

**ASSESSMENT OF THE CONTINGENT OIL RESOURCES**  
**OF**  
**JAMES BAY RESOURCES LIMITED**  
**IN OGEDEH FIELD, NIGERIA**  
**(As of December 31, 2014)**



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Project No.: 4337.70841

Prepared For: James Bay Resources Limited

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## Introduction

This report was prepared by Sproule International Limited ("Sproule") at the request of Mr. Stephen Shefsky, President and Chief Executive Officer, James Bay Resources Limited. James Bay Resources Limited is hereinafter referred to as "the Company". The effective date of this report is December 31, 2014, and it consists of an assessment of the contingent oil resources associated with the Company's interests in the Ogedeh Field in Nigeria. This report was prepared in April 2015 for the purpose of assessing the Company's contingent oil resources according to the Canadian Oil and Gas Evaluation Handbook "COGEH" resource definitions that are consistent with the standards of National Instrument 51-101. This report was prepared for the Company's corporate purposes.

### Assessment Procedures

1. At the request of the Company, an economic evaluation was not performed.
2. The development forecast presented in this assessment was based on capital budgets and a development program as presented by the Company under the scope of this assessment and engagement.
3. Technically recoverable resource volumes were estimated based on an assessment of geoscience and engineering data.
4. The land holdings and interests in the Ogedeh field, as provided by the Company, were reviewed and used as the basis of our assessment.

### Report Contents

This report is contained in one (1) volume, comprised of an Introduction, Summary, Discussion and Appendices. The Introduction includes a summary of assessment standards and procedures and pertinent author certificates; the Summary includes high-level summaries of the assessment; and the Discussion includes detailed descriptions, tables and figures for the assessed property. Resource definitions, NI51-101 Disclosure of Resources, abbreviations, units and conversion factors are included in Appendices A, B and C. A representation letter prepared by Officers of the Company, Appendix D, confirms the accuracy, completeness and availability of data requested by and furnished to Sproule during the preparation of the report.

## Field Operations

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

## Historical Data, Interests and Burdens

1. All well data, development plans, capital budgets and other data that were obtained from the Company or from public sources were accepted as represented, without any further investigation by Sproule.
2. Property descriptions and details of interests held, as supplied by the Company, were accepted as represented. No investigation was made into either the legal titles held or any operating agreements in place relating to the subject properties.
3. 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.

## Assessment 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". This report adheres in all material aspects to the "best practices" recommended in the COGE Handbook, which are in accordance with principles and definitions established by the Calgary Chapter of the Society of Petroleum Evaluation Engineers. The COGE Handbook is incorporated by reference in National Instrument 51-101.

## Assessment Results

1. The analysis of individual entities as reported herein was conducted within the context and scope of an evaluation of a unique group of entities in aggregate. Use of this report outside of this scope may not be appropriate.
2. The accuracy of resource estimates is, in part, a function of the quality and quantity of available data and of engineering and geoscience 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 reservoir performance subsequent to the date of the estimates may necessitate revision. These revisions may be material.
3. Due to rounding, certain totals may not be consistent from one presentation to the next.
4. The contingent resource estimates have not been risked for chance of development. There is no certainty that these resources will be developed and, if developed, there is no certainty that it will be commercially viable to produce any portion of the reported contingent resources.

## BOE Cautionary Statement

BOEs (or McfGEs 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.

## Forward-Looking Statements

This report may contain forward-looking statements including expectations of future production revenues and capital expenditures. Information concerning 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 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.



## Certification

### Report Preparation

This report entitled "Assessment of the Contingent Oil Resources of James Bay Resources Limited in Ogedeh Field, Nigeria (As of December 31, 2014)" was prepared by the following Sproule personnel:

Original Signed by Barrett R. Hanson, P.Eng.

Barrett R. Hanson, P.Eng.

Project Leader;

Senior Petroleum Engineer and

Associate

30 / 04 /2015      dd/mm/yr

Original Signed by Vladimir Iglesias, P.Eng.

Vladimir Iglesias, P.Eng.

Senior Petroleum Engineer

30 / 04 /2015      dd/mm/yr

Original Signed by Suryanarayana Karri, P.Geoph.

Suryanarayana Karri, P.Geoph.

Manager, Geoscience and Partner

30 / 04 /2015      dd/mm/yr

## **Sproule Executive Endorsement**

This report has been reviewed and endorsed by the following Executive of Sproule:

Original Signed by Scott W. Pennell, P.Eng.

---

Scott W. Pennell, P.Eng.  
Vice President, Engineering,  
International and Director

30 / 04 / 2015 dd/mm/yr

## **Permit to Practice**

Sproule International Limited is a member of the Association of Professional Engineers and Geoscientists of Alberta and our permit number is P06151.

## Certificate

### **Barrett R (Barry) Hanson, P.Eng., SPEC**

I, Barrett R. Hanson, Senior Petroleum Engineer and Associate, of Sproule, 900, 140 Fourth Ave SW, Calgary, Alberta, declare the following:

1. I hold the following degree:
  - a. B.Sc., Chemical Engineering (1979), University of Saskatchewan, Saskatoon, Saskatchewan, Canada
2. I am a registered professional:
  - a. Professional Engineer (P.Eng.), Province of Alberta, Canada
  - b. Certified SPE Petroleum Engineer
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 "Assessment of the Contingent Oil Resources of James Bay Resources Limited in Ogedeh Field, Nigeria (As of December 31, 2014)" 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 James Bay Resources Limited.

Original Signed by Barrett R. Hanson, P.Eng., SPEC

Barrett R. Hanson, P.Eng., SPEC

## Certificate

### Vladimir Iglesias, P.Eng.

I, Vladimir Iglesias, Senior Petroleum Engineer of Sproule, 900, 140 Fourth Ave SW, Calgary, Alberta, declare the following:

1. I hold the following degrees:
  - a. M.Sc in Mechanical Engineering, Ufa Petroleum State University, Ufa, Russia
  - b. B.Sc in Applied Petroleum Engineering Technology, Southern Alberta Institute of Technology, Calgary, Alberta, 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.
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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 James Bay Resources Limited.

Original Signed by Vladimir Iglesias, P.Eng.

Vladimir Iglesias, P.Eng.

## Certificate

### **Suryanarayana Karri, M.Sc., P.Geoph.**

I, Suryanarayana Karri, Manager, Geoscience and Partner of Sproule, 900, 140 Fourth Ave 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. Canadian Well Logging Society (CWLS)
  - e. Canadian Society of Petroleum Geologists (CSPG)
  - f. 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 "Assessment of the Contingent Oil Resources of James Bay Resources Limited in Ogedeh Field, Nigeria (As of December 31, 2014)" 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 James Bay Resources Limited.

Original Signed by Suryanarayana Karri, P.Geoph.

Suryanarayana Karri, P.Geoph.

## Certificate

### Scott W. Pennell, B.S., P.Eng.

I, Scott W. Pennell, Vice President, Engineering International and Director of Sproule, 900, 140 Fourth Ave SW, Calgary, Alberta, declare the following:

1. I hold the following degree:
  - a. B.S. Petroleum Engineering (1993) University of Wyoming, Laramie, Wyoming, USA
2. I am a registered professional:
  - a. Professional Engineer (P.Eng.), Province of Alberta, Canada
3. I am a member of the following professional organization:
  - 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 "Assessment of the Contingent Oil Resources of James Bay Resources Limited in Ogedeh Field, Nigeria (As of December 31, 2014)" 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 James Bay Resources Limited.

Original Signed by Scott W. Pennell, P.Eng.

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Scott W. Pennell, P.Eng.

## Summary

Table S-1 summarizes our assessment of the contingent oil resources of James Bay Resources Limited in the Ogedeh Field of Nigeria, as of December 31, 2014. The Company holds a 47 percent working interest in the Ogedeh field in Block OML 90 in the western part of the Niger River Delta. A map showing the location of the Company's property is included as Figure S-1.

The resource definitions and ownership classification used in this assessment are the standards defined by COGEH resource definitions and consistent with NI 51-101 and used by Sproule. The oil resources are presented in thousands of barrels, at stock tank conditions of 14.65 psi and 60 degrees Fahrenheit.

The recoverable oil volumes presented in this report have been classified as Contingent Resources. Contingent Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations using established technology or technology under development, but which are not currently considered to be commercially recoverable due to one or more contingencies. Contingencies may include factors such as economic, legal, environmental, political and regulatory matters, or a lack of markets.

The contingency that prevents the classification of contingent resources as reserves is solely commerciality. Sproule has determined the project maturity sub-class to be development on hold as the Company has stated the development is subject to project financing. There is no certainty that it will be commercially viable to produce any portion of the reported resources.

For contingent resources, the risk factor related to the chance of commerciality is equal to the chance of development. The volumes presented in this report have not been risked for chance of development.

Well Ogedeh-1 was drilled in 1993, targeting the Agbada Formation. Well logs indicated the existence of hydrocarbons; however the well has not been tested, and it was suspended due to mechanical problems. Under COGEH, "confirmation of commercial productivity of an accumulation by production or a formation test is required for classification of reserves as proved. In the absence of production or formation testing, probable and/or possible reserves may be assigned to an accumulation on the basis of well logs and/or core analysis that indicates that the zone is hydrocarbon bearing and is analogous to other reservoirs in

the immediate area that have demonstrated commercial productivity by actual production or formation testing”.

Although the B1 sand shows a gas bearing zone over oil, no gas volumes were assigned due to the limited information available and the lack of gas markets.

At the request of the Company, an economic evaluation was not performed.



