingent Resources, and Prospective Resources.

2.2.1.6 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.

2.2.2 Category Definitions and Guidelines

2.2.2.1 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.

2.2.2.2 Use of consistent terminology (Figures 1.1 and 2.1) promotes clarity in communication of evaluation results. 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). Reserves are a subset of, and must be viewed within the context of, the complete resources classification system. While the categorization criteria are proposed specifically for Reserves, in most cases, the criteria can be equally applied to Contingent and Prospective Resources. Upon satisfying the commercial maturity criteria for discovery and/or development, the project quantities will then move to the appropriate resources sub-class. Table 3 provides criteria for the Reserves categories determination.

2.2.2.3 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.

2.2.2.4 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.

2.2.2.5 Quantities in different classes and sub-classes cannot be aggregated without considering the varying degrees of technical uncertainty and commercial likelihood involved with the classification(s) and without considering the degree of dependency between them (see Section 4.2.1, Aggregating Resources Classes).

2.2.2.6 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.

2.2.2.7 All evaluations require application of a consistent set of forecast conditions, including assumed future costs and prices, for both classification of projects and categorization of estimated quantities recovered by each project (see Section 3.1, Assessment of Commerciality).

2.2.2.8 Tables 1, 2, and 3 present category definitions and provide guidelines designed to promote consistency in resources assessments. The following summarize the definitions for each Reserves category in terms of both the deterministic incremental method and the deterministic scenario method, and also provides the criteria if probabilistic methods are applied. For all methods (incremental, scenario, or probabilistic), low, best and high estimate technical forecasts are prepared at an effective date (unless justified otherwise), then tested to validate the commercial criteria, and truncated as applicable for determination of Reserves quantities.

A. **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 known reservoirs and under defined technical and commercial conditions. 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 that the quantities actually recovered will equal or exceed the estimate.

B. **Probable Reserves** are those additional Reserves which analysis of geoscience and engineering data indicate 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.

C. ***Possible Reserves*** are those additional Reserves that analysis of geoscience and engineering data suggest 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) Reserves, which is equivalent to the high-estimate scenario. When probabilistic methods are used, there should be at least a 10% probability that the actual quantities recovered will equal or exceed the 3P estimate. Possible Reserves that are located outside of the 2P area (not upside quantities to the 2P scenario) may exist only when the commercial and technical maturity criteria have been met (that incorporate the Possible development scope). Stand-alone Possible Reserves must reference a commercial 2P project (e.g., a lease adjacent to the

commercial project that may be owned by a separate entity), otherwise stand-alone Possible is not permitted.

2.2.2.9 One, but not the sole, criterion for qualifying discovered resources and to categorize the project's range of its low/best/high or P90/P50/P10 estimates to either 1C/2C/3C or 1P/2P/3P is the distance away from known productive area(s) defined by the geoscience confidence in the subsurface.

2.2.2.10 A conservative (low-case) estimate may be required to support financing. However, for project justification, it is generally the best-estimate Reserves or Resources quantity that passes qualification because it is considered the most realistic assessment of a project's recoverable quantities. 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.

2.2.2.11 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. Results from the deterministic scenario, deterministic incremental, geostatistical and probabilistic methods applied to the same project should give comparable results (see Section 4.2, Resources Assessment Methods). If material differences exist between the results of different methods, the evaluator should be prepared to explain these differences.

2.3 Incremental Projects

2.3.0.1 The initial resources assessment is based on application of a defined initial development project, even extending into Prospective Resources. Incremental projects are designed to either increase recovery efficiency, reduce costs, or accelerate production through either maintenance of or changes to wells, completions, or facilities or through infill drilling or by means of improved recovery. Such projects are classified according to the resources classification framework (Figure 1.1), with preference for applying project maturity sub-classes (Figure 2.1). Related incremental quantities are similarly categorized on the range of uncertainty of recovery. The projected recovery change can be included in Reserves if the degree of commitment is such that the project has achieved commercial maturity (See Section 2.1.2, Determination of Commerciality). The quantity of such incremental recovery must be supported by technical evidence to justify the relative confidence in the resources category assigned.

