



14 September 2010

**KAR South America Updated Volumes Estimated by D&M –  
Risky Net Mean Prospective Resources of 588 Million bbl oil.**

Karooon is pleased to advise the results of an independent report on its Prospective Resources for the company's South American portfolio of exploration assets as completed by DeGolyer and MacNaughton ("D&M"). The report estimates the geologically risky net mean prospective resources of 589 million barrels of oil from its 13 prospects, as detailed in the table below:

Report Dated 31 August 2010

DeGolyer & MacNaughton Karoon Gas Resource estimate as of 31 Aug 2010	Low Estimate	Best Estimate	High Estimate	Mean Estimate	Risky Mean Estimate
Net Prospective Resources (10 <sup>6</sup> bbl oil)	906	1,844	3,753	2,150	589

The increase in risky net mean prospective resources since the May 2010 report of 577 million barrels of oil to 589 million barrels of oil in the August 2010 report is due to farming into 20% of blocks BM-S-41 / S-M 1352 and BM-S-41 / S-M1354, along with small changes in expected expenditure in relation to the development of existing Santos Basin prospects.

It is also important to note that completion of the Quasi well reduces the geologically risky net mean prospective resource of Karoon South American portfolio to 588 million barrels of oil from the reported 589 million barrels of oil.

The report also summarises the net potential present worth of the prospective resources on a probabilistic basis. The net mean estimate of Potential Present Worth (at 10%) increased from the May 2010 report of US\$3.41 billion to US\$4.06 billion in the August 2010 report from farming into 20% of blocks BM-S-41 / S-M 1352 and BM-S-41 / S-M1354 and changes to capital and operating expenditure assumptions).

The report was prepared by the international consulting company DeGolyer and MacNaughton (D&M) as of the 31<sup>st</sup> of August, 2010. It includes the results of newly acquired and processed 3D seismic in Peru and reprocessed 3D seismic in Brazil.

The report updates the previous D&M report on the company's prospective resources estimate released in June of 2010.

The prospective resource estimates presented in the DeGolyer and MacNaughton report have been prepared in accordance with the Petroleum Resources Management System (PRMS) approved in March 2007 by the Society of Petroleum Engineers, the World Petroleum Council, the American Association of Petroleum Geologists, and the Society of Petroleum Evaluation Engineers.

The PRMS reporting system provides uniform guidelines for the evaluation and reporting of petroleum reserves and resources. Under PRMS:

- "Prospective resource", as reported by DeGolyer and MacNaughton, are defined as those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects.

The prospective resources reported on by DeGolyer & MacNaughton are summarized by both the statistical aggregation and arithmetic summation methods. There is no certainty that any portion of the prospective resources estimated on behalf of Karoon will be discovered.

Karoon has its main interests in the following key South American assets:

- In Brazil, Karoon holds 5 blocks (100% equity) in the Santos Basin. The same basin where the Tupi and Carioca discoveries (multi-billion barrels of oil) were made recently by Petrobras. Karoon is also earning a 20% equity in two additional Santos Basin blocks in return for funding part of presently drilling program operated by Petrobras.
- In Peru, Karoon is earning up to 75% equity in the 4,875 square km Block Z-38 in the Tumbes Basin.
- In Peru, Karoon has 100% equity in the onshore Block 144 in the Marañon Basin, where the Situchi discovery was recently made by Talisman.

**Notes:**

- Prospective resource estimated volumes are stated on both a net and gross basis in the DeGolyer & MacNaughton report.
- Low, Best and High estimates means there is a 90%, 50% and 10% chance respectively that an estimated quantity of resource volume will be equalled or exceeded assuming a discovery has been made (success case).
- Tcf means trillion cubic feet of gas.
- 1 Billion Barrel of Oil Equivalent ("BBOE") is equivalent to 6 Tcf.
- A barrel is equivalent to 159 litres.

DeGolyer and MacNaughton is an international petroleum consulting firm with offices in the United States of America, Canada and Russia, who specialise in evaluation of reserves and resources for major oil and gas companies, governments, financial institutions and the investment industry. DeGolyer and MacNaughton have conducted assessments of and for the largest petroleum and financial companies in the world.

For further information please contact:

Scott Hosking  
Company Secretary  
Karoon Gas Australia Ltd  
Phone: 03 5974 1044  
Email: [scotthosking@karoongas.com.au](mailto:scotthosking@karoongas.com.au)

Ian Howarth  
Collins Street Media  
Phone: 0407 822 319  
Email: [ian@collinsstreetmedia.com.au](mailto:ian@collinsstreetmedia.com.au)

DEGOLYER AND MACNAUGHTON  
5001 SPRING VALLEY ROAD  
SUITE 800 EAST  
DALLAS, TEXAS 75244

This is a digital representation of a DeGolyer and MacNaughton report.

This file is intended to be a manifestation of certain data in the subject report and as such are subject to the same conditions thereof. The information and data contained in this file may be subject to misinterpretation; therefore, the signed and bound copy of this report should be considered the only authoritative source of such information.



DEGOLYER AND MACNAUGHTON  
5001 SPRING VALLEY ROAD  
SUITE 800 EAST  
DALLAS, TEXAS 75244

REPORT  
as of  
AUGUST 31, 2010  
on the  
PROSPECTIVE RESOURCES  
attributable to  
CERTAIN OIL PROSPECTS  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in  
VARIOUS LICENSE BLOCKS  
BRAZIL and PERU

## TABLE of CONTENTS

	<u>Page</u>
<b>FOREWORD</b> .....	1
Scope of Investigation.....	1
Authority.....	4
Source of Information .....	4
<b>DEFINITION of PROSPECTIVE RESOURCES</b> .....	5
<b>GEOLOGY</b> .....	9
Brazil .....	9
Morro da Igreja East (Beta) Oil Prospect.....	9
Monte Roriamá South (Charlie Theta) Oil Prospect.....	9
Pre-Salt Oil Prospect .....	10
Pico do Jaragua East (Alpha) Oil Prospect .....	10
Monte Roriamá Oil Prospect .....	10
Ascores Oil Prospect .....	10
Quasi Oil Prospect .....	11
Maruja Prospect.....	11
Peru.....	11
A Oil Prospect .....	11
B Oil Prospect .....	11
G Oil Prospect .....	12
B 144 Oil Prospect .....	12
D Oil Prospect .....	12
<b>ESTIMATION of RESOURCES</b> .....	13
Quantitative Risk Assessment and the Application of $P_{\#}$ .....	14
Application of $P_{\#}$ .....	15
<b>VALUATION of RESOURCES</b> .....	17
Potential Accumulations: Plans of Development.....	19
Brazil Prospects .....	21
Peru Prospects .....	21
<b>SUMMARY and CONCLUSIONS</b> .....	22
<b>GLOSSARY of PROBABILISTIC TERMS</b>	
<b>TABLES</b>	
Table P1 – Prospect Portfolio Summary	
Table 1 – Estimate of the Gross Prospective Oil Resources	
Table 2 – Estimate of the Net Prospective Oil Resources	
Table 3 – Estimate of the Gross Prospective Oil Resources Truncated and Adjusted for TEFS	
Table 4 – Estimate of the Net Prospective Oil Resources Truncated and Adjusted for TEFS	
Table 5 – Prospective Oil Resources, Probability Distributions	
Table 6 – Potential Present Worth at 10 Percent, Net Prospective Oil Resources	
Table 7 – Gross Potential Quantities, Expenses, and Costs, Morro Da Igreja (Beta)	
Table 8 – Gross Potential Quantities, Expenses, and Costs, Charlie (Theta)	