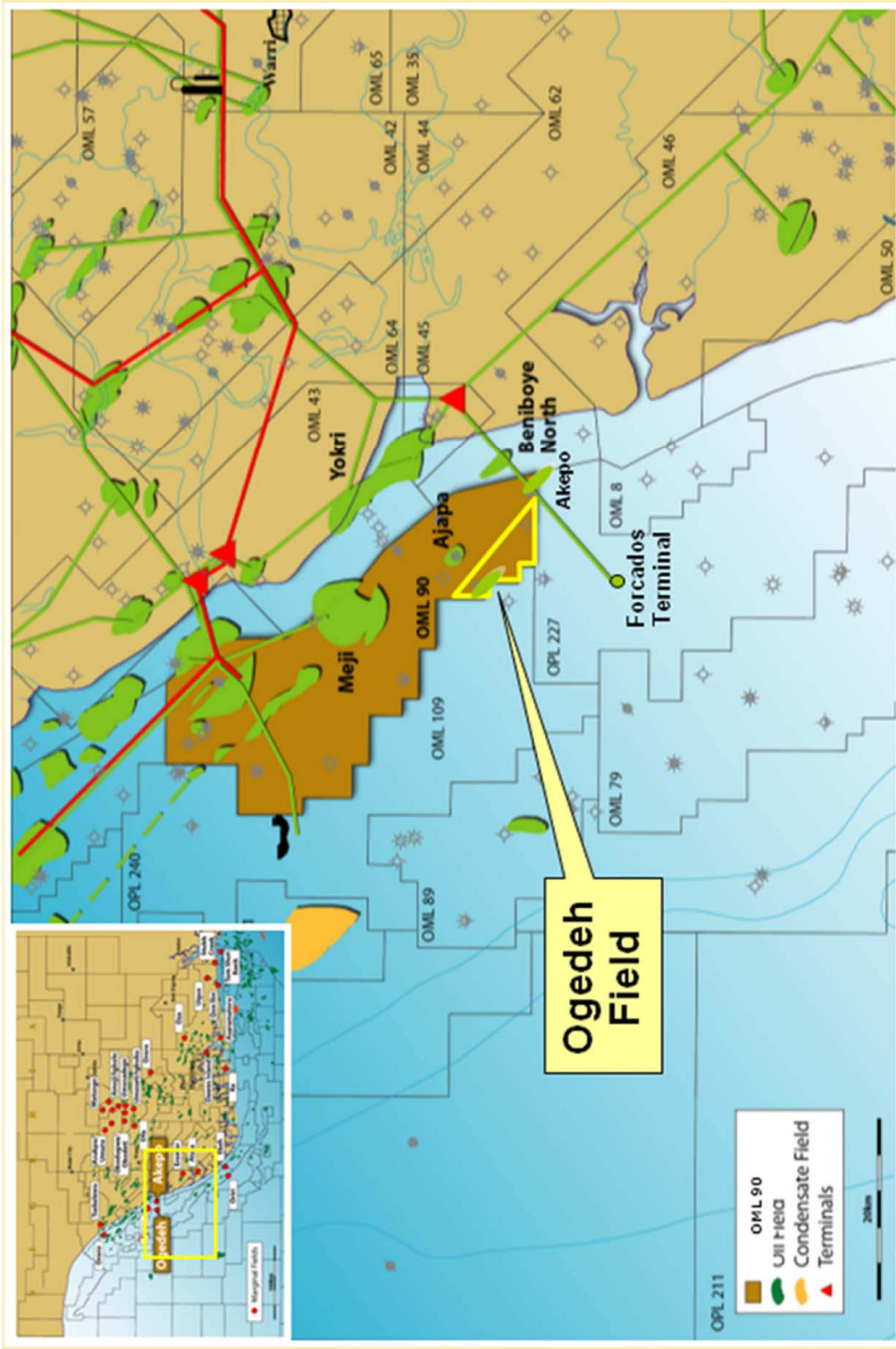
**Table S-1**  
**Summary of Unrisked Contingent Oil Resources**  
**of the Ogedeh Field, Nigeria**  
**(As of December 31, 2014)**

Resources Classification	Maturity Sub-Class	Discovered Oil Initially-In-Place Mbbl	Contingent <sup>1</sup> Light Crude Oil Resources (Unrisked)	
			Project Gross <sup>2</sup>	Company Gross <sup>3</sup>
2C Contingent (P50)	Development on hold	24,600	6,850	3,352

**Notes:**

- 1) Contingent Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations using established technology or technology under development, but which are not currently considered to be commercially recoverable due to one or more contingencies. Contingent resources have an associated chance of development to be commercially recoverable due to one or more contingencies. Contingencies may include factors such as economic, legal, and regulatory matters, or a lack of markets. The contingency that prevents the classification of contingent resources as reserves is commerciality. There is no certainty that it will be commercially viable to produce any portion of the reported resources.
- 2) "Project Gross" means 100% working interest volumes before deducting royalties and burdens.
- 3) "Company Gross" means the Company working interest volumes before deducting royalties and burdens.
- 6) Due to rounding, certain totals may not be consistent from one presentation to the next.





Provided by James Bay Resources Limited

Ogedeh Field Location Map

## Discussion

### General

The Ogedeh Field is located in approximately 40 feet of water in the extreme southwestern corner of NNPC (Nigerian National Petroleum Corporation) Block OML 90 (Oil Mining Lease) in the western Niger Delta Basin, approximately 70 kilometers west of the city of Warri, Nigeria. Table 1 presents a well list and production history.

The field is bounded to the north by the Meji Field, to the northeast by the Ajapa Field (discovered in 1984), to the southeast by the Akepo Field (discovered in 1993) and to the east by Nigerian Agip Oil Company's (NAOC) Beniboye Field. A location map is provided as Figure 1.

The Ogedeh Field was discovered by Chevron in 1993 by the drilling of the Ogedeh-1 well. Hydrocarbons were found in both the B and D sands of the Agbada Formation; however, the well encountered mechanical problems and was not tested. Well Ogedeh-2 was drilled in 1994, in a separate fault block, about 9 kilometres southeast of Ogedeh-1. The Ogedeh-2 well was dry.

In 2004, 100 percent of a portion of OML-90, approximately 10,660 acres in size and containing the Ogedeh Field was awarded to Bicta Energy & Management Systems Limited during the federal government discretionary bid round of 2003 via a farmout from Chevron and the NNPC. The term of the farmout agreement was sixty months. The Company has advised Sproule that this term has been extended; however, Sproule has not been provided a copy of the document to verify the extension. Bicta assigned 47 percent of the working interest to D&H Energy Nigeria Limited (D&H) through a joint operating agreement prepared in 2012. D&H is a wholly owned subsidiary of James Bay Energy Nigeria LLC, which is wholly owned by James Bay Resources Limited. As a result, the Company currently owns a 47 percent interest in the Ogedeh Field. The remaining working interests are held by Bicta Energy & Management Systems Limited at 40 percent and by Linetrале Exploration and Production Limited at 13 percent.

### Geoscience

The Ogedeh Field structure is mapped at shallow levels (e.g., the thin "A" gas sands over oil) as small, narrow, elongated and asymmetrical northwest-southeast trending anticlines, located downthrown to similarly trending normal growth faults. At intermediate and deeper

levels (e.g., the oil and gas “B” and “D” sands), the structure has evolved into up-dipping closures against the downthrown side of the normal growth faults.

The field is dissected into small, narrow and semi-parallel fault blocks by a system of northwest-southeast trending normal growth faults which also control the hydrocarbon accumulations.

The Ogedeh-1 discovery well was drilled as a directional hole, almost parallel to the fault planes within one of the many fault blocks in the field. The well encountered 50 feet TVD of oil in five sands, 26 feet TVD of gas in two sands, and 37 feet TVD of unknown hydrocarbons in one sand. The Ogedeh-1 discovery well was prematurely suspended due to safety considerations at about 10,000 feet MD, while drilling through a sequence of high pressured reservoir sands with mudlog hydrocarbon “shows” and experiencing some mechanical problems.

The Ogedeh-2 well was drilled on a different structure and fault block about eight kilometres southeast of the discovery well and was water wet at all its objective levels.

Stratigraphically, the field has good alternating sequences of paralic, clean reservoir sands and marine shales in the objective Agbada Formation, which is ideal for commercial hydrocarbon generation, migration and entrapment in the Niger Delta basin.

## **Data Control**

A Petrel project with 3D seismic data was provided. Seismic time picks for B1, B3 and D4; depth grids for B1, B3 and D4; fault sticks; fault polygons in depth; and a time-depth relationship table were provided. The well data provided included well header and various logs of the Ogedeh-1 well in las format. The location coordinates for the Ogedeh-1 and Ogedeh-2 wells, Ogedeh concession coordinates and reports of all the previous work done in the field were also provided.

## **Seismic Audit**

The seismic data audit included the verification of the defined structural framework of the field and audit of structure maps to determine the extent of the hydrocarbon-bearing reservoir sands in the field.

The 3D seismic data provided in Schlumberger’s Petrel software was quality controlled. The seismic data quality is generally good.

The B1, B3 and D4 time horizons provided in Petrel were coarse gridded. These horizons were finely gridded. Sproule considered the fault sticks and fault polygons provided to be reasonable.

The three time horizons were converted to depth using the time-depth relationship provided.

The oil tops and bases for the three horizons were generated using the tops information from the Ogedeh-1 well. In the case of the B1 sand, the gas/oil contact surface also was generated and the P90 and P1 (spill point) areas were created. Using these area boundaries, gross rock volumes were calculated.