2.3.0.2 An incremental project must have a defined development plan. A development plan may include projects targeting the entire field (or even multiple, linked fields), reservoirs, or single wells. Each incremental project will have its own planned timing for execution and resource quantities attributed to the project. Development plans may also include appraisal projects that will lead to subsequent project decisions based on appraisal outcomes.

2.3.0.3 Circumstances when development will be significantly delayed and where it is considered that Reserves are still justified should be clearly documented. If there is no longer the reasonable expectation of project execution (i.e., historical track record of execution, project progress), forecast project incremental recoveries are to be reclassified as Contingent Resources (see Section 2.1.2, Determination of Commerciality).

2.3.1 Workovers, Treatments, and Changes of Equipment

2.3.1.1 Incremental recovery associated with a future workover, treatment (including hydraulic fracturing stimulation), re-treatment, changes to existing equipment, or other mechanical procedures where such projects have routinely been successful in analogous reservoirs may be classified as Developed Reserves, Undeveloped Reserves, or Contingent Resources, depending on the associated costs required (see Section 2.1.3.2, Reserves Status) and the status of the project's commercial maturity elements.

2.3.1.2 Facilities that are either beyond their operational life, placed out of service, or removed from service cannot be associated with Reserves recognition. When required facilities become unavailable or out of service for longer than a year, it may be necessary to reclassify the Developed Reserves to either Undeveloped Reserves or Contingent Resources. A project that includes facility replacement or restoration of operational usefulness must be identified, commensurate with the resources classification.

2.3.2 Compression

2.3.2.1 Reduction in the backpressure through compression can increase the portion of in-place gas that can be commercially produced and thus included in resources estimates. If the eventual installation of compression meets commercial maturity requirements, the incremental recovery is included in either Undeveloped Reserves or Developed Reserves, depending on the investment on meeting the Developed or Undeveloped classification criteria. However, if the cost to implement compression is not significant, relative to the cost of one new well in the field, or there is reasonable expectation that compression will be implemented by a third party in a common sales line beyond the reference point, the incremental quantities may be classified as Developed Reserves. If compression facilities were not part of the original approved development plan and such costs are significant, it should be treated as a separate project subject to normal project maturity criteria.

2.3.3 Infill Drilling

2.3.3.1 Technical and commercial analyses may support drilling additional producing wells to reduce the well spacing of the initial development plan, subject to government regulations. Infill drilling may have the combined effect of increasing recovery and accelerating production. Only the incremental recovery (i.e. recovery from infill wells less the recovery difference in earlier wells) can be considered as additional Reserves for the project; this incremental recovery may need to be reallocated.

2.3.4 Improved Recovery

2.3.4.1 Improved recovery is the additional petroleum obtained, beyond primary recovery, from naturally occurring reservoirs by supplementing the natural reservoir energy. It includes secondary recovery (e.g., waterflooding and pressure maintenance), tertiary recovery processes (thermal, miscible gas injection, chemical injection, and other types), and any other means of supplementing natural reservoir recovery processes.

2.3.4.2 Improved recovery projects must meet the same Reserves technical and commercial maturity criteria as primary recovery projects.

2.3.4.3 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.

2.3.4.4 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."

2.4 Unconventional Resources

2.4.0.1 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.

A. Conventional resources exist in porous and permeable rock with pressure equilibrium. The PIIP is trapped in discrete accumulations related to a local geological structure feature and/or stratigraphic condition. Each conventional accumulation is typically bounded by a down dip contact with an aquifer, as its position is controlled by hydrodynamic interactions between buoyancy of petroleum in water versus capillary force. The petroleum is recovered through wellbores and typically requires minimal processing before sale.