**TABLE of CONTENTS – (Continued)**

**TABLES – (Continued)**

Table 9	– Gross Potential Quantities, Expenses, and Costs, Pre-Salt
Table 10	– Gross Potential Quantities, Expenses, and Costs, Pico Do Jaragua (Alpha)
Table 11	– Gross Potential Quantities, Expenses, and Costs, Monte Roriana
Table 12	– Gross Potential Quantities, Expenses, and Costs, A
Table 13	– Gross Potential Quantities, Expenses, and Costs, B
Table 14	– Gross Potential Quantities, Expenses, and Costs, G
Table 15	– Gross Potential Quantities, Expenses, and Costs, B-144
Table 16	– Gross Potential Quantities, Expenses, and Costs, D
Table 17	– Gross Potential Quantities, Expenses, and Costs, Acores
Table 18	– Gross Potential Quantities, Expenses, and Costs, Quasi
Table 19	– Gross Potential Quantities, Expenses, and Costs, Marujá
Table 20	– Summary of Conceptual Development Plan Assumptions

DEGOLYER AND MACNAUGHTON  
5001 SPRING VALLEY ROAD  
SUITE 800 EAST  
DALLAS, TEXAS 75244

**REPORT  
as of  
AUGUST 31, 2010  
on the  
PROSPECTIVE RESOURCES  
attributable to  
CERTAIN OIL PROSPECTS  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in  
VARIOUS LICENSE BLOCKS  
BRAZIL and PERU**

**FOREWORD**

**Scope of Investigation**

This report presents estimates, as of August 31, 2010, of the prospective petroleum resources of 13 prospects located in various license blocks in various basins of Brazil and Peru. This report is being prepared on behalf of Karoon Gas Australia Ltd and its subsidiary Karoon Petr6leo & G6s S.A., hereinafter collectively referred to as "Karoon." Karoon currently owns various interests in these prospects under the terms of the exploration and production licenses issued (Table P1).

Karoon has represented that upon completion of the primary term of any current exploration and/or production license, it intends to secure an extension or additional license for any discovered prospect. Also, Karoon intends to proceed with development of any discovered prospect. Based on these representations, we have included as resources certain quantities that may be produced after the expiration of the current primary license.

The prospective resources estimates presented in this report have been prepared in accordance with the Petroleum

Resources Management System (PRMS) approved in March 2007 by the Society of Petroleum Engineers, the World Petroleum Council, the American Association of Petroleum Geologists, and the Society of Petroleum Evaluation Engineers. These prospective resources definitions are discussed in detail in the Definition of Prospective Resources section of this report.

The prospective resource quantities in this report are expressed as gross and net prospective resources. Gross prospective resources are defined as the total estimated petroleum that is potentially recoverable after August 31, 2010. Net prospective resources are defined as the product of the gross prospective resources and Karoon's net interest. The prospects are located in various license blocks in various basins of Brazil and Peru.

The prospective resources estimated herein are those quantities of petroleum that are potentially recoverable from accumulations yet to be discovered. Because of the uncertainty of commerciality and the lack of sufficient exploration drilling, the prospective resources estimated herein cannot be classified as contingent resources or reserves. The prospective resources estimates in this report are not provided as a means of comparison to contingent resources or reserves. Tables 1 through 20 summarize the estimated prospective resources for 13 prospects, as of August 31, 2010.

At the request of Karoon, a model was prepared to estimate potential values that might be realized from the resources estimated herein should these resources be successfully discovered and developed. A possibility exists that the prospects will not result in successful discoveries and development, in which case there could be no potential present worth. There is no certainty that any portion of the prospective resources estimated herein will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.

The potential values of the prospective resources estimated herein are expressed in terms of potential present worth. Potential present worth is defined as potential future net revenue discounted at a specified arbitrary discount rate compounded monthly over the expected period of realization. Potential future net revenue is that revenue that might be derived from the sale of the total estimated prospective resources recoverable after August 31, 2010, after deductions for operating expenses, capital costs, taxes, and royalties. In this report, potential present worth values were estimated using a discount rate of



DEGOLYER AND MACNAUGHTON

10 percent. Values of potential present worth at 10 percent have been estimated by scenario based on deterministic and probabilistic economic modeling, field analogy, statistical analyses, and regional experience. A potential present worth per prospective resources quantity methodology was utilized to develop a potential present worth estimate for the prospective resources probabilistically modeled. This methodology is discussed in more detail in the Valuation of Resources section of this report.

Potential present worth estimates are shown in this report for the prospective resources after adjustment for the probability of geologic and economic success in discovering and developing a commercially viable field. These potential present worth estimates are provided as a means of comparison to the potential present worth estimates of other resources and do not provide a means of direct comparison to the present worth estimates attributable to reserves or contingent resources. The probability adjustment process takes into account the probability of an economically viable discovery and the probability of development of the petroleum prospect.

These potential present worth estimates do not take into consideration the uncertainties associated with market and political conditions. The estimates are expressed in terms of potential present worth discounted at 10 percent. All potential present worth estimates presented in this report are expressed in United States dollars (U.S.\$). The total failure scenario for potential present worth estimation recognizes the chance that zero wells encounter economic prospective resources. This probability of no positive present worth is intrinsic to all prospect portfolios.

Estimates of prospective resources should be regarded only as estimates that may change as additional information becomes available. Not only are such prospective resources estimates based on that information which is currently available, but such estimates are also subject to the uncertainties inherent in the application of judgmental factors in interpreting such information. Prospective resources quantities estimates should not be confused with those quantities that are associated with contingent resources or reserves due to the additional risks involved. The quantities that might actually be recovered should they be discovered and developed may differ significantly from the estimates presented herein.

DEGOLYER AND MACNAUGHTON

Authority

This report was authorized by  
Mr. Bob Hosking, Director, Karoon.

Source of Information

In the preparation of this report we have  
relied, without independent verification,  
upon information, including maps and available seismic data, furnished by or on  
behalf of Karoon with respect to the property interests to be evaluated, subsurface  
data as they pertain to the target objectives and prospects, and various other  
information and technical data that were accepted as represented. This report was  
based on data available as of August 31, 2010.

## **DEFINITION of PROSPECTIVE RESOURCES**

Petroleum resources included in this report are classified as prospective resources and have been prepared in accordance with the PRMS approved in March 2007 by the Society of Petroleum Engineers, the World Petroleum Council, the American Association of Petroleum Geologists, and the Society of Petroleum Evaluation Engineers. The prospective resources estimated herein cannot be classified as contingent resources or reserves. The petroleum resources are classified as follows:

*Prospective Resources* – Those quantities of petroleum that are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects.

The estimation of resources quantities for a prospect is subject to both technical and commercial uncertainties and, in general, may be quoted as a range. The range of uncertainty reflects a reasonable range of estimated potentially recoverable volumes. In all cases, the range of uncertainty is dependent on the amount and quality of both technical and commercial data that are available and may change as more data become available.

*Low, Best, High, and Mean Estimates* – Estimates of petroleum resources in this report are expressed using the terms low estimate, best estimate, high estimate, and mean estimate to reflect the range of uncertainty.