## **Petrophysics**

Sproule conducted an independent petrophysical analysis of the B1, B2 and D4 sands using the PRIZM module in Geographix software. The objective of the analysis was to estimate the effective porosity and water saturation for the Ogedeh-1 well, having open-hole log data to estimate the oil initially-in-place. This well is deviated; however, the deviation survey data are not available. Conventional open-hole logs are recorded covering the B sand package. The underlying D sand package has only the logging-while-drilling gamma ray and resistivity logs.

The B sands were assessed using all available logs. The volume of shale was computed as the minimum of two indicators: gamma ray and neutron-density combination. The apparent porosity was calculated using the average of the neutron and density porosity values. The effective porosity was calculated by correcting the apparent porosity for the estimated volume of shale within the formation. For the D sands, porosity logs were not available. The effective porosity was estimated from the gamma ray log to provide an approximate mean porosity value. For both sand packages, a value of 0.15 ohm-meters at 75 degrees Fahrenheit was used for formation water resistivity. The water saturation was calculated using the modified Simandoux equation, with values of a, m and n set to 1, 2 and 2, respectively. The net pay was computed using the cut-off values of effective porosity greater than 10 percent, volume of shale less than 50 percent, and water saturation of less than 50 percent. The well log interpretation results are illustrated in Figures 2, 3 and 4 for the B1, B2 and D4 sands, respectively.

## **Technically Recoverable Volumes**

The technically recoverable oil resources in the Ogedeh Field, Block OML 90, were estimated probabilistically. The gross rock volumes were calculated within Petrel. Reservoir rock and

fluid property data were obtained from available well logs, PVT correlations and published information, either from the pool in question or from a similar reservoir producing from the same zone. Recovery factors were selected from the results of analytical reservoir analyses.

No PVT data were available for the Ogedeh-1 well. The oil properties were estimated based on standard correlations, in addition to certain regional case studies for different fields located in the Niger Delta Basin.

The range of values used in the probabilistic estimation is shown in Table 2.

The technically recoverable oil volumes presented in this assessment were based on capital budgets and a development program as presented by the Company. The development plan of the field includes reentering the Ogedeh-1 well in 2015 and performing extended well tests on zones B1, B2 and D4. Based on the results of the tests, a dual completion is possible. If the results of the tests are favorable, two more delineation wells may be drilled in 2016 and 2017.

The resources were classified in accordance with the COGEH definitions presented in Appendix A and are consistent with NI 51-101 and used by Sproule.

Petroleum initially-in-place on Company interest lands were classified as discovered accumulations based on the log results of the Ogedeh-1 well drilled by Chevron in 1993. Oil is reported to have been recovered from an "MDT" test but the well reports which would contain the results of this test and the fluid recovered are not available. The log results from this well and some of the sands of the Agbada Formation are similar in nature to the Agbada reservoir sands in the nearby Ajapa Field, producing oil since January 2010, the much larger Beniboye Field, producing oil since prior to 2010; and the Akepo Field, which is under development for commercial production. The Agbada Formation is also the reservoir for several other commercial oil fields in the Niger River Delta Basin.

The contingent resources have not been risked for the chance of development. All the volumes presented represent unrisked volumes.

## **Project Maturity Sub-Class**

The resource volumes from the Ogedeh Field have been classified by Sproule as contingent resources development on hold, subject only to commercial factors.

## Significant Positive and Negative Factors

Significant positive factors relevant to the estimates include:

- Availability of geological data (seismic and log) over the Ogedeh Field.
- The zones of interest in the well Ogedeh-1 can be correlated to adjacent fields that are at a more advanced stage of development. Ajapa and Beniboye Fields are on production and Akepo Field where DST's have been performed to demonstrate the capability of the zones and commercial production is pending.
- Availability of infrastructure in the immediate vicinity for the transportation, processing and sale of the product.
- Environmental Impact Assessment has been approved and is valid for five years. A well re-entry permit was previously approved, but has expired demonstrating that reissuance of the permit should not be a problem.

Significant negative factors relevant to the estimates include:

- The plans to re-enter the well Ogedeh-1 and continue development of the field based on the re-entry have been planned for several years, but different factors have prevented the Company from proceeding with the work.
- Lack of financing. The Company has made progress towards implementing plans that may provide for funding of the Ogedeh field development, but several factors of a legal and political nature still remain unsolved.
- There was no production test on the Ogedeh-1 well making economics uncertain.

Table 2 presents the volumetric inputs of the probabilistic analysis. Table 3 presents a summary of the recoverable contingent oil resources.

**Table 1**  
**James Bay Resources Limited**  
**Ogedeh Field, Nigeria**  
**Well List and Production Summary**  
**(As of December 31, 2014)**

Well Name	Field	Zone	Well Zone Current Status	Rig Release Date	Cumulative Oil Production (Mbbbl)	Cumulative Water Production (Mbbbl)	Cumulative Gas Production (MMcf)
Ogedeh-1	Ogedeh	N/A	D&A	1993	0	0	0
Ogedeh-2	Ogedeh	N/A	D&A	1994	0	0	0



**Table 2**  
**Ogedeh Field, Nigeria**  
**Probabilistic Volumetric Input Distributions**

**Agbada Formation**  
**Probabilistic Input Distributions, B1-Sandstone**

	<b>P90</b>	<b>P50</b>	<b>P10</b>	<b>Distribution Type</b>
<b>Gross Rock Volume, acre*ft</b>	5,620	12,600	28,400	Log Normal
<b>Net-to-Gross Ratio, fraction</b>	0.85	0.90	0.95	Normal
<b>Porosity, %</b>	26	29	32	Normal
<b>Oil Saturation, %</b>	69	76	84	Normal
<b>Oil FVF, rb/stb</b>	1.16	1.31	1.37	Stretched Beta
<b>Oil Recovery Factor, %</b>	15.0	27.5	40.0	Normal

**Probabilistic Input Distributions, B2-Sandstone**

	<b>P90</b>	<b>P50</b>	<b>P10</b>	<b>Distribution Type</b>
<b>Gross Rock Volume, acre*ft</b>	814	1,330	2,170	Log Normal
<b>Net-to-Gross Ratio, fraction</b>	0.85	0.90	0.95	Normal
<b>Porosity, %</b>	22	24	26	Normal
<b>Oil Saturation, %</b>	59	65	72	Normal
<b>Oil FVF, rb/stb</b>	1.16	1.31	1.37	Stretched Beta
<b>Oil Recovery Factor, %</b>	20.0	30.0	40.0	Normal

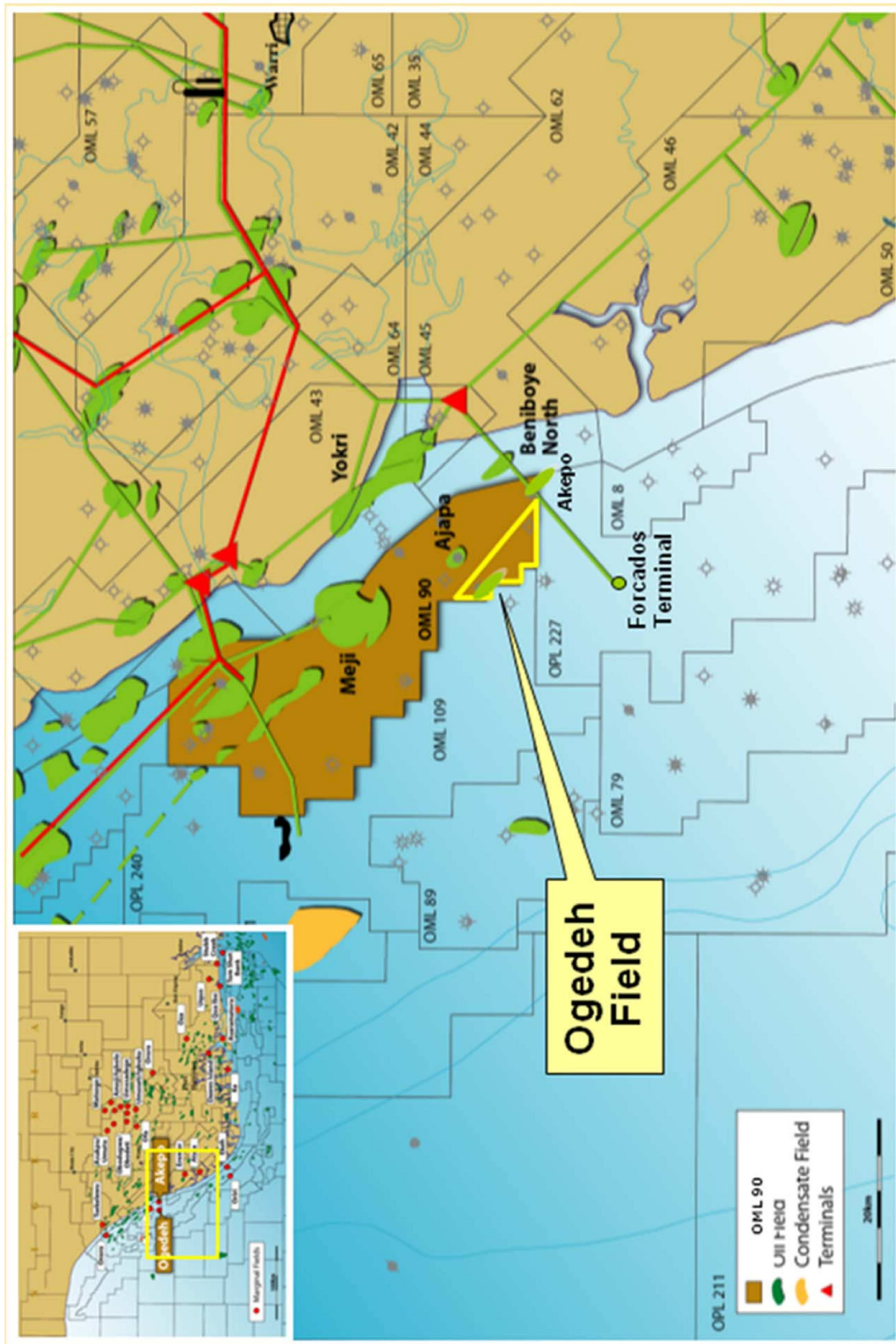
**Probabilistic Input Distributions, D4-Sandstone**