B. Unconventional resources exist in petroleum accumulations that are pervasive throughout a large area and are not significantly affected by hydrodynamic influences (also called "continuous-type deposit"). Usually there is not an obvious structural or stratigraphic trap. Examples include coalbed methane (CBM), basin-centered gas (low permeability), tight gas and tight oil (low permeability), gas hydrates, natural bitumen (very high viscosity oil), and oil shale (kerogen) deposits. Note that shale gas and shale oil are sub-types of tight gas and tight oil where the lithologies are predominantly shales or siltstones. These accumulations lack the porosity and permeability of conventional reservoirs required to flow without stimulation at economic rates. Typically, such accumulations require specialized extraction technology (e.g., dewatering of CBM, hydraulic fracturing stimulation for tight gas and tight oil, steam and/or solvents to mobilize natural bitumen for in-situ recovery, and in some cases, surface mining of oil sands). Moreover, the extracted petroleum may require significant processing before sale (e.g., bitumen upgraders).

2.4.0.2 For unconventional petroleum accumulations, reliance on continuous water contacts and pressure gradient analysis to interpret the extent of recoverable petroleum is not possible. Thus, there is typically a need for increased spatial sampling density to define uncertainty of in-place quantities, variations in reservoir and hydrocarbon quality, and to support design of specialized mining or in-situ extraction programs. In addition, unconventional resources typically require different evaluation techniques than conventional resources.

2.4.0.3 Extrapolation of reservoir presence or productivity beyond a control point within a resources accumulation must not be assumed unless there is technical evidence to support it. Therefore, extrapolation beyond the immediate vicinity of a control point should be limited unless there is clear engineering and/or geoscience evidence to show otherwise.

2.4.0.4 The extent of the discovery within a pervasive accumulation is based on the evaluator's reasonable confidence based on distances from existing experience, otherwise quantities remain as undiscovered. Where log and core data and nearby producing analogs provide evidence of potential economic viability, a successful well test may not be required to assign Contingent Resources. Pilot projects may be needed to define Reserves, which requires further evaluation of technical and commercial viability.

2.4.0.5 A fundamental characteristic of engagement in a repetitive task is that it may improve performance over time. Attempts to quantify this improvement gave rise to the concept of the manufacturing progress function commonly called the "learning curve." The learning curve is characterized by a decrease in time and/or costs, usually in the early stages of a project when processes are being optimized. At that time, each new improvement may be significant. As the project matures, further improvements in time or cost savings are typically less substantial. In oil and gas developments with high well counts and a continuous program of activity (multi-year), the use of a learning curve within a resources evaluation may be justified to predict improvements in either the time taken to carry out the activity, the cost to do so, or both. While each development project is unique, review of analogs can provide guidance on such predictions and the range of associated uncertainty in the resulting recoverable resources estimates (see also Section 3.1.2 Economic Criteria).

Appendix B — Abbreviations, Units and Conversion Factors

This appendix contains a list of abbreviations found in Sproule reports, a table comparing Imperial and Metric units, and conversion tables used to prepare this report.

Abbreviations

ADR	abandonment, decommissioning and reclamation
AFE	authority for expenditure
AOF	absolute open flow
APO	after pay out
B_g	gas formation volume factor
B_o	oil formation volume factor
BOE	barrels of oil equivalent
bpd	barrels per day
bopd	barrels of oil per day
boepd	barrels of oil equivalent per day
bfpd	barrels of fluid per day
BPO	before pay out
BS&W	basic sediment and water
BTU	British thermal unit
bwpd	barrels of water per day
CF	casing flange
CGR	condensate-gas ratio
D&A	dry and abandoned
DCQ	daily contract quantity
DPIIP	discovered petroleum initially-in-place
DSU	drilling spacing unit
DST	drill stem test
EOR	enhanced oil recovery
EPSA	exploration and production sharing agreement
FPSO	floating production, storage and off-loading vessel
FVF	formation volume factor
g/cc	gram per cubic centimetre
GIIP	gas initially-in-place
GOR	gas-oil ratio
GORR	gross overriding royalty
GRV	gross rock volume
GWC	gas-water contact
HCPV	hydrocarbon pore volume
ID	inside diameter