A detailed explanation of the probabilistic terms used herein and identified with an asterisk (\*) is included in the Glossary of Probabilistic Terms in the appendix bound with this report. For probabilistic estimates of petroleum resources, the low estimate reported herein is the  $P_{90}^*$  quantity derived from probabilistic analysis. This means that there is at least a 90-percent probability that, assuming the prospect is discovered and developed, the quantities actually recovered will equal or exceed the low estimate. The best (median) estimate is the  $P_{50}^*$  quantity derived from probabilistic analysis. This means that there is at least a 50-percent probability that, assuming the prospect is discovered and developed, the quantities actually recovered will equal or exceed the best (median) estimate. The high estimate is the  $P_{10}^*$  quantity derived from probabilistic analysis. This means that there is at least a 10-percent probability

that, assuming the prospect is discovered and developed, the quantities actually recovered will equal or exceed the high estimate. The expected value\* (EV), an outcome of the probabilistic analysis, is used for the mean estimate.

*Uncertainties Related to Prospective Resources* – The volume of petroleum discovered by exploration drilling depends on the number of prospects that are successful as well as the volume that each success contains. Reliable forecasts of these volumes are, therefore, dependent on accurate predictions of the number of discoveries that are likely to be made if the entire portfolio of prospects is drilled. The accuracy of this forecast depends on the portfolio size, and an accurate assessment of the probability of geologic success\* ( $P_g$ ).

*Probability of Geologic Success* –  $P_g$  is defined as the probability of discovering reservoirs that flow petroleum at a measurable rate.  $P_g$  is estimated by quantifying the probability of each of the following individual geologic factors: trap, source, reservoir, and migration. The product of these four probabilities or chance factors is computed as  $P_g$ .

In this report estimates of prospective resources are presented both before and after adjustment for  $P_g$ . Total prospective resources estimates are based on the probabilistic summation of the volumes for the total inventory of prospects.

Application of  $P_g$  to estimate the  $P_g$ -adjusted prospective resources volumes does not equate prospective resources with reserves or contingent resources.  $P_g$ -adjusted prospective resources volumes cannot be compared directly to or aggregated with either reserves or contingent resources. Estimates of  $P_g$  are interpretive and are dependent on the quality and quantity of data currently made available. Future data acquisition, such as additional drilling or seismic acquisition, can have a significant effect on  $P_g$  estimation. These additional data are not confined to the report area, but also include data from similar geologic settings or technological advancements that could affect the estimation of  $P_g$ .

*Predictability versus Portfolio Size* – The accuracy of forecasts of the number of discoveries that are likely to be made is constrained by the number of prospects in the exploration portfolio. The size of the portfolio and  $P_g$  together are helpful in gauging the limits on the



reliability of these forecasts. A high  $P_g$ , which indicates a high chance of discovering measurable petroleum, may not require a large portfolio to ensure that at least one discovery will be made (assuming the  $P_g$  does not change during drilling of some of the prospects). By contrast, a low  $P_g$ , which indicates a low chance of discovering measurable petroleum, could require a large number of prospects to ensure a high confidence level of making even a single discovery. The relationship between portfolio size,  $P_g$ , and the probability of a fully unsuccessful drilling program that results in a series of wells not encountering measurable hydrocarbons is referred to herein as the predictability versus portfolio size relationship\* (PPS). It is critical to be aware of PPS, because an unsuccessful drilling program, which results in a series of wells that do not encounter measurable hydrocarbons, can adversely affect any exploration effort, resulting in a negative present worth.

For a large prospect portfolio, the  $P_g$ -adjusted mean estimate of the prospective resources volume should be a reasonable estimate of the recoverable petroleum quantities found if all prospects are drilled. When the number of prospects in the portfolio is small and the  $P_g$  is low, the recoverable petroleum actually found may be considerably smaller than the  $P_g$ -adjusted best estimate would indicate. It follows that the probability that all of the prospects will be unsuccessful is smaller when a large inventory of prospects exist.

*Prospect Technical Evaluation Stage* – A prospect can often be subcategorized based on its current stage of technical evaluation. The different stages of technical evaluation relate to the amount of geologic, geophysical, engineering, and petrophysical data as well as the quality of available data.

*Prospect* – A prospect is a potential accumulation that is sufficiently well defined to be a viable drilling target. For a prospect, sufficient data and analyses exist to identify and quantify the technical uncertainties, to determine reasonable ranges of geologic chance factors and engineering and petrophysical parameters, and to estimate prospective resources.

*Lead* – A lead is less well defined and requires additional data and/or evaluation to be classified as a prospect. An example would be a poorly



defined closure mapped using sparse regional seismic data in a basin containing favorable source and reservoir(s). A lead may or may not be elevated to prospect status depending on the results of additional technical work. A lead must have a  $P_g$  equal to or less than 0.05 to reflect the inherent technical uncertainty.

*Play* – A project associated with a prospective trend of potential prospects, but which requires more data acquisition and/or evaluation in order to define specific leads or prospects.

*Threshold Economic Field Size* – The threshold economic field size (TEFS) is the minimum amount of the producible petroleum required to recover the total capital and operating expenditure used to establish the potential accumulation as having a potential present worth equal to zero.

*Probability of Economic Success* – The probability of economic success ( $P_e$ ) is defined as the probability that a given discovery will be economically viable. It takes into account  $P_g$ , TEFS,  $P_{TEFS}$ , capital costs, operating expenses, the proposed development plan, the economic model (discounted cash flow analysis), and other business and economic factors.  $P_e$  is calculated as follows:

$$P_e = P_g \times P_{TEFS}$$

*Probability of Threshold Economic Field Size* – The probability of threshold economic field size ( $P_{TEFS}$ ) is defined as the probability of discovering an accumulation that is large enough to be economically viable.  $P_{TEFS}$  is estimated by using the prospective resources potential recoverable quantities distribution in conjunction with the TEFS. The probability associated with the TEFS can be determined graphically from the potential gross recoverable quantities distribution.

## GEOLOGY

Eight prospects have been identified in the Santos Basin of Brazil. Five prospects have been identified in Peru (Tumbes and Marañon). A geologic description follows.

### Brazil

#### Morro da Igreja East (Beta) Oil Prospect

Targets within this oil prospect are sandstones of various age that are vertically stacked, from the deeper Late Santonian to Early Campanian (Itajai Formation) and the shallower Oligocene (Marambaia Formation). The prospect is a structural fault-bounded trap with three-way dip closure to the east, northeast, and southeast. Thick intra-formational claystones provide top and base seals and a lateral cross-fault seal. Source rocks are the Barremian-age Guaratiba Formation, lacustrine shales within the pre-salt interval, and the Albian marine shales of the Garuja Formation in the post-salt interval. The migration pathway from the pre-salt source rocks is interpreted to be through salt thins or "windows" up into the post-salt interval where, in conjunction with the Albian source rocks, migration is vertically focused (due to favorable dipping beds) to the prospect. Direct hydrocarbon indicators (DHIs) are observed with conformance fit to structure in all of the potential targets.

#### Monte Roriamá South (Charlie Theta) Oil Prospect

Targets within this oil prospect are sandstones of the Oligocene (Marambaia Formation). The prospect's trap is defined as a combined structural three-way dip closure with fault closure to the west and three-way dip closure to the south, southwest, and southeast. The reservoirs are sealed by intra-formational shales that provide top, base, and lateral cross fault seals and by an updip seal against salt of the older Aptian-age Ariri Formation that resulted from diapiric salt formation. Source rocks are the Barremian-age Guaratiba Formation, lacustrine shales within the pre-salt interval, and the Albian marine shales of the Garuja Formation in the post-salt interval. The migration pathway from the pre-salt source rocks is interpreted to be through salt thins or "windows" up into the post-salt interval where, in conjunction with the Albian source rocks, migration is vertically focused (due to favorable dipping beds) to the prospect. DHIs are observed with fit to structure at the target level, which is consistent with fluids in the reservoir at these depths.