	<b>P90</b>	<b>P50</b>	<b>P10</b>	<b>Distribution Type</b>
<b>Gross Rock Volume, acre*ft</b>	7,490	8,240	9,070	Log Normal
<b>Net-to-Gross Ratio, fraction</b>	0.85	0.90	0.95	Normal
<b>Porosity, %</b>	24	27	30	Normal
<b>Oil Saturation, %</b>	75	83	91	Normal
<b>Oil FVF, rb/stb</b>	1.26	1.47	1.61	Stretched Beta
<b>Oil Recovery Factor, %</b>	20.0	30.0	40.0	Normal

<p align="center"><b>Table 3</b>  <b>Ogedeh Field, Nigeria</b>  <b>Estimates of Contingent<sup>1</sup> Oil Resources (Unrisked)</b>  <b>as of December 31, 2014</b></p>						
<b>Contingent Oil Resources (Unrisked)</b>						
Resources Project Maturity Sub-Class	Discovered Oil Initially-In-Place (Mbbbl)	Recovery Factor (%)	Original Recoverable Oil <sup>2</sup> (Mbbbl)	Cumulative Production to December 31, 2014 (Mbbbl)	Project Gross Remaining Oil Resources <sup>2</sup> (Mbbbl)	Company Gross Oil Resources <sup>3</sup> (Mbbbl)
<b>Contingent (2C) P50 Development On Hold</b>	<b>24,600</b>	<b>28</b>	<b>6,850</b>	<b>-</b>	<b>6,850</b>	<b>3,352</b>

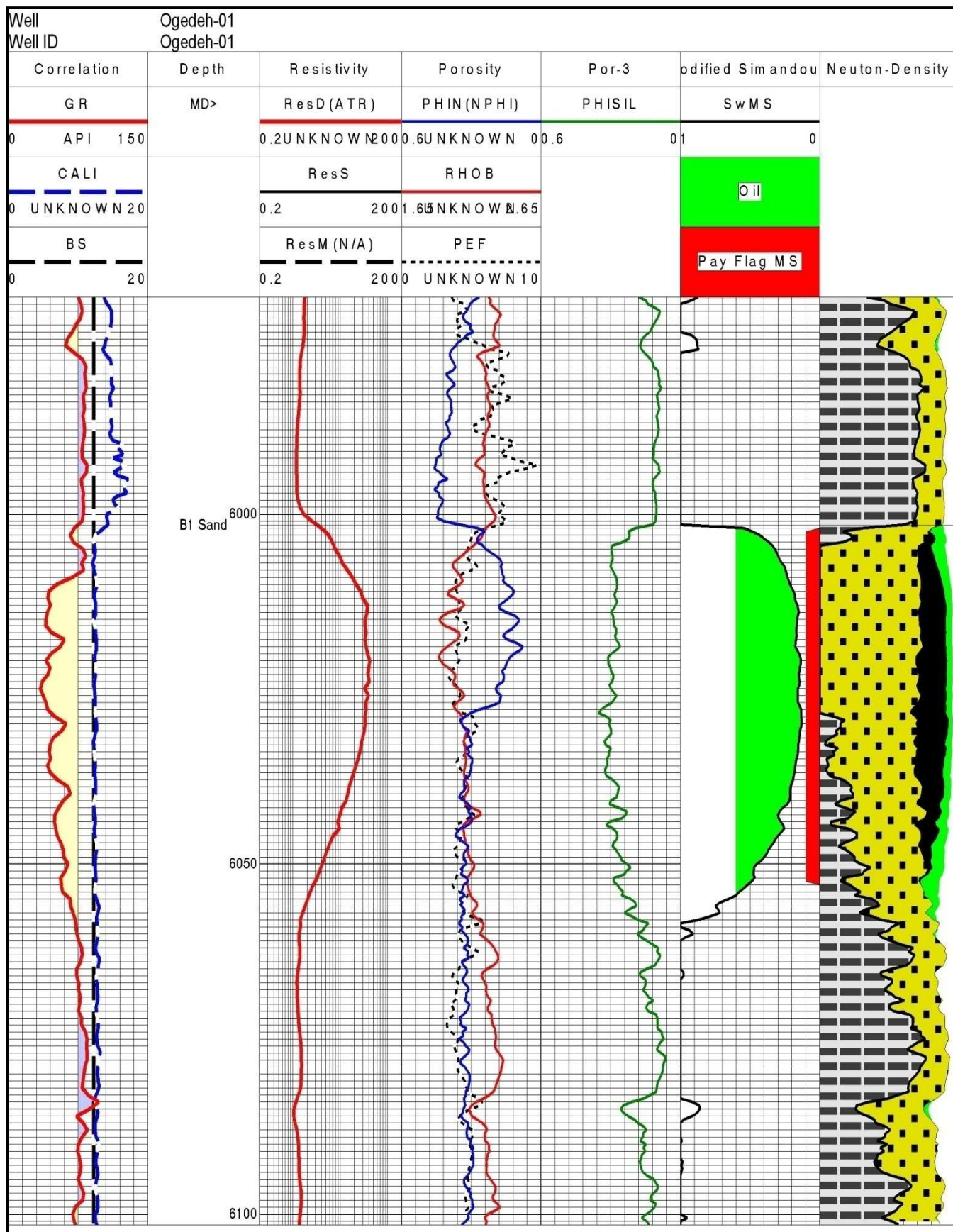
**Notes:**

- 1) Contingent Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations using established technology or technology under development, but which are not currently considered to be commercially recoverable due to one or more contingencies. Contingencies may include factors such as economic, legal, environmental, political, and regulatory matters, or lack of markets. The contingency that prevents the classification of contingent resources as reserves is solely commerciality. There is no certainty that it will be commercially viable to produce any portion of the reported resources.
- 2) "Project Gross" means 100% working interest volumes before deducting royalties and burdens.
- 3) "Company Gross" means Company working interest volumes before deducting royalties and burdens
- 4) Due to rounding, certain totals may not be consistent from one presentation to the next