IOR	improved oil recovery
IPR	inflow performance relationship
IRR	internal rate of return
k	permeability
KB	kelly bushing
LKH	lowest known hydrocarbons
LKO	lowest known oil
LNG	liquefied natural gas
LPG	liquefied petroleum gas
McfGE	thousands of cubic feet of gas equivalent
Mcfpd	thousands of cubic feet per day
md	millidarcies
MDT	modular formation dynamics tester
MPR	maximum permissive rate
MRL	maximum rate limitation
NCI	net carried interest
NGL	natural gas liquids
NORR	net overriding royalty
NPI	net profits interest
NRA	no reserves assigned
NRI	net revenue interest
NPV	net present value
NRV	net rock volume
NTG	net-to-gross
OD	outside diameter
OGIP	original gas in place
OIIP	oil initially-in-place
OOIP	original oil in place
ORRI	overriding royalty interest
OWC	oil-water contact
P1	proved
P2	probable
P3	possible
P&NG	petroleum and natural gas
PI	productivity index
ppm	parts per million
PSU	production spacing unit
PSA	production sharing agreement
PSC	production sharing contract
PVT	pressure-volume-temperature
RFT	repeat formation tester
RT	rotary table

SCAL	special core analysis
SS	subsea
TPIIP	total petroleum initially-in-place
TVD	true vertical depth
UPIIP	undiscovered petroleum initially-in-place
WGR	water-gas ratio
WI	working interest
WOR	water-oil ratio
2D	two-dimensional
3D	three-dimensional
4D	four-dimensional
1P	proved
2P	proved plus probable
3P	proved plus probable plus possible
^{o}API	degrees API (American Petroleum Institute)

Imperial and Metric Units

Imperial Units			Metric Units	
M (10^3)	thousand	**Prefixes**	k (10^3)	kilo
MM (10^6)	million		M (10^6)	mega
B (10^9)	billion		G (10^9)	giga
T (10^{12})	trillion		T (10^{12})	tera
Q (10^{15})	quadrillion		P (10^{15})	peta
in.	inches	**Length**	cm	centimetres
ft	feet		m	metres
mi	miles		km	kilometres
ft^2	square feet	**Area**	m^2	square metres
ac	acres		ha	hectares
cf or ft^3	cubic feet	**Volume**	m^3	cubic metres
scf	standard cubic feet			
gal	gallons		L	litres
Mcf	thousand cubic feet			
MMcf	million cubic feet			
Bcf	billion cubic feet		e^6m^3	million cubic metres
bbl	barrels		m^3	cubic metres
Mbbl	thousand barrels		e^3m^3	thousand cubic metres
stb	stock tank barrels		stm^3	stock tank cubic metres
bbl/d	barrels per day	**Rate**	m^3/d	cubic metre per day
Mbbl/d	thousand barrels per day		e^3m^3/d	thousand cubic metres
Mcf/d	thousand cubic feet per day		e^3m^3/d	thousand cubic metres
MMcf/d	million cubic feet per day		e^6m^3/d	million cubic metres
Btu	British thermal units	**Energy**	J	joules
oz	ounces	**Mass**	g	grams
lb	pounds		kg	kilograms
ton	tons		t	tonnes
lt	long tons			
psi	pounds per square inch	**Pressure**	Pa	pascals
			kPa	kilopascals (10^3)
psia	pounds per square inch absolute			
psig	pounds per square inch gauge			
°F	degrees Fahrenheit	**Temperature**	°C	degrees Celsius
°R	degrees Rankine		K	degrees Kelvin
M$	thousand dollars	**Dollars**	k$	1 kilodollar

Imperial and Metric Units (Cont'd)

Imperial Units			Metric Units	
sec	second	**Time**	s	second
min	minute		min	minute
hr	hour		h	hour
d	day		d	day
wk	week			week
mo	month			month
yr	year		a	annum