### Pre-Salt Oil Prospect

Targets within this oil prospect are the Barremian Stromatolitic Carbonates. The prospect is a structural trap. Source rocks are the Barremian lacustrine shales of the Guaratiba Formation. These reservoirs are sealed by Aptian salt of the Ariri Formation. The migration pathway is interpreted to be lateral to the main basement high underlying the Karoon blocks. Significant overpressure is expected and presents a drilling risk as well as a hydrocarbon column height limitation.

### Pico do Jaragua East (Alpha) Oil Prospect

Targets within this oil prospect are sandstones of various age that are vertically stacked, from the deeper Late Santonian to Early Campanian (Itajai Formation) and the shallower Maastrichtian (Santos Formation). The prospect is a structural fault-bounded trap with three-way dip closure to the east, northeast, and southeast. Thick intra-formational claystones provide top and base seals and a lateral cross fault seal. Source rocks are the Barremian-age Guaratiba Formation, lacustrine shales within the pre-salt interval, and the Albian marine shales of the Garuja Formation in the post-salt interval. The migration pathway from the pre-salt source rocks is interpreted to be through salt thins or "windows" up into the post-salt interval where, in conjunction with the Albian source rocks, migration is vertical focused (due to favorable dipping beds) to the prospect. DHIs are observed with conformance fit to structure in all of the potential targets.

### Monte Roriama Oil Prospect

Targets within this oil prospect are the Maastrichtian sandstones. The prospect is a combined structural/stratigraphic trap. Source rocks are the Barremian lacustrine shales of the Guaratiba Formation. The reservoirs are sealed by Maastrichtian shales of the Jurea Formation. The migration pathway is interpreted to be through salt thins or "windows" and then primarily vertical along the face of a salt diapir. DHIs are observed with conformance to structure.

### Ascores Oil Prospect

Potential targets within this oil prospect are the Santonian sandstones. The prospect is a combination trap. Source rocks are the Barremian lacustrine shales of the Guaratiba Formation. These reservoirs are

sealed by Santonian shales of the Itajai Formation. The migration pathway is interpreted to be through faults and salt thins or "windows."

#### Quasi Oil Prospect

The oil prospect targets Miocene age sandstones. The prospect is a combination trap. Source rocks are the Barremian lacustrine shales of the Guaratiba Formation. These potential reservoirs are sealed by Miocene shales of the Marambaia Formation. The migration pathway is interpreted to be through faults and salt thins or "windows."

#### Maruja Prospect

The oil prospect targets upper Cretaceous and Paleogene-age potential reservoirs. The prospect is a three-way faulted dip closure. Source rocks are the Barremian lacustrine shales of the Guaratiba Formation. These potential reservoirs are sealed by the various interbedded clastics present in the section. The migration pathway is interpreted to be through faults and salt thins or "windows."

#### Peru

##### A Oil Prospect

Prospect A is a Late Miocene-Pliocene fault trap. The potential targets are Late Miocene Tumbes Formation reservoir sands sealed vertically and laterally by Pliocene Mal Pelo Formation or Late Miocene Tumbes Formation intraformational mudstones. Secondary targets are present in the overlying Pliocene Mal Pelo Formation. Oligocene Heath Formation source rocks are presently in the expulsion window. Vertical migration is affected through faults. Amplitude anomalies are recognized within the shallow Mal Pelo Formation horizons.

##### B Oil Prospect

Prospect B is a faulted anticline. The potential targets are Late Miocene Tumbes Formation reservoir sands sealed vertically by Pliocene Mal Pelo or Late Miocene Tumbes Formation intraformational mudstones. Secondary targets are present in the underlying Pliocene Middle Miocene Zorritos Formation. The structure is situated adjacent to the putative hydrocarbon kitchen where modeling suggests Oligocene Heath Formation source



DEGOLYER AND MACNAUGHTON

rocks are presently expelling oil and gas. Vertical migration is affected through faults.

#### G Oil Prospect

Prospect G is a faulted anticline. The potential targets are Middle Miocene Zorritos Formation sands vertically sealed by Middle Miocene Cardolitos Formation shales. Secondary targets are present in the overlying Late Miocene Tumbes and Pliocene Mal Pelo Formations. Oligocene Heath Formation source rocks are presently expelling oil and gas. Vertical migration is affected through faults.

#### B 144 Oil Prospect

Targets within this oil prospect are the Upper Cretaceous sandstones at the Pozo and Vivian Formations. The prospect is a structural trap. Source rocks are the Turonian marine shales of the Chonta Formation. These reservoirs are sealed by Upper Cretaceous shales. The migration pathway is interpreted to be lateral from the north.

#### D Oil Prospect

Prospect D is the thrust or wrench-related structure. The potential targets are Middle Miocene Zorritos Formation sands vertically sealed by Middle Miocene Cardolitos Formation shales. Secondary targets are present in the overlying Late Miocene Tumbes and Pliocene Mal Pelo Formations. Oligocene Heath Formation source rocks are presently in the expulsion window. Vertical migration is affected through faults.



## **ESTIMATION of RESOURCES**

Estimates of prospective resources were prepared by the use of standard geological and engineering methods generally accepted by the petroleum industry. The method or combination of methods used in the analysis of the reservoirs was tempered by experience with similar reservoirs, stage of development, and quality and completeness of basic data.

The probabilistic analysis of the prospective resources in this report considered the uncertainty in the amount of petroleum that may be discovered, and the  $P_g$ . The uncertainty analysis addresses the range of possibilities for any given volumetric parameter. Low, best, high, and mean estimates of prospective resources were prepared to address this uncertainty. The  $P_g$  analysis addresses the probability that the identified prospect will contain petroleum that flows at a measurable rate. The  $P_o$  analysis addresses the probability that the prospective resources will be economically viable.

Standard probabilistic methods were used in the uncertainty analysis. Probability distributions were estimated from representations of porosity, petroleum saturation, net hydrocarbon thickness, geometric correction factor\*, recovery efficiency, fluid properties, and productive area for each prospect. These representations were prepared based on known data, analogy, and other standard estimation methods including experience. Statistical measures describing the probability distributions of these representations were identified and input to a Monte Carlo simulation to produce low estimate, best estimate, high estimate, and mean estimate prospective resources for each prospect

In this report, 13 potential accumulations are referred to as prospects to reflect the current stage of technical evaluation.

Nonassociated gas is gas at initial reservoir conditions with no crude oil present in the reservoir. Gas-cap gas is gas at initial reservoir conditions and is in communication with an underlying oil zone. Solution gas is gas dissolved in crude oil at initial reservoir conditions. In known accumulations, solution gas and gas-cap gas are sometime produced together, and as a whole, referred to as associated gas. However, it is not certain whether prospective reservoirs will be gas bearing, oil bearing, or water bearing. Due to this uncertainty, prospective resources volumes are identified in this report simply as oil, gas, condensate, or solution gas.

## Quantitative Risk

Assessment and the Application of  $P_{\text{a}}$ 

Minimum, modal, and maximum representations of productive area were interpreted from maps, available seismic data, and/or analogy. Low, mean, and high representations for the petrophysical parameters (porosity, petroleum saturation, and net hydrocarbon thickness), and engineering parameters (recovery efficiency and fluid properties) were also made based on available well data, regional data, analog field data, and global experience. Individual probability distributions for net rock volume and petrophysical and engineering parameters were produced from these representations and are summarized in Table 5.