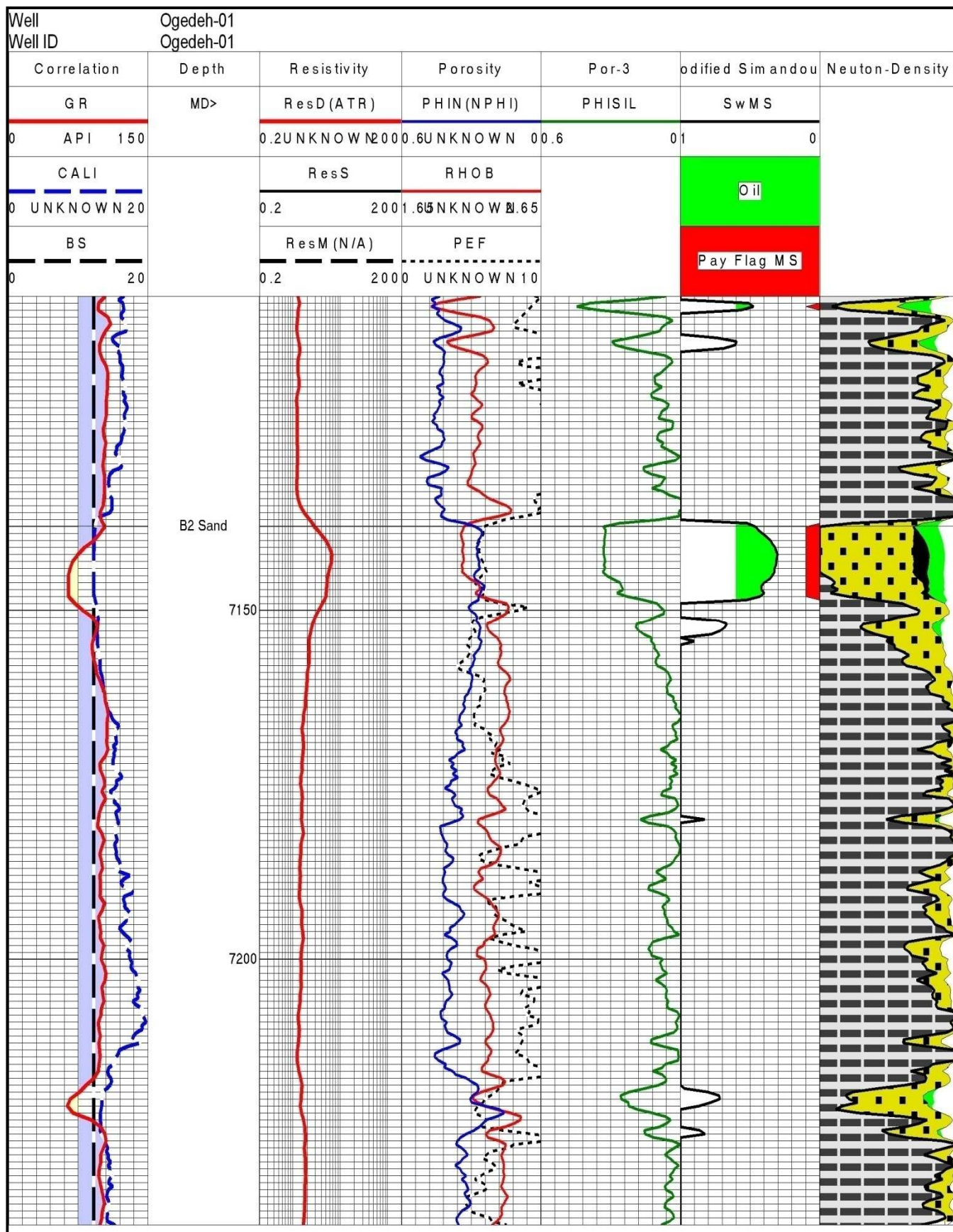


Provided by James Bay Resources Limited

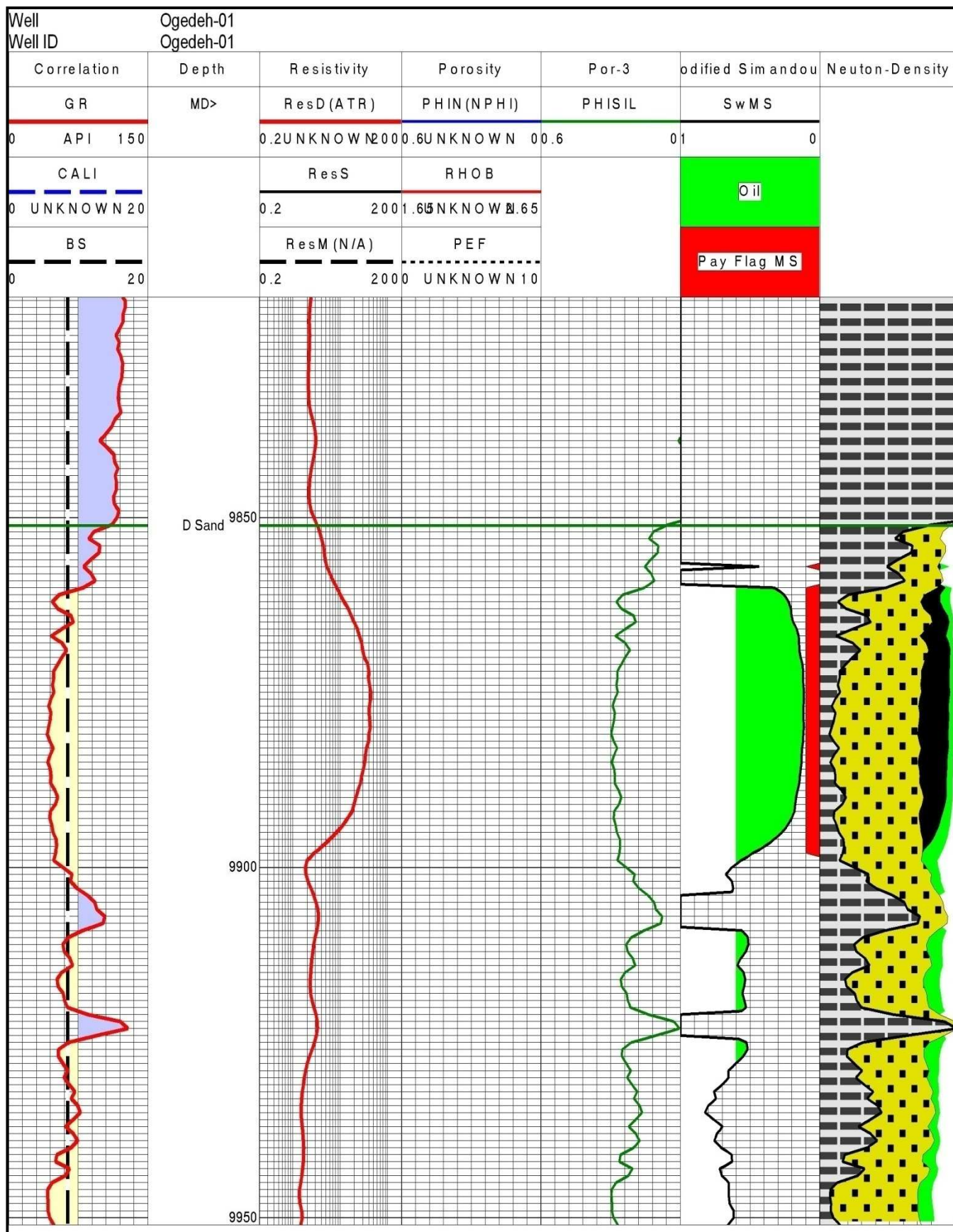
### Ogedeh Field Location Map



Ogedeh-01 Well Log Interpretation of Agbada B1 Sand



Ogedeh-01 Well Log Interpretation of Agbada B2 Sand



Ogedeh-01 Well Log Interpretation of Agbada D4 Sand

## Appendix A — Resource Definitions

This discussion has been excerpted from Sections 5.1, 5.2 and 5.3 of the Canadian Oil and Gas Evaluation Handbook, Second Edition, September 1, 2007.

### 5.1.2 Introduction

Petroleum is defined as a naturally occurring mixture consisting predominantly of hydrocarbons in the gaseous, liquid, or solid phase. The term “resources” encompasses all petroleum quantities that originally existed on or within the earth’s crust in naturally occurring accumulations, including discovered and undiscovered (recoverable and unrecoverable) plus quantities already produced. Accordingly, total resources is equivalent to total Petroleum Initially-In-Place (PIIP). It is recommended that the term “total PIIP” be used rather than “total resources” in order to avoid any confusion that may result from the mixed historical usage of the term “resources” to mean the recoverable portion of PIIP or total PIIP.

The concept that a recovery or development project is required in order to recover resources from a petroleum accumulation is fundamental to the SPE-PRMS. One or more exploration, delineation, or development projects may be applied to an accumulation, and each project will provide additional technical data and/or recover an estimated portion of the PIIP. In the early stage of exploration or development, project definition will not be of the detail expected in later stages of maturity. For the purposes of government/regulatory resource management or for basin potential studies, projects will typically be defined with lesser precision. Regardless of the end use of estimates, a basic requirement for the assignment of recoverable resources in any category is that it must be possible to define a technically feasible recovery project.

Figure 5-1, taken from the SPE-PRMS, illustrates the main resources classification system. Additional operational subcategories may also be optionally used (see Section 5.3.4 a).

The vertical axis of Figure 5-1 represents the chance of commerciality. The key vertical categories relate to the quantities that are estimated to be remaining and recoverable; that is

- reserves, which are discovered and commercially recoverable;
- contingent resources, which are discovered and potentially recoverable but sub-commercial;
- prospective resources, which are undiscovered and potentially recoverable.

The range of uncertainty indicated on the horizontal axis of Figure 5-1 reflects that remaining recoverable quantities can only be estimated, not measured. Three uncertainty categories, or scenarios, are identified for estimates of recoverable resources — low estimate, best estimate, and high estimate (abbreviations for contingent resources are 1C, 2C, and 3C, respectively) — with the corresponding reserves categories of proved (1P), proved + probable (2P), and proved + probable + possible (3P).

Formal definitions for each element of Figure 5-1 are provided in Section 5.2.