Conversion Tables

Conversion Factors — Metric to Imperial		
cubic metres (m^3) (@ 15°C)	x 6.29010	= barrels (bbl) (@ 60°F), water
m^3 (@ 15°C)	x 6.3300	= bbl (@ 60°F), Ethane
m^3 (@ 15°C)	x 6.30001	= bbl (@ 60°F), Propane
m^3 (@ 15°C)	x 6.29683	= bbl (@ 60°F), Butanes
m^3 (@ 15°C)	x 6.29287	= bbl (@ 60°F), oil, Pentanes Plus
m^3 (@ 101.325 kPaa, 15°C)	x 0.0354937	= thousands of cubic feet (Mcf) (@ 14.65 psia, 60°F)
1,000 cubic metres (10^3m^3) (@ 101.325 kPaa, 15°C)	x 35.49373	= Mcf (@ 14.65 psia, 60°F)
hectares (ha)	x 2.4710541	= acres
1,000 square metres (10^3m^2)	x 0.2471054	= acres
10,000 cubic metres (ha·m)	x 8.107133	= acre feet (ac-ft)
$m^3/10^3m^3$ (@ 101.325 kPaa, 15° C)	x 0.0437809	= Mcf/Ac.ft. (@ 14.65 psia, 60°F)
joules (j)	x 0.000948213	= Btu
megajoules per cubic metre (MJ/m^3)	x 26.714952	= British thermal units per standard cubic foot (Btu/scf)
(@ 101.325 kPaa, 15°C)		(@ 14.65 psia, 60°F)
dollars per gigajoule ($/GJ)	x 1.054615	= $/Mcf (1,000 Btu gas)
metres (m)	x 3.28084	= feet (ft)
kilometres (km)	x 0.6213712	= miles (mi)
dollars per 1,000 cubic metres ($/$10^3m^3$)	x 0.0288951	= dollars per thousand cubic feet ($/Mcf) (@ 15.025 psia) B.C.
($/$10^3m^3$)	x 0.02817399	= $/Mcf (@ 14.65 psia) Alta.
dollars per cubic metre ($/$m^3$)	x 0.158910	= dollars per barrel ($/bbl)
gas/oil ratio (GOR) (m^3/m^3)	x 5.640309	= GOR (scf/bbl)
kilowatts (kW)	x 1.341022	= horsepower
kilopascals (kPa)	x 0.145038	= psi
tonnes (t)	x 0.9842064	= long tons (LT)
kilograms (kg)	x 2.204624	= pounds (lb)
litres (L)	x 0.2199692	= gallons (Imperial)
litres (L)	x 0.264172	= gallons (U.S.)
cubic metres per million cubic metres ($m^3/10^6m^3$) (C_3)	x 0.177496	= barrels per million cubic feet (bbl/MMcf) (@ 14.65 psia)
$m^3/10^6m^3$) (C_4)	x 0.1774069	= bbl/MMcf (@ 14.65 psia)
$m^3/10^6m^3$) (C_{5+})	x 0.1772953	= bbl/MMcf (@ 14.65 psia)
tonnes per million cubic metres ($t/10^6m^3$) (sulphur)	x 0.0277290	= LT/MMcf (@ 14.65 psia)
millilitres per cubic meter (mL/m^3) (C_{5+})	x 0.0061974	= gallons (Imperial) per thousand cubic feet (gal (Imp)/Mcf)
(mL/m^3) (C_{5+})	x 0.0074428	= gallons (U.S.) per thousand cubic feet (gal (U.S.)/Mcf)
Kelvin (K)	x 1.8	= degrees Rankine (°R)
millipascal seconds (mPa·s)	x 1.0	= centipoise
density (kg/m3), ρ	ρ÷1000x141.5-131.5	= °API

Conversion Tables (Cont'd)