The distributions for the variables were derived from (1) scenario-based interpretations, (2) the geologic, geophysical, petrophysical, and engineering data available, (3) local, regional, and global knowledge, and (4) field and case studies in the literature. The parameters used to model the recoverable volumes were productive area, net hydrocarbon thickness, geometric correction factor, porosity, petroleum saturation, formation volume factor, and recovery efficiency. Minimum, mean, and maximum representations were used to statistically model and shape the input  $P_{90}$ ,  $P_{50}$ , and  $P_{10}$  parameters. Productive area and net hydrocarbon thickness were modeled using truncated lognormal distributions. Truncated normal and triangular distributions were used to model geometric correction factor, formation volume factor, and recovery efficiency. Porosity and petroleum saturation were modeled using truncated normal distributions. Latin hypercube sampling was used to better represent the tails of the distributions.

Each individual volumetric parameter was investigated using a probabilistic approach with attention to variability. Deterministic data were used to anchor and shape the various distributions. The net rock volume parameters had the greatest range of variability, and therefore had the greatest impact on the uncertainty of the simulation. The volumetric parameter variability was based on the structural and stratigraphic uncertainties due to the depositional environment and quality of the seismic data. Analog field data were statistically incorporated to derive uncertainty limits and constraints on the net pore volume. Uncertainty associated with the depth conversion, seismic interpretation, gross sand thickness mapping, and net hydrocarbon thickness assumptions were also derived from studies of analogous reservoirs, multiple interpretive scenarios, and sensitivity analyses.

A  $P_g$  analysis was applied to estimate the volumes that may actually result from drilling these prospects. In the  $P_g$  analysis, the  $P_g$  estimates were made for each prospect from the product of the probabilities of the four geologic chance factors: trap, reservoir, migration, and source.

Estimates of gross and net prospective oil, resources and the  $P_g$  estimates, as of August 31, 2010, evaluated herein are shown in Tables 1 and 2. The  $P_g$ -adjusted mean estimate of the prospective resources was then derived by the probabilistic product of  $P_g$  and the resources distributions for the prospect. These results were then stochastically summed (zero dependency) to produce the total  $P_g$ -adjusted mean estimate prospective resources.

Application of the  $P_g$  factor to estimate the  $P_g$ -adjusted prospective resources volumes does not equate prospective resources with reserves or contingent resources.  $P_g$ -adjusted estimates of prospective resources volumes cannot be compared directly to or aggregated with either reserves or contingent resources. Estimates of  $P_g$  are interpretive and are dependent on the quality and quantity of data currently available. Future data acquisition, such as additional drilling or seismic acquisition can have a significant effect on  $P_g$  estimation. These additional data are not confined to the area of report, but also include data from similar geologic settings or from technological advancements that could affect the estimation of  $P_g$ .

#### Application of $P_e$

TEFS required for prospect success was also estimated. TEFS was used to truncate and redistribute the estimated prospective resources probability distributions. The truncated, TEFS-adjusted,  $P_e$ -adjusted estimates of the prospective resources were then estimated by the probabilistic product of  $P_e$  and the truncated, TEFS-adjusted prospective resources distributions for each of the individual prospects. These results were then stochastically summed (zero dependency) and redistributed to produce the truncated, TEFS-adjusted,  $P_e$ -adjusted prospective resources estimates.

Estimates, as of August 31, 2010, of the truncated, TEFS-adjusted,  $P_e$ -adjusted gross and net prospective oil resources evaluated herein are summarized in Tables 3 and 4.



Application of the  $P_e$  factor to estimate the  $P_e$ -adjusted prospective resources volumes does not equate prospective resources with contingent resources or reserves. Estimates of  $P_e$  are interpretive and are dependent on the quality and quantity of data currently available. Future data acquisition, technical developments, or favorable economic scenarios can have a significant effect on  $P_e$  estimation. These additional data are not confined to the area of report, but also include data from similar geologic settings or technological advancements that could affect the estimation of  $P_e$ .

## **VALUATION of RESOURCES**

The estimates of potential present worth of future net revenue discounted at 10 percent that could be realized for the prospective resources estimated in this report are dependent on the successful discovery and development of the prospects evaluated herein. The estimated potential present worth of the prospective resources evaluated in this report is to be used for comparison and ranking of these prospective resources against other prospective resources only. The estimated potential present worth for the prospective resources cannot be compared directly to, equated with, or aggregated with the present worth estimates that could be realized from contingent resources or reserves, nor are these potential present worth estimates an assessment of the fair market value of the properties evaluated herein.

At the request of Karoon, deterministic and probabilistic methodologies were used to estimate potential present worth that could be realized should the prospective resources estimated herein be both successfully discovered and developed.

Probabilistic methods were used to estimate the potential prospective resources quantities. Deterministic models incorporated various economic factors and development practices based on the potential probabilistic prospective resources quantities estimated. The following were estimated deterministically: operating expenses, capital costs, prices (U.S.\$60.00 low estimate, U.S.\$80.00 mean estimate, and U.S.\$100.00 high estimate per barrel for Brent crude, not escalated), potential production, depreciation, taxes, time value of money, field life, exploration well costs, development timing, and abandonment costs, with consideration of other factors. These economic factors and development practices are summarized in Tables 7 through 19. The Karoon data were modeled using a potential present worth discount rate of 10 percent for various field sizes and field development maturity. These data inherently contain variation in the economic assumptions, transportation, drilling, and other infrastructure installation costs. These deterministically estimated economic schedules allowed for the deterministic estimation of potential present worth per unit of resources based on three prospective resources quantity estimates: low, mean, and high. These three deterministic-based potential present worth per unit of resources (low, mean, and high) estimates were used to construct potential present worth per unit of resources distributions. These distributions were used to assign potential value assuming the successful discovery and development of each respective prospect.



The estimates of potential present worth that could be realized for the truncated, TEFS-adjusted mean estimate prospective resources are presented after adjustment for  $P_e$ . Potential present worth per barrel was used in the quantitative risk assessment in conjunction with the truncated, TEFS-adjusted  $P_e$ -adjusted prospective resources to estimate potential present worth. (The Glossary of Probabilistic Terms bound with this report presents relevant equations and definitions).

The potential present worth per barrel methodology is a probabilistic estimation. Therefore, the potential present worth per barrel is expressed as a distribution rather than a single value. Probabilistic outcomes involve thousands of iterations using distributions. Deterministic estimations and related mathematical operations (addition, subtraction, multiplication, and division) cannot be performed on prospective resources distributions or potential present worth per barrel distributions. Any such calculation produces invalid results that are not comparable to the probabilistic outcomes estimated herein. Such calculations and comparisons to these probabilistic outcomes must be avoided.

Potential present worth for the truncated, TEFS-adjusted,  $P_e$ -adjusted gross prospective resources has been estimated by deriving a potential present worth value at 10 percent versus various-sized field developments based on economic modeling results. Estimated potential present worth for the gross prospective resources considered the timing and costs of exploration, appraisal and development costs, and other information depending on the prospect.

Potential present worth estimation considers potential exploration success against potential exploration failure. Exploration success probabilistically blends TEFS,  $P_e$ -adjusted volumes, net ownership, and potential present worth per barrel. Exploration failure probabilistically blends the probability of economic failure and the exploration dry hole cost. The resulting estimation of volumes, probabilities of economic success and failure, ownership, and exploration drilling costs can range from positive potential present worth to negative potential worth. For example, a negative potential present worth could result for a prospect with a small truncated, TEFS-adjusted volume, a low  $P_e$ , a low-to-moderate positive potential present worth per barrel of oil equivalent, and a high exploration well cost. Consideration of the "failure leg" for any exploration appraisal estimation is standard industry practice. A detailed

explanation of the relevant variables and formula is presented under the definition of Potential Present Worth in the Glossary of Probabilistic Terms bound with this report.