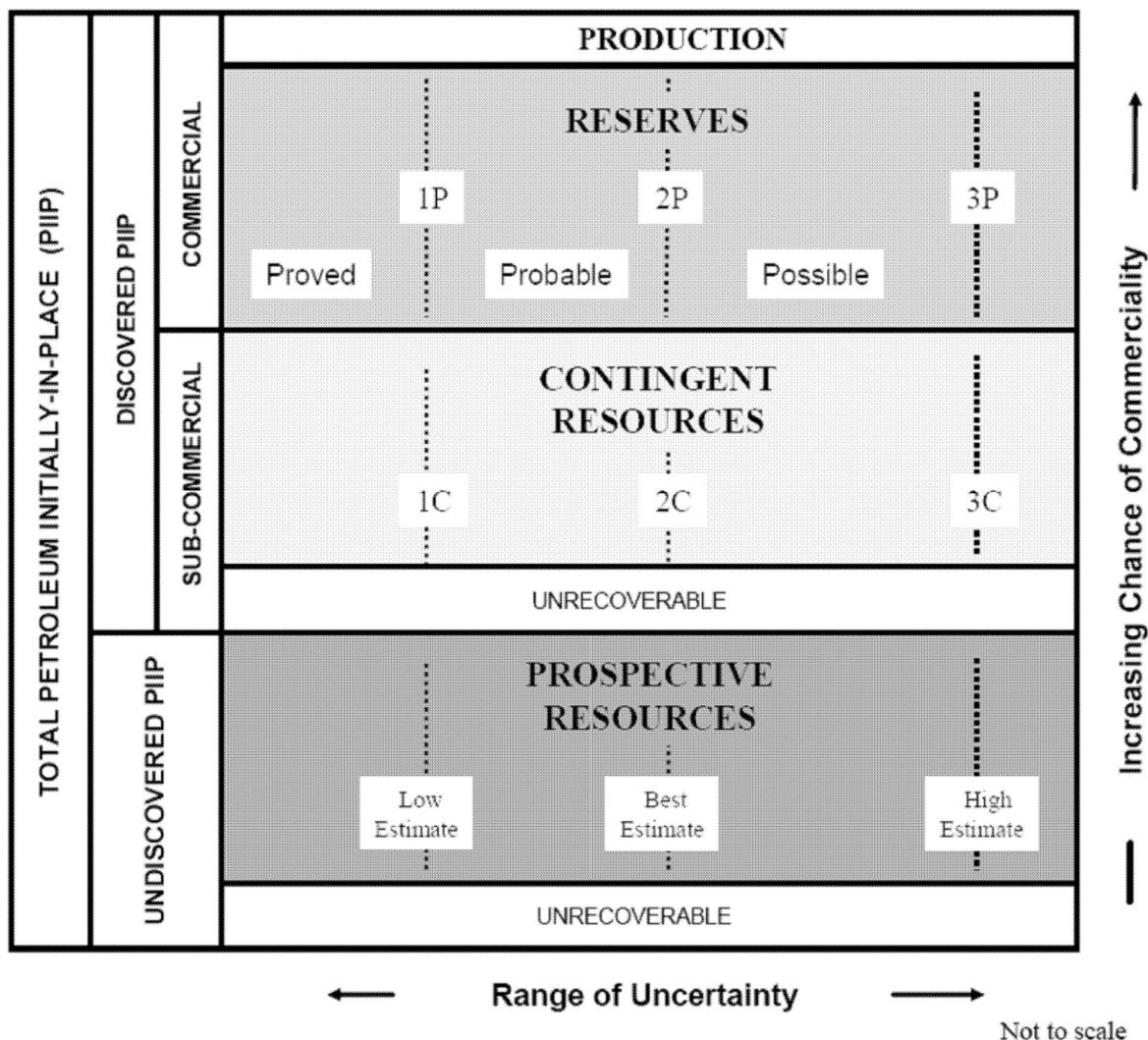


Figure 5-1 Resources classification framework (SPE-PRMS, Figure 1.1).



## 5.2 Definition of Resources

The following definitions relate to the subdivisions in the SPE-PRMS resources classification framework and use the primary nomenclature and concepts contained in the 2007 SPE-PRMS, with direct excerpts shown in italics.

*Total Petroleum Initially-In-Place (PIIP) is that quantity of petroleum that is estimated to exist originally in naturally occurring accumulations. It includes that quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations, prior to production, plus those estimated quantities in accumulations yet to be discovered (equivalent to "total resources").*

*Discovered Petroleum Initially-In-Place (equivalent to discovered resources) is that quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations prior to production. The recoverable portion of discovered petroleum initially in place includes production, reserves, and contingent resources; the remainder is unrecoverable.*

*Production is the cumulative quantity of petroleum that has been recovered at a given date.*

Reserves are estimated remaining quantities of oil and natural gas and related substances anticipated to be recoverable from known accumulations, as of a given date, based on the analysis of drilling, geological, geophysical, and engineering data; the use of established technology; and specified economic conditions, which are generally accepted as being reasonable. Reserves are further classified according to the level of certainty associated with the estimates and may be subclassified based on development and production status.

*Contingent Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations using established technology or technology under development, but which are not currently considered to be commercially recoverable due to one or more*

contingencies. Contingencies may include factors such as economic, legal, environmental, political, and regulatory matters, or a lack of markets. It is also appropriate to classify as contingent resources the estimated discovered recoverable quantities associated with a project in the early evaluation stage. *Contingent Resources are further classified in accordance with the level of certainty associated with the estimates and may be subclassified based on project maturity and/or characterized by their economic status.*

*Unrecoverable is that portion of Discovered or Undiscovered PIIP quantities which is estimated, as of a given date, not to be recoverable by future development projects. A portion of these quantities may become recoverable in the future as commercial circumstances change or technological developments occur; the remaining portion may never be recovered due to the physical/chemical constraints represented by subsurface interaction of fluids and reservoir rocks.*

*Undiscovered Petroleum Initially-In-Place (equivalent to undiscovered resources) is that quantity of petroleum that is estimated, on a given date, to be contained in accumulations yet to be discovered. The recoverable portion of undiscovered petroleum initially in place is referred to as "prospective resources," the remainder as "unrecoverable."*

*Prospective Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective resources have both an associated chance of discovery and a chance of development. Prospective Resources are 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.*

Reserves, contingent resources, and prospective resources should not be combined without recognition of the significant differences in the criteria associated with their classification. However, in some instances (e.g., basin potential studies) it may be desirable to refer to certain subsets of the total PIIP. For such purposes the term "resources" should include clarifying adjectives "remaining" and "recoverable," as appropriate. For example, the sum of reserves, contingent resources, and prospective resources may be referred to as "remaining recoverable resources." However, contingent and prospective resources estimates involve additional risks, specifically the risk of not achieving commerciality and exploration risk, respectively, not applicable to reserves estimates. Therefore, when resources categories are combined, it is important that each component of the summation also be provided, and it

should be made clear whether and how the components in the summation were adjusted for risk.

### **5.3 Classification of Resources**

For petroleum quantities associated with simple conventional reservoirs, the divisions between the resources categories defined in Section 5.2 may be quite clear, and in such instances the basic definitions alone may suffice for differentiation between categories. For example, the drilling and testing of a well in a simple structural accumulation may be sufficient to allow classification of the entire estimated recoverable quantity as contingent resources or reserves. However, as the industry trends toward the exploitation of more complex and costly petroleum sources, the divisions between resources categories are less distinct, and accumulations may have several categories of resources simultaneously. For example, in extensive “basincenter” low-permeability gas plays, the division between all categories of remaining recoverable quantities, i.e., reserves, contingent resources, and prospective resources, may be highly interpretive. Consequently, additional guidance is necessary to promote consistency in classifying resources. The following provides some clarification of the key criteria that delineate resources categories. Subsequent volumes of COGEH provide additional guidance.

#### **5.3.1 Discovery Status**

As shown in Figure 5-1, the total petroleum initially in place is first subdivided based on the discovery status of a petroleum accumulation. Discovered PIIP, production, reserves, and contingent resources are associated with known accumulations. Recognition as a known accumulation requires that the accumulation be penetrated by a well and have evidence of the existence of petroleum. COGEH Volume 2, Sections 5.3 and 5.4, provides additional clarification regarding drilling and testing requirements relating to recognition of known accumulations.

#### **5.3.2 Commercial Status**

- Commercial status differentiates reserves from contingent resources. The following outlines the criteria that should be considered in determining commerciality:
- economic viability of the related development project;

- a reasonable expectation that there will be a market for the expected sales quantities of production required to justify development;
- evidence that the necessary production and transportation facilities are available or can be made available;
- evidence that legal, contractual, environmental, governmental, and other social and economic concerns will allow for the actual implementation of the recovery project being evaluated;
- a reasonable expectation that all required internal and external approvals will be forthcoming. Evidence of this may include items such as signed contracts, budget approvals, and approvals for expenditures, etc.;
- evidence to support a reasonable timetable for development. 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 maximum time frame for classification of a project as commercial, a longer time frame could be applied where, for example, development of economic projects are deferred at the option of the producer for, among other things, market-related reasons or to meet contractual or strategic objectives.
- COGEH Volume 2, Sections 5.5 to 5.8, provides additional details relating to the foregoing aspects of commerciality relating to classification as reserves versus contingent resources.

### 5.3.3 Commercial Risk

In order to assign recoverable resources of any category, a development plan consisting of one or more projects needs to be defined. In-place quantities for which a feasible project cannot be defined using established technology or technology under development are classified as unrecoverable. In this context “technology under development” refers to technology that has been developed and verified by testing as feasible for future commercial applications to the subject reservoir. In the early stage of exploration or development, project definition will not be of the detail expected in later stages of maturity. In most cases recovery efficiency will be largely based on analogous projects.

Estimates of recoverable quantities are stated in terms of the sales products derived from a development program, assuming commercial development. It must be recognized that reserves, contingent resources, and prospective resources involve different risks associated

with achieving commerciality. The likelihood that a project will achieve commerciality is referred to as the “chance of commerciality.” The chance of commerciality varies in different categories of recoverable resources as follows:

- **Reserves:** To be classified as reserves, estimated recoverable quantities must be associated with a project(s) that has demonstrated commercial viability. Under the fiscal conditions applied in the estimation of reserves, the chance of commerciality is effectively 100 percent.
- **Contingent Resources:** Not all technically feasible development plans will be commercial. The commercial viability of a development project is dependent on the forecast of fiscal conditions over the life of the project. For contingent resources the risk component relating to the likelihood that an accumulation will be commercially developed is referred to as the “chance of development.” For contingent resources the chance of commerciality is equal to the chance of development.
- **Prospective Resources:** Not all exploration projects will result in discoveries. The chance that an exploration project will result in the discovery of petroleum is referred to as the “chance of discovery.” Thus, for an undiscovered accumulation the chance of commerciality is the product of two risk components — the chance of discovery and the chance of development.

### 5.3.4 Economic Status, Development, and Production Subcategories

#### a. Economic Status

By definition, reserves are commercially (and hence economically) recoverable. A portion of contingent resources may also be associated with projects that are economically viable but have not yet satisfied all requirements of commerciality. Accordingly, it may be a desirable option to subclassify contingent resources by economic status:

*Economic Contingent Resources* are those contingent resources that are currently economically recoverable.

*Sub-Economic Contingent Resources* are those contingent resources that are not currently economically recoverable.

Where evaluations are incomplete such that it is premature to identify the economic viability of a project, it is acceptable to note that project economic status is “undetermined” (i.e., “contingent resources – economic status undetermined”).

In examining economic viability, the same fiscal conditions should be applied as in the estimation of reserves, i.e., specified economic conditions, which are generally accepted as being reasonable (refer to COGEH Volume 2, Section 5.8).