Conversion Factors — Imperial to Metric		
barrels (bbl) (@ 60°F)	x 0.15898	= cubic metres (m^3) (@ 15°C), water
bbl (@ 60°F)	x 0.15798	= m^3 (@ 15°C), Ethane
bbl (@ 60°F)	x 0.15873	= m^3 (@ 15°C), Propane
bbl (@ 60°F)	x 0.15881	= m^3 (@ 15°C), Butanes
bbl (@ 60°F)	x 0.15891	= m^3 (@ 15°C), oil, Pentanes Plus
thousands of cubic feet (Mcf) (@ 14.65 psia, 60°F)	x 28.17399	= m^3 (@ 101.325 kPaa, 15°C)
Mcf (@ 14.65 psia, 60°F)	x 0.02817399	= 1,000 cubic metres (10^3m^3) (@ 101.325 kPaa, 15°C)
acres	x 0.4046856	= hectares (ha)
acres	x 4.046856	= 1,000 square metres (10^3m^2)
acre feet (ac-ft)	x 0.123348	= 10,000 cubic metres (10^4m^3) (ha·m)
Mcf/ac-ft (@ 14.65 psia, 60°F)	x 22.841028	= $10^3m^3/m^3$ (@ 101.325 kPaa, 15°C)
Btu	x 1054.615	= joules (J)
British thermal units per standard cubic foot (Btu/Scf)	x 0.03743222	= megajoules per cubic metre (MJ/m^3)
(@ 14.65 psia, 60°F)		(@ 101.325 kPaa, 15°C)
$/Mcf (1,000 Btu gas)	x 0.9482133	= dollars per gigajoule ($/GJ)
$/Mcf (@ 14.65 psia, 60°F) Alta.	x 35.49373	= $/$10^3m^3$ (@ 101.325 kPaa, 15°C)
$/Mcf (@ 15.025 psia, 60°F), B.C.	x 34.607860	= $/$10^3m^3$ (@ 101.325 kPaa, 15°C)
feet (ft)	x 0.3048	= metres (m)
miles (mi)	x 1.609344	= kilometres (km)
dollars per barrel ($/bbl)	x 6.29287	= dollars per cubic metre ($/m^3$)
GOR (scf/bbl)	x 0.177295	= gas/oil ratio (GOR) (m^3/m^3)
horsepower	x 0.7456999	= kilowatts (kW)
psi	x 6.894757	= kilopascals (kPa)
long tons (LT)	x 1.016047	= tonnes (t)
pounds (lb)	x 0.453592	= kilograms (kg)
gallons (Imperial)	x 4.54609	= litres (L) (.001 m^3)
gallons (U.S.)	x 3.785412	= litres (L) (.001 m^3)
barrels per million cubic feet (bbl/MMcf) (@ 14.65 psia) (C_3)	x 5.6339198	= cubic metres per million cubic metres ($m^3/10^6m^3$)
bbl/MMcf (C_4)	x 5.6367593	= ($m^3/10^6m^3$)
bbl/MMcf (C_{5+})	x 5.6403087	= ($m^3/10^6m^3$)
LT/MMcf (sulphur)	x 36.063298	= tonnes per million cubic metres ($t/10^6m^3$)
gallons (Imperial) per thousand cubic feet (gal (Imp)/Mcf) (C_{5+})	x 161.3577	= millilitres per cubic meter (mL/m^3)
gallons (U.S.) per thousand cubic feet (gal (U.S.)/Mcf) (C_{5+})	x 134.3584	= (mL/m^3)
degrees Rankine (°R)	x 0.555556	= Kelvin (K)
centipoises	x 1.0	= millipascal seconds (mPa·s)
°API	(°APIx131.5)x 1000/141.5	= density (kg/m3)

Appendix C – Engagement Agreement

The Engagement Agreement has been included as Appendix C; it presents the terms and conditions of the consulting services, and the representations and warranties of the Company.