The estimated TEFS for the prospects are summarized on Table P1. Truncated lognormal distributions of potential present worth per barrel were used in the simulation. For each prospect, the input mean potential present worth per barrel are summarized in Table P1.

The estimated potential present worth, expressed in thousands of U.S.\$, of the truncated, TEFS-adjusted,  $P_e$ -adjusted gross prospective resources attributable to the license area if the prospects were successfully discovered and developed, are summarized in Table 6.

Application of  $P_e$  to estimate the  $P_e$ -adjusted prospective resources does not equate prospective resources and their associated values with contingent resources or reserves.  $P_e$ -adjusted prospective resources quantities and their associated values cannot be compared directly to or aggregated with either contingent resources or reserves and their associated values.

Estimates of  $P_e$  are interpretive and are dependent on the quality and quantity of data currently made available. Future changes in the fiscal environment and/or the infrastructure of the area can change these values significantly.

There is no certainty that any portion of the prospective resources estimated herein will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.

#### Potential Accumulations:

##### Plans of Development

The development scenarios presented in this study are conceptual development plans based on successful discovery of economic quantities for each prospect. Since these conceptual development plans are based on estimates of prospective resource quantities, these plans should not be misinterpreted as development plans based on reserves. The actual development plans, should there be successful discovery, may differ significantly from the conceptual development plans presented herein.

The potential operating expenses, potential capital costs, and potential production associated with the gross prospective mean oil resources estimated in this study used available analog fields in basins with similar production and environmental conditions (Tables 7 through 19). The offshore prospective resources oil quantities, if discovered and economically developed, would use leased floating production storage and offloading (FPSO) vessels that range in production capacity from 50,000 barrels of oil per day (BOPD) to 200,000 BOPD. Development wells could be produced through subsea templates, wellhead platforms or tension-leg platforms tied back to the FPSO. The leased FPSO option is suitable for the offshore basins where prospective resources have been estimated and may be discovered. Facility costs are based on a U.S.\$30 million per well cost for all subsea architecture necessary to connect the well to the FPSO.

Potential operating expenses were estimated using fixed costs of U.S.\$130 million per year per 100,000 BOPD of FPSO processing capacity for the Santos and Tumbes basins. Variable potential operating expenses and potential transportation costs were estimated to be U.S.\$2.00 per barrel and U.S. \$1.00 per barrel, respectively.

Potential fixed operating expenses estimated herein include expense items such as FPSO lease payments to the owners of the vessels. Potential variable expenses are related to operating personnel salaries, onshore support, supply boats, spare parts, maintenance expenses, water handling charges, chemicals, transportation, and certain well related workover costs.

Potential capital costs, potential operating expenses, and potential production forecasts are summarized in Tables 7 through 19. These schedules are based on current industry practice, and may change based on new technical data and/or economic conditions. These potential forecasts do not represent production scheduling of reserves. Application of  $P_z$  and/or  $P_a$  does not equate potential production forecasts of prospective resources to contingent resources or reserves. Future changes in the fiscal environment and/or the infrastructure of the area can change these schedules significantly. Changes in the exploration geologic model and new technical data can also change the scheduling of these potential accumulations, and their respective potential development scenarios.



Table 20 presents a summary of the potential development plan assumptions. Table 20 also summarizes for each prospect the gross mean prospective resources quantities that have been estimated for each prospect, the number of development wells, and the drilling and completion cost estimates and assumptions related to the fixed and variable operating expenses. Abandonment costs are included as operating expenses in the later years of the field's operation.

#### Brazil Prospects

Based on information provided by Karoon, the identified prospects will be developed via subsea wells tied back to dedicated FPSO units. Each FPSO will be sized in accordance with peak production from the corresponding prospect.

The produced oil will be transported via a shuttle tanker. Produced gas will be reinjected except for a small volume that will be used in-field for fuel. It is possible that a gas pipeline may eventually be constructed to allow export of the associated gas.

#### Peru Prospects

Based on information provided by Karoon, the identified offshore prospects (A, B, D, and G) will be developed via subsea wells tied back to FPSO units sized appropriately for estimated peak production for each prospect. Produced oil will be transported via shuttle tanker to onshore facilities. Produced gas will be reinjected except for a small volume that will be used for in-field fuel. It is possible that a gas pipeline may eventually be constructed to allow export of associated gas.

The identified onshore prospect (B-144) will be developed using directional wells drilled from well pads. Produced oil will be transported via barge on the river in close proximity to the prospect. Produced gas will be reinjected except for a small volume that will be used for in-field fuel. It is possible that a gas pipeline may eventually be constructed to allow export of associated gas.

DEGOLYER AND MACNAUGHTON

**SUMMARY and CONCLUSIONS**

Prospective resources in 13 prospects have been identified in various license blocks in various basins of Brazil and Peru. The prospective resources presented below are based on the statistical aggregation method. Estimates of the gross and net prospective oil resources for Brazil and Peru, as of August 31, 2010, are summarized as follows, expressed in thousands of barrels ( $10^3$ bbl):

	<u>Low Estimate</u>	<u>Best Estimate</u>	<u>High Estimate</u>	<u>Mean Estimate</u>
<b>Gross Prospective Resources</b>				
Gross Prospective Oil Resources, $10^3$ bbl	1,299,024	2,379,576	4,359,360	2,660,446
<b>Net Prospective Resources</b>				
Net Prospective Oil Resources, $10^3$ bbl	905,987	1,843,789	3,752,742	2,150,209

## Notes:

1.  $P_8$  and  $P_6$  have not been applied to the volumes in this table.
2. Recovery efficiency is applied to prospective resources in this table.
3. Application of any geological or economic chance factor does not equate prospective resources with contingent resources or reserves.
4. Low, best, and high estimates in this table are  $P_{90}$ ,  $P_{50}$ , and  $P_{10}$ , respectively.
5. The prospective resources presented above are based on the statistical aggregation method.
6. There is no certainty that any portion of the prospective resources estimated herein will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.



DEGOLYER AND MACNAUGHTON

Estimates of the gross and net truncated, TEFS-adjusted prospective oil resources for Brazil and Peru, as of August 31, 2010, are summarized as follows, expressed in thousands of barrels ( $10^3$ bbl):

	<u>Low Estimate</u>	<u>Best Estimate</u>	<u>High Estimate</u>	<u>Mean Estimate</u>
<b>Gross Truncated, TEFS-Adjusted Prospective Resources</b>				
Gross Truncated, TEFS-Adjusted Prospective Oil Resources, $10^3$ bbl	1,391,336	2,548,675	4,669,148	2,849,505
<b>Net Truncated, TEFS-Adjusted Prospective Resources</b>				
Net Truncated, TEFS-Adjusted Prospective Oil Resources, $10^3$ bbl	1,101,376	2,017,520	3,696,078	2,255,656

## Notes:

1.  $P_g$  and  $P_a$  have not been applied to the volumes in this table.
2. Recovery efficiency is applied to prospective resources in this table.
3. Application of any geological or economic chance factor does not equate prospective resources with contingent resources or reserves.
4. Low, best, and high estimates in this table are  $P_{90}$ ,  $P_{60}$ , and  $P_{10}$ , respectively.
5. The prospective resources presented above are based on the statistical aggregation method.
6. There is no certainty that any portion of the prospective resources estimated herein will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.

DEGOLYER AND MACNAUGHTON

The gross truncated, TEFS-adjusted,  $P_e$ -adjusted mean estimate prospective oil resources for Brazil and Peru, as of August 31, 2010, are summarized as follows, expressed in thousands of barrels ( $10^3$ bbl).