## **b. Development and Production Status**

Resources may be further subclassified based on development and production status. For reserves, the terms “developed” and “undeveloped” are used to express the status of development of associated recovery projects, and “producing” and “nonproducing” indicate whether or not reserves are actually on production (see Section 5.4.2).

Similarly, project maturity subcategories can be identified for contingent and prospective resources; the SPE-PRMS (Section 2.1.3.1) provides examples of subcategories that could be identified. For example, the SPE-PRMS identifies the highest project maturity subcategory as “development pending,” defined as “a discovered accumulation where project activities are ongoing to justify commercial development in the foreseeable future.”

### **5.3.5 Uncertainty Categories**

Estimates of resources always involve uncertainty, and the degree of uncertainty can vary widely between accumulations/projects and over the life of a project. Consequently, estimates of resources should generally be quoted as a range according to the level of confidence associated with the estimates. An understanding of statistical concepts and terminology is essential to understanding the confidence associated with resources definitions and categories. These concepts, which apply to all categories of resources, are outlined in Sections 5.5.1 to 5.5.3.

The range of uncertainty of estimated recoverable volumes may be represented by either deterministic scenarios or by a probability distribution. Resources should be provided as low, best, and high estimates as follows:

- **Low Estimate:** This is considered to be a conservative estimate of the quantity that will actually be recovered from the accumulation. If probabilistic methods are used, this term reflects a P90 confidence level.

- **Best Estimate:** This is considered to be the best estimate of the quantity that will actually be recovered from the accumulation. If probabilistic methods are used, this term is a measure of central tendency of the uncertainty distribution (most likely/mode, P50/median, or arithmetic average/mean).
- **High Estimate:** This is considered to be an optimistic estimate of the quantity that will actually be recovered from the accumulation. If probabilistic methods are used, this term reflects a P10 confidence level.

**Company Gross Contingent Resources** are the Company's working interest share of the contingent resources, before deduction of any royalties.

**Company Net Contingent Resources** are the gross contingent resources of the properties in which the Company has an interest, less all Crown, freehold, and overriding royalties and interests owned by others.

**Fair Market Value** is defined as the price at which a purchaser seeking an economic and commercial return on investment would be willing to buy, and a vendor would be willing to sell, where neither is under compulsion to buy or sell and both are competent and have reasonable knowledge of the facts.

## Appendix B — National Instrument 51-101, Disclosure of Resources

The following text has been excerpted from Sections 5.9 and 5.10 of National Instrument 51-101, Standards of Disclosure for Oil and Gas Activities, effective December 30, 2010.

### 5.9 Disclosure of Resources Other than Reserves

- (1) If a *reporting issuer* discloses *anticipated results* from *resources* which are not currently classified as *reserves*, the *reporting issuer* must also disclose in writing, in the same document or in a *supporting filing*:
  - (a) the *reporting issuer's* interest in the *resources*;
  - (b) the location of the *resources*;
  - (c) the *product types* reasonably expected;
  - (d) the risks and the level of uncertainty associated with recovery of the *resources*; and
  - (e) in the case of *unproved property*, if its value is disclosed,
    - (i) the basis of the calculation of its value; and
    - (ii) whether the value was prepared by an *independent party*.
- (2) If disclosure referred to in subsection (1) includes an estimate of a quantity of *resources* in which the *reporting issuer* has an interest or intends to acquire an interest, or an estimated value attributable to an estimated quantity, the estimate must
  - (a) have been prepared or audited by a *qualified reserves evaluator or auditor*;
  - (b) have been prepared or audited in accordance with the *COGE Handbook*;
  - (c) be classified in the most specific category of *resources* other than reserves, as required by section 5.3; and
  - (d) be accompanied by the following information:



- (i) a definition of the *resources* category used for the estimate;
- (ii) the *effective date* of the estimate;
- (iii) the significant positive and negative factors relevant to the estimate;
- (iv) in respect of *contingent resources*, the specific contingencies which prevent the classification of the *resources* as *reserves*; and
- (v) a cautionary statement that is proximate to the estimate to the effect that:

(A) in the case of *discovered resources* or a subcategory of *discovered resources* other than *reserves*: "There is no certainty that it will be commercially viable to produce any portion of the resources."; or

(B) in the case of *undiscovered resources* or a subcategory of *undiscovered resources*: "There is no certainty that any portion of the resources will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the resources."

- (3) Paragraphs (1)(d) and (e) and subparagraphs (2)(c)(iii) and (iv) do not apply if:
  - (a) the *reporting issuer* includes in the written disclosure a reference to the title and date of a previously filed document that complies with those requirements; and
  - (b) the *resources* in the written disclosure, taking into account the specific *properties* and interests reflected in the *resources* estimate or other *anticipated result*, are *materially* the same *resources* addressed in the previously filed document.

### **5.10 Analogous Information**

- (1) Sections 5.2, 5.3, 5.9 and 5.16 do not apply to the disclosure of *analogous information* provided that the *reporting issuer* discloses the following:
  - (a) the source and date of the *analogous information*;

- (b) whether the source of the *analogous information* was *independent*;
  - (c) if the *reporting issuer* is unable to confirm that the *analogous information* was prepared by a *qualified reserves evaluator or auditor* or in accordance with the *COGE Handbook*, a cautionary statement to that effect proximate to the disclosure of the *analogous information*; and
  - (d) the relevance of the *analogous information* to the *reporting issuer's oil and gas activities*.
- (2) For greater certainty, if a *reporting issuer* discloses information that is an *anticipated result*, an estimate of a quantity of *reserves* or *resources*, or an estimate of value attributable to an estimated quantity of *reserves* or *resources* for an area in which it has an interest or intends to acquire an interest, that is based on an extrapolation from *analogous information*, sections 5.2, 5.3, 5.9 and 5.16 apply to the disclosure of the information.

## Appendix C — 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

AFE	authority for expenditure
AOF	absolute open flow
APO	after pay out
B <sub>g</sub>	gas formation volume factor
B <sub>o</sub>	oil formation volume factor
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
C1	ninety percent probability (P90) of contingent resources
C2	fifty percent probability (P50) of contingent resources
C3	ten percent probability (P10) of contingent resources
CF	casing flange
CGR	condensate gas ratio
D&A	dry and abandoned
DCQ	daily contract quantity
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
GIIP	gas initially-in-place
GOR	gas-oil ratio
GORR	gross overriding royalty
GWC	gas-water contact
g/cc	gram per cubic centimetre
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
md	millidarcies
MDT	modular formation dynamics tester
MPR	maximum permissive rate
MRL	maximum rate limitation
NGL	natural gas liquids
NORR	net overriding royalty
NPI	net profits interest
NPV	net present value
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
P90	ninety percent probability that the quantities actually recovered will be equaled or exceeded
P50	fifty percent probability that the quantities actually recovered will be equaled or exceeded
P10	ten percent probability that the quantities actually recovered will be equaled or exceeded
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

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rb	reservoir barrel
RT	rotary table
SCAL	special core analysis
SS	subsea
TVD	true vertical depth
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
°API	degrees API (American Petroleum Institute)

## Imperial and Metric Units

Imperial Units			Metric Units	
M (10 <sup>3</sup> )	one thousand	<b>Prefixes</b>	k (10 <sup>3</sup> )	one thousand
MM (10 <sup>6</sup> )	Million		M (10 <sup>6</sup> )	million
B (10 <sup>9</sup> )	one billion		T (10 <sup>12</sup> )	one trillion
T (10 <sup>12</sup> )	one trillion		E (10 <sup>18</sup> )	one trillion
			G (10 <sup>9</sup> )	one milliard
in.	Inches	<b>Length</b>	cm	centimetres
ft	Feet		m	metres
mi	Mile		km	kilometres
ft <sup>2</sup>	square feet	<b>Area</b>	m <sup>2</sup>	square metres
ac	Acres		ha	hectares
cf or ft <sup>3</sup>	cubic feet	<b>Volume</b>	m <sup>3</sup>	cubic metres
scf	Standard cubic feet			
gal	Gallons		L	litres
Mcf	Thousand cubic feet			
Mcfpd	Thousand cubic feet per day			
MMcf	million cubic feet			
MMcfpd	million cubic feet per day			
Bcf	billion cubic feet (10 <sup>9</sup> )			
bbbl	Barrels		m <sup>3</sup>	cubic metre
Mbbbl	Thousand barrels			
stb	stock tank barrel		stm <sup>3</sup>	stock tank cubic metres
bbbl/d	barrels per day		m <sup>3</sup> /d	cubic metre per day
bbbl/mo	barrels per month			
Btu	British thermal units	<b>Energy</b>	J	joules
			MJ/m <sup>3</sup>	megajoules per cubic metre (10 <sup>6</sup> )
			TJ/d	terajoule per day (10 <sup>12</sup> )
oz	ounce	<b>Mass</b>	g	gram
lb	pounds		kg	kilograms
ton	ton		t	tonne
lt	long tons			
Mlt	thousand long tons			
psi	pounds per square inch	<b>Pressure</b>	Pa	pascals
psia	pounds per square inch absolute		kPa	kilopascals (10 <sup>3</sup> )
psig	pounds per square inch gauge			
°F	degrees Fahrenheit	<b>Temperature</b>	°C	degrees Celsius
°R	degrees Rankine		K	Kelvin
M\$	thousand dollars	<b>Dollars</b>	k\$	thousand dollars