Sproule

Ref: 10764

July 2, 2020

Reconnaissance Energy Africa Ltd.
Suite 1500–999 West Hastings Street
Vancouver, British Columbia
Canada V6C 2W2

Re: Engagement Agreement

Attention: Jay Park QC, Chief Executive Officer

Dear Mr. Park:

Reconnaissance Energy Africa Ltd. (hereinafter "**Client**") have requested Sproule International Limited ("**Sproule**") to render certain oil and gas consulting services to you as Client on the terms, and subject to the conditions and limitations hereinafter set forth. It is anticipated that Client may utilize Sproule's services from time to time in the future, and all services which Sproule may in its discretion elect to render to Client or for Client's account shall be rendered in accordance with the terms of this Agreement unless and until terminated or amended by both Parties in writing.

As requested by Client, and as set forth in the project description set out during communication and e-mails exchange, Sproule agrees to serve as a consultant to Client with respect to oil and gas activities.

Sproule may rely upon the validity and accuracy of all data furnished by Client to Sproule, either directly or indirectly, or obtained from public or customary industry sources, and shall not be required to conduct any independent investigations, including field investigations. In particular, Sproule may rely upon the ownership interests furnished by Client without the necessity for any title examination and may rely upon gas and product prices furnished by Client without independently reviewing and interpreting sales contracts or being responsible for the proper interpretation of applicable provincial and federal gas and product price regulations.

Client agrees to pay, and Sproule agrees to accept, Sproule's fees for the services to be rendered by Sproule.

Sproule shall retain a copy of all data furnished to Sproule by Client that Sproule deems necessary or appropriate for inclusion in its files. Any reproduction shall be at the expense of Client. Sproule agrees upon request by Client to reproduce and return to Client all original documents furnished by Client.

As between the Parties, each Party will at all times be and remain the sole and exclusive owner of its own intellectual and other property. Without limiting the foregoing, the Parties acknowledge and agree that:

(1) all information, data, databases, know-how, processes, formulas, improvements, discoveries, developments, designs, inventions, techniques, and other intellectual property specific to Client, and created or populated by Sproule as a result of or in connection with the performance of this Agreement, shall be and remain the property of Client, and all rights, titles and interests therein hereby, and upon creation, shall automatically vest in Client, and furthermore Sproule hereby waives all moral rights therein on behalf of itself and its representatives; and

(2) all information, data, databases, know-how, processes, formulas, improvements, discoveries, developments, designs, inventions, techniques, and other intellectual property not specific to Client, but created or populated by Sproule as a result of or in connection with the performance of this Agreement, shall be and remain the property of Sproule, and all rights, titles and interests therein hereby, and upon creation, shall automatically vest in Sproule.

Client recognizes and agrees that all evaluations to be prepared by Sproule as part of the Services will be estimates only, and Client agrees that such evaluations shall be so represented to third parties.

Client warrants to Sproule that

(1) all data hereafter furnished to Sproule shall be complete and accurate; and

(2) no material data will be omitted.

Sproule understands that Client may wish to use evaluations, reports, and opinions of Sproule in connection with securities-related transactions that are subject to federal or provincial laws, rules, or regulations ("securities transactions"). Client agrees not to use the evaluations, reports, or opinions in securities transactions without the prior written consent of Sproule, such consent not to be unreasonably withheld. In the event Sproule elects to give its consent to use evaluations, reports, and opinions of Sproule in securities transactions, Client agrees to indemnify and hold harmless Sproule and its directors, officers, employees, agents, and shareholders from and against any and all losses, claims, damages, expenses, or liabilities, joint or several or joint and several, to which they or any of them may become subject under any statute, regulation, policy, rule, notice, or at common law or equity or otherwise, and, except as hereinafter provided, will reimburse Sproule and each such person, if any, for any and all legal or other expenses reasonably incurred by them or any of them in connection with investigating or defending any actions or proceedings whether or not resulting in any liability, insofar as such losses, claims, damages, expenses, liabilities, or actions

(1) arise out of or are based upon any untrue statement or alleged untrue statement of a material fact contained in any document in which the report of Sproule appears in whole or in part, including, but not limited to, any annual report, information, circular, proxy statement, press release, material change report, offering memorandum, any registration statement, any preliminary, amended, or final prospectus, or any other document prepared by Client; or

(2) arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary in order to make the statements therein not misleading, or

(3) result from a failure on the part of Client to otherwise meet its disclosure obligations under applicable securities laws, legislation, rules, regulations, notices, or policies

unless (i) such untrue statement or omission was made in such document in reliance upon and in conformity with information furnished in writing to Client in connection therewith by Sproule expressly for use therein, and (ii) the information furnished by Sproule is neither based upon any untrue statement nor arises out of an omission in data furnished by Client.