	<u>Mean Estimate</u>
<b>Gross Truncated, TEFS-Adjusted, <math>P_e</math> - Adjusted Prospective Resources</b>	
Gross Truncated, TEFS-Adjusted, $P_e$ - Adjusted Prospective Oil Resources, $10^3$ bbl	641,330
<b>Net Truncated, TEFS-Adjusted, <math>P_e</math> - Adjusted Prospective Resources</b>	
Net Truncated, TEFS-Adjusted, $P_e$ - Adjusted Prospective Oil Resources, $10^3$ bbl	562,146

## Notes:

1. Recovery efficiency is applied to prospective resources in this table.
2. Application of any geological or economic chance factor does not equate prospective resources with contingent resources or reserves.
3. There is no certainty that any portion of the prospective resources estimated herein will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.

DEGOLYER AND MACNAUGHTON

The following table summarizes the net potential present worth (various net interest to Karoon) for Brazil and Peru that might be realized from the production and sale of the truncated, TEFS-adjusted,  $P_e$ -adjusted prospective oil resources of the various prospects evaluated herein, using the potential present worth per prospective resources volume methodology, as of August 31, 2010, expressed in thousands of U.S. dollars ( $10^3$  U.S.\$):

	Potential Present Worth at 10 Percent			
	Low Estimate ( $10^3$ U.S.\$)	Best Estimate ( $10^3$ U.S.\$)	High Estimate ( $10^3$ U.S.\$)	Mean Estimate ( $10^3$ U.S.\$)
Net Truncated, TEFS-Adjusted, $P_e$ -Adjusted Prospective Oil Resources	2,554,572	3,856,914	5,823,575	4,061,497

## Notes:

1. Estimated potential present worth of prospective resources is not comparable to present worth estimates of contingent resources or reserves.
2. Estimates of potential present worth for prospective resources do not consider adjustments for political and/or environmental uncertainties.
3. A possibility exists that the prospects will not result in successful discovery and development, in which case there would be no positive present worth.
4. Low, best, and high estimates in this table are  $P_{90}$ ,  $P_{50}$ , and  $P_{10}$ , respectively.
5. The prospective resources presented above are based on the statistical aggregation method.
6. There is no certainty that any portion of the prospective resources estimated herein will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.

DEGOLYER AND MACNAUGHTON

The PRMS guidelines suggest that the arithmetic summation method be used to aggregate resources quantities above the field, property, or project level. The prospective resources quantities aggregated by the arithmetic summation method for the prospects evaluated in this report are presented in the resources tables bound with this report.

Submitted,



DeGOLYER and MacNAUGHTON

Texas Registered Engineering Firm F-716

SIGNED: September 3, 2010



R. M. Shuck, P.E.  
Senior Vice President  
DeGolyer and MacNaughton



## **GLOSSARY of PROBABILISTIC TERMS**

*1C* – Denotes low estimate scenario of contingent resources.

*2C* – Denotes best estimate scenario of contingent resources.

*3C* – Denotes high estimate scenario of contingent resources.

*Accumulation* – The term accumulation is used to identify an individual body of moveable petroleum. A known accumulation (one determined to contain reserves or contingent resources) must have been penetrated by a well. The well must have clearly demonstrated the existence of moveable petroleum by flow to the surface or at least some recovery of a sample of petroleum through the well. However, log and/or core data from the well may establish an accumulation, provided there is a good analogy to a nearby and geologically comparable known accumulation.

*Arithmetic Summation* – The process of adding a set of numbers that represent estimates of resources quantities at the reservoir, prospect, or portfolio level. Statistical aggregation yields different results.

*Best (Median) Estimate* – The best (median) estimate is the  $P_{50}$  quantity.  $P_{50}$  means there is a 50-percent chance that an estimated quantity, such as a prospective resources volume or associated value, will be equaled or exceeded.

*Contingent Resources* – Those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development projects, but which are not currently considered to be commercially recoverable due to one or more contingencies.

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

*Marginal Contingent Resources* – Those quantities associated with technically feasible projects that are either currently economic or projected to be economic under reasonably forecasted improvements in commercial conditions but are not committed for development because of one or more contingencies.

*Sub-Marginal Contingent Resources* – Those quantities associated with discoveries for which analysis indicates that technically feasible development projects would not be economic and/or

other contingencies would not be satisfied under current or reasonably forecasted improvements in commercial conditions. These projects nonetheless should be retained in the inventory of discovered resources pending unforeseen major changes in commercial conditions.

*Undetermined Contingent Resources* – Where evaluations are incomplete such that it is premature to clearly define ultimate chance of commerciality, it is acceptable to note that project economic status is “undetermined.”

*Expected Value* – The expected value (EV) is the probability-weighted average of the parameter being estimated, where probability values from the probability distribution are used as the weighting factors. Parameter values (abscissa) and probabilities (ordinate) are the Cartesian pairs (e.g., gross recoverable volumes and  $P_{90}$ ), which define the probability distribution. These parameters are probability-weighted and summed to yield the resulting expected value. The equation for computing the expected value is as follows:

$$EV = \sum_{i=1}^n (P_i)(V_i)$$

where: P = probability from probability distribution, ordinate  
 V = parameter value, abscissa  
 i = a specific value in an ordered sequence of values  
 n = the total number of samples

The expected value is the algebraic sum of all of the products obtained by multiplying the parameter quantity and its associated probability of occurrence. The expected value is sometimes called the mean estimate or the statistical mean. In a probabilistic analysis, the expected value is the only quantity that can be treated arithmetically (by addition, subtraction, multiplication, or division). All other quantities, such as median ( $P_{50}$ ), mode,  $P_{90}$ , and  $P_{10}$ , require probabilistic techniques for scaling or aggregation.

The probability associated with the statistical mean depends on the variance of the distribution from which the mean is calculated. The mean estimate is the statistical mean (the probability-weighted average), which typically has a probability in the  $P_{45}$  to  $P_{15}$  range. Therefore, if a successful discovery occurs, the probability of the accumulation containing the statistical mean volume or greater is usually between 45 and 15 percent.

The expected value is the preferred quantity to use for the best estimate in probabilistic estimates of prospective resources. The  $P_{90}$  and  $P_{10}$  quantity is often used for the low and high estimates, respectively, of prospective resources. Aggregation or scaling of  $P_{90}$ ,  $P_{50}$ , and  $P_{10}$  quantities should be done probabilistically, not arithmetically.

*Geometric Correction Factor* – The geometric correction factor (GCF) is a geometry adjustment correction that takes into account the relationship of the potential fluid contact to the geometry of the reservoir and trap. Input parameters used to estimate the geometric correction factor include trap shape, length-to-width ratio, potential reservoir thickness, and the height of the potential trapping closure (potential hydrocarbon column height).

*High Estimate* – The high estimate is the  $P_{10}$  quantity.  $P_{10}$  means there is a 10-percent chance that an estimated quantity, such as a prospective resources volume or associated value, will be equaled or exceeded.

*Lead* – A lead is less well defined and requires additional data and/or evaluation to be classified as a prospect. An example would be a poorly defined closure mapped using sparse regional seismic data in a basin containing favorable source and reservoir(s). A lead may or may not be elevated to prospect status depending on the results of additional technical work. A lead must have a  $P_g$  equal to or less than 0.05 to reflect the inherent technical uncertainty.

*Low Estimate* – The low estimate is the  $P_{90}$  quantity.  $P_{90}$  means there is a 90-percent chance that an estimated quantity, such as a prospective resources volume or associated value, will be equaled or exceeded.

*Mean Estimate* – In accordance with petroleum industry standards, the mean estimate is the probability-weighted average, which typically has a probability in the  $P_{45}$  to  $P_{15}$  range, depending on the variance of prospective resources volume or associated value. Therefore, the probability of a prospect or accumulation containing the probability weighted average volume or greater is usually between 45 and 15 percent. The mean estimate is the preferred probabilistic estimate of resources volumes.

*Median* – Median is the  $P_{50}$  quantity, where the  $P_{50}$  means there is a 50-percent chance that a given variable (such as prospective resources, porosity, or water saturation) is equaled or exceeded. The median of a data set is a number such that half the measurements are below the median and half are above.

The median is an acceptable, and one of the preferred, quantities to use for the best estimate in probabilistic estimations of prospective resources.

*Migration Chance Factor* – Migration chance factor ( $P_{\text{migration}}$ ) is defined as the probability that a trap either predates or is coincident with petroleum migration and that there exists vertical and/or lateral migration pathways linking the source to the trap.



*Mode* – The mode (MO) is the quantity that occurs with the greatest frequency in the data set and therefore is the quantity that has the greatest probability of occurrence. However, the mode may not be uniquely defined, as is the case in multimodal distributions.

The mode is an acceptable, but not preferred, quantity to use for the best estimate in probabilistic estimations of prospective resources.

*Net Entitlement Interest* – A production sharing agreement (PSA) or a production sharing contract (PSC) allows a company to be reimbursed for its share of the capital and operating expenses and to share in the profits. The reimbursements and profit proceeds (less the extraordinary profits tax (EPT)) are converted to a barrel-equivalent volume by dividing by the weighted-average price of oil or gas. The ratio of this barrel-equivalent volume and the gross volume is a *net entitlement interest*. As such, the resulting entitlement interest may vary with product price, costs, timing of production, and other factors.

*P<sub>e</sub>-adjusted Mean Estimate* – The P<sub>e</sub>-adjusted mean estimate, or “economic risk-adjusted mean estimate,” is a probability-weighted average of the hydrocarbon quantities potentially recoverable if a prospect portfolio were drilled, or if a family of similar prospects were drilled. The P<sub>e</sub>-adjusted mean estimate is a “blended” quantity. It is a mean estimation of volumetric uncertainty, geologic (P<sub>g</sub>), and economic risk (chance). This statistical measure considers and quantifies the economic success and economic failure outcomes. Consequently, it represents the average or mean “economic” volumes resulting from economically viable drilling and exploration. The P<sub>e</sub>-adjusted best estimate is calculated as follows:

$$P_e\text{-adjusted mean estimate} = P_e \times \text{mean estimate}$$

*P<sub>g</sub>-adjusted Mean Estimate* – The P<sub>g</sub>-adjusted mean estimate, or “geologic risk-adjusted mean estimate,” is a probability-weighted average of the hydrocarbon quantities potentially recoverable if a prospect portfolio were drilled, or if a family of similar prospects were drilled. The P<sub>g</sub>-adjusted mean estimate is a “blended” quantity. It is a mean estimation of both volumetric uncertainty and geological risk (chance). This statistical measure considers and quantifies the geological success and geological failure outcomes. Consequently, it represents the average or mean “geologic” outcome of a drilling and exploration program. The P<sub>g</sub>-adjusted mean estimate is calculated as follows:

$$P_g\text{-adjusted mean estimate} = P_g \times \text{mean estimate}$$

*P<sub>n</sub> Nomenclature* – This report uses the convention of denoting probability with a subscript representing the greater than cumulative probability distribution. As such, the notation P<sub>n</sub> indicates the probability that there is an *n*-percent chance that a specific input or output quantity



will be equaled or exceeded. For example,  $P_{90}$  means there is a 90-percent chance that a variable (such as prospective resources, porosity, or water saturation) is equaled or exceeded.

*Play* – A project associated with a prospective trend of potential prospects, but which requires more data acquisition and/or evaluation in order to define specific leads or prospects.

*Potential Present Worth* – Potential present worth (PPW) is defined as potential future net revenue discounted at 10 percent compounded monthly over the expected period of realization. The estimation is probabilistically modeled using distributions (except NRI, a constant) in the following equation:

$$PPW_{10} = \left[ \left( P_e \times EV_t \times NRI \times \frac{PW}{BOE} \right) - (P_e \times CWCE \times NRI) \right] - (P_f \times DHC \times NRI)$$

where:

$PPW_{10}$	=	potential present worth at 10 percent
$P_e$	=	probability of economic success
$EV_t$	=	mean estimate, potential gross recoverable volume, truncated, TEFS-adjusted
NRI	=	net revenue interest
$PW/BOE$	=	present worth at 10 percent per barrel of oil equivalent
CWCE	=	completed well cost estimate
$P_f$	=	probability of economic failure
DHC	=	dry hole cost estimate

*Predictability versus Portfolio Size* – The number of prospects in a prospect portfolio influences the reliability of the forecast of drilling results. The relationship between predictability versus portfolio size (PPS) is also known in the petroleum industry literature as “Gambler’s Ruin.” The relationship of probability to portfolio size is described by the binomial probability equation given as follows:

$$P_x^n = (C_x^n)(p)^x(1-p)^{n-x}$$

where:

$P_x^n$	=	the probability of $x$ successes in $n$ trials
$C_x^n$	=	the number of mutually exclusive ways that $x$ successes can be arranged in $n$ trials
$p$	=	the probability of success for a given trial (for petroleum exploration, this is $P_g$ )
$x$	=	the number of successes (e.g., the number of discoveries)
$n$	=	the number of trials (e.g., the number of wells to be drilled)

Note: For the case of  $n$  successive dry holes,  $C_x^n$  and  $p$  each equals 1, so the probability of failure is the quantity  $(1 - p)$  raised to the number of trials.

*Probability of Economic Success* – The probability of economic success ( $P_e$ ) is defined as the probability that a given discovery will be economically viable. It takes into account  $P_g$ ,  $P_{TEFS}$ , TEFS, capital costs, operating expenses, the proposed development plan, the economic model (discounted cash flow analyses), and other business and economic factors.  $P_e$  is calculated as follows:

$$P_e = P_g \times P_{TEFS}$$

*Probability of Geologic Success* – The probability of geologic success ( $P_g$ ) is defined as the probability of discovering reservoirs that flow petroleum at a measurable rate.  $P_g$  is estimated by quantifying with a probability each of the following individual geologic chance factors: trap, source, reservoir, and migration. The product of the probabilities of these four chance factors is  $P_g$ .

*Probability of TEFS* – The probability of threshold economic field size ( $P_{TEFS}$ ) is defined as the probability of discovering an accumulation that is large enough to be economically viable.  $P_{TEFS}$  is estimated by using the prospective resources recoverable volumes distribution in conjunction with the TEFS. The probability associated with the TEFS can be determined graphically from the prospective gross recoverable volumes distribution.

*Prospect* – A prospect is a potential accumulation that is sufficiently well defined to be a viable drilling target. For a prospect, sufficient data and analyses exist to identify and quantify the technical uncertainties, to determine reasonable ranges of geologic chance factors and engineering and petrophysical parameters, and to estimate prospective resources. In addition, a viable drilling target requires that 70 percent of the median potential production area be located within the block or license area of interest.

*Prospective Resources* – Those quantities of petroleum that are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects.

*Reservoir Chance Factor* – The reservoir chance factor ( $P_{\text{reservoir}}$ ) is defined as the probability associated with the presence of