**Imperial and Metric Units (Cont'd)**

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

## Conversion Tables

Conversion Factors — Metric to Imperial		
cubic metres (m <sup>3</sup> ) (@ 15°C)	x 6.29010	= barrels (bbl) (@ 60°F), water
m <sup>3</sup> (@ 15°C)	x 6.3300	= bbl (@ 60°F), Ethane
m <sup>3</sup> (@ 15°C)	x 6.30001	= bbl (@ 60°F), Propane
m <sup>3</sup> (@ 15°C)	x 6.29683	= bbl (@ 60°F), Butanes
m <sup>3</sup> (@ 15°C)	x 6.29287	= bbl (@ 60°F), oil, Pentanes Plus
m <sup>3</sup> (@ 101.325 kPaa, 15°C)	x 0.0354937	= thousands of cubic feet (Mcf) (@ 14.65 psia, 60°F)
1,000 cubic metres (10 <sup>3</sup> m <sup>3</sup> ) (@ 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 <sup>3</sup> m <sup>2</sup> )	x 0.2471054	= acres
10,000 cubic metres (ha·m)	x 8.107133	= acre feet (ac-ft)
m <sup>3</sup> /10 <sup>3</sup> m <sup>3</sup> (@ 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 <sup>3</sup> ) (@ 101.325 kPaa, 15°C)	x 26.714952	= British thermal units per standard cubic foot (Btu/scf) (@ 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 <sup>3</sup> m <sup>3</sup> )	x 0.0288951	= dollars per thousand cubic feet (\$/Mcf) (@ 15.025 psia) B.C.
(\$/10 <sup>3</sup> m <sup>3</sup> )	x 0.02817399	= \$/Mcf (@ 14.65 psia) Alta.
dollars per cubic metre (\$/m <sup>3</sup> )	x 0.158910	= dollars per barrel (\$/bbl)
gas/oil ratio (GOR) (m <sup>3</sup> /m <sup>3</sup> )	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 <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> ) (C <sub>3</sub> )	x 0.177496	= barrels per million cubic feet (bbl/MMcf) (@ 14.65 psia)
m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> (C <sub>4</sub> )	x 0.1774069	= bbl/MMcf (@ 14.65 psia)
m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> (C <sub>5+</sub> )	x 0.1772953	= bbl/MMcf (@ 14.65 psia)
tonnes per million cubic metres (t/10 <sup>6</sup> m <sup>3</sup> ) (sulphur)	x 0.0277290	= LT/MMcf (@ 14.65 psia)
millilitres per cubic meter (mL/m <sup>3</sup> ) (C <sub>5+</sub> )	x 0.0061974	= gallons (Imperial) per thousand cubic feet (gal (Imp)/Mcf)
(mL/m <sup>3</sup> ) (C <sub>5+</sub> )	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



## Conversion Tables (Cont'd)

Conversion Factors — Imperial to Metric		
barrels (bbl) (@ 60°F)	x 0.15898	= cubic metres (m <sup>3</sup> ) (@ 15°C), water
bbl (@ 60°F)	x 0.15798	= m <sup>3</sup> (@ 15°C), Ethane
bbl (@ 60°F)	x 0.15873	= m <sup>3</sup> (@ 15°C), Propane
bbl (@ 60°F)	x 0.15881	= m <sup>3</sup> (@ 15°C), Butanes
bbl (@ 60°F)	x 0.15891	= m <sup>3</sup> (@ 15°C), oil, Pentanes Plus
thousands of cubic feet (Mcf) (@ 14.65 psia, 60°F)	x 28.17399	= m <sup>3</sup> (@ 101.325 kPaa, 15°C)
Mcf (@ 14.65 psia, 60°F)	x .02817399	= 1,000 cubic metres (10 <sup>3</sup> m <sup>3</sup> ) (@ 101.325 kPaa, 15°C)
acres	x 0.4046856	= hectares (ha)
acres	x 4.046856	= 1,000 square metres (10 <sup>3</sup> m <sup>2</sup> )
acre feet (ac-ft)	x 0.123348	= 10,000 cubic metres (10 <sup>4</sup> m <sup>3</sup> ) (ha·m)
Mcf/ac-ft (@ 14.65 psia, 60°F)	x 22.841028	= 10 <sup>3</sup> m <sup>3</sup> /m <sup>3</sup> (@ 101.325 kPaa, 15°C)
Btu	x 1054.615	= joules (J)
British thermal units per standard cubic foot (Btu/Scf) (@ 14.65 psia, 60°F)	x .03743222	= megajoules per cubic metre (MJ/m <sup>3</sup> ) (@ 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 <sup>3</sup> m <sup>3</sup> (@ 101.325 kPaa, 15°C)
\$/Mcf (@ 15.025 psia, 60°F), B.C.	x 34.607860	= \$/10 <sup>3</sup> m <sup>3</sup> (@ 101.325 kPaa, 15°C)
feet (ft)	x 0.3048	= metres (m)
miles (mi)	x 1.609344	= kilometres (km)
\$/bbl	x 6.29287	= \$/m <sup>3</sup> (average for 30°-50° API)
GOR (scf/bbl)	x 0.177295	= gas/oil ratio (GOR) (m <sup>3</sup> /m <sup>3</sup> )
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 <sup>3</sup> )
gallons (U.S.)	x 3.785412	= litres (L) (.001 m <sup>3</sup> )
barrels per million cubic feet (bbl/MMcf) (@ 14.65 psia) (C <sub>3</sub> )	x 5.6339198	= cubic metres per million cubic metres (m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> )
bbl/MMcf (C <sub>4</sub> )	x 5.6367593	= (m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> )
bbl/MMcf (C <sub>5+</sub> )	x 5.6403087	= (m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> )
LT/MMcf (sulphur)	x 36.063298	= tonnes per million cubic metres (t/10 <sup>6</sup> m <sup>3</sup> )
gallons (Imperial) per thousand cubic feet (gal (Imp)/Mcf) (C <sub>5+</sub> )	x 161.3577	= millilitres per cubic meter (mL/m <sup>3</sup> )
gallons (U.S.) per thousand cubic feet (gal (U.S.)/Mcf) (C <sub>5+</sub> )	x 134.3584	= (mL/m <sup>3</sup> )
degrees Rankine (°R)	x 0.555556	= Kelvin (K)
centipoises	x 1.0	= millipascal seconds (mPa·s)

## **Appendix D – Representation Letter**

The Representation Letter has been included as Appendix D; it was prepared by Officers of the Company and confirms the accuracy, completeness and availability of all data requested by Sproule and or otherwise furnished to Sproule during the course of our evaluation of the Company's assets, herein reported on.



**James Bay**  
Resources Limited

20 Victoria Street, Suite 800, Toronto, Ontario, M5C 2N8

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284  
April 30<sup>th</sup>, 2015

Sroule International Limited  
900, 140 – 4th Avenue SW  
Calgary, AB T2P 3N3

Dear Sir:

Regarding the evaluation of our Company's oil and gas resources (the "Resources Evaluation") for the year ended December 31, 2014 (the "Effective Date"), we herein confirm, to the best of our knowledge and belief after due inquiry, as of the Effective Date and, as applicable, as of today, the following representations and information made available to you during the conduct of the Resources Evaluation:

1. We (the Client) have made available to you (the Evaluator) certain records, information, and data relating to the evaluated properties that we confirm is, with the exception of immaterial items, complete and accurate as of the Effective Date of the Reserves Evaluation, including, where applicable, the following:
  - accounting, financial, tax, and contractual data;
  - asset ownership and related encumbrance information;
  - details concerning product marketing, transportation, and processing arrangements;
  - all technical information including geological, engineering, and production and test data;
  - estimates of future abandonment costs.
2. We confirm that all financial and accounting information provided to you is, both on an individual entity basis and in total, entirely consistent with that reported by our Company for public disclosure and audit purposes.
3. We confirm that our Company has satisfactory title to all of the assets, whether tangible, intangible, or otherwise, for which accurate and current ownership information has been provided.
4. With respect to all information provided to you regarding product marketing, transportation, and processing arrangements, we confirm that we have disclosed to you all anticipated changes, terminations, and additions to these arrangements that could reasonably be expected to have a material effect on the evaluation of our Company's resources and future net revenues.
5. With the possible exception of items of an immaterial nature, we confirm the following as of the Effective Date:
  - For all operated properties that you have evaluated, no changes have occurred or are reasonably expected to occur to the operating conditions or methods that have been used by our Company over the past twelve (12) months, except as disclosed to you. In the case of non-operated properties, we have advised you of any such changes of which we have been made aware.

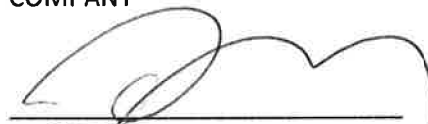
- All regulatory approvals, permits, and licenses required to allow continuity of future operations and production from the evaluated properties are in place and, except as disclosed to you, there are no directives, orders, penalties, or regulatory rulings in effect or expected to come into effect relating to the evaluated properties.
- Except as disclosed to you, the producing trend and status of each evaluated well or entity in effect throughout the three-month period preceding the Effective Date are consistent with those that existed for the same well or entity immediately prior to this three-month period.
- Except as disclosed to you, we have no plans or intentions related to the ownership, development, or operation of the evaluated properties that could reasonably be expected to materially affect the production levels or recovery of reserves from the evaluated properties.
- If material changes of an adverse nature occur in the Company's operating performance subsequent to the Effective Date and prior to the report date, we will inform you of such material changes prior to requesting your approval for any public disclosure of any reserves information.

Between the Effective Date and the date of this letter nothing has come to our attention that has materially affected or could materially affect our resources and the economic value of these resources that has not been disclosed to you.

Yours very truly,

James Bull Resources Limited

COMPANY



SIGNATURE

STEPHEN SHEFSKY

NAME

President + CEO

TITLE