Promptly after receipt by Sproule or any of its directors, officers, employees, agents, and shareholders of notice of the commencement of any action in respect of which indemnity may be sought hereunder, Sproule shall notify Client in writing of the commencement thereof, and, subject to the provisions hereunder stated, Client shall assume the defense of such action (including the engagement of counsel, who shall be counsel satisfactory to Sproule or such person, as the case may be, and the payment of fees and expenses) insofar as such action shall relate to any alleged liability in respect of which indemnity may be sought hereunder. Sproule or any such person shall have the right to engage separate counsel in any such action and to participate in the defense thereof, but the fees and expenses of such counsel shall not be at Client's expense unless the engagement of such counsel has been specifically authorized by Client. Client shall not be liable to indemnify any person for any settlement of any such action effected without Client's consent.

Client agrees that Sproule's fee covers only preparation and delivery of evaluations, opinions, and work products. Client agrees that Sproule's fee shall not cover any testimony solicited and/or subpoenaed from any of Sproule's personnel before any Court or in any administrative proceeding or other similar hearing, all of which shall be billed to Client at Sproule's customary fees for such services.

No evaluation, report, or opinion of Sproule may be relied upon by a third party other than Client without written notice from such third party to Sproule stating the purpose of such reliance, and without giving Sproule an opportunity to discuss (i) the basis for any such evaluation, report, and/or opinion, (ii) whether such reliance is reasonable and prudent based upon facts and circumstances occurring subsequently thereto to the knowledge of Sproule, and (iii) whether such reliance is appropriate in view of the assumptions utilized by Sproule at Client's direction. Client agrees not to furnish any evaluation, report, or opinion of Sproule to any third party for any purpose except subject to the terms and conditions contained in this Agreement.

Client agrees not to solicit for employment any officer, director or key employee of Sproule; provided that this prohibition shall not apply to solicitations made by Client to the public or the industry generally, and Client shall not be prohibited from employing any such person who contacts Client on his or her own initiative without any prohibited solicitation.

Notwithstanding any other provision of this Agreement, the Parties agree that with respect to each project performed by Sproule under this Agreement, the maximum, aggregate liability of Sproule to Client in respect of each such project will not in any event exceed an amount equal to one hundred percent (100%) of the fees paid to Sproule under this Agreement in respect of such project.

This Agreement shall be governed by and interpreted and enforced in accordance with the laws of the Province of Alberta and the federal laws of Canada applicable therein. Unless any alternative dispute resolution procedure is agreed between the Parties, the Parties agree that in the event that any action or proceeding relating to this Agreement may be brought in court, each of the Parties irrevocably attorns and submits to the exclusive jurisdiction of the Court of Queen's Bench of Alberta and all courts of appeal therefrom

If the foregoing terms correctly set forth our agreement, please execute the enclosed copy of this letter and upon receipt of a fully executed copy in our office, the foregoing terms and provisions shall constitute a binding contract between us effective as of 2-nd of July, 2020.

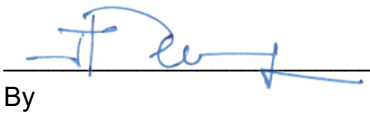
Sincerely,

Sproule International Limited

Jul. 20, 2020

Alec Kovaltchouk
VP, Geoscience

The foregoing terms and provisions are hereby accepted and agreed to on behalf of the undersigned and any third party for whom the undersigned requests Sproule to render services this 20th day of July 2020



By

CEO

Title

Reconnaissance Energy Africa Ltd.

Company

AK:kmh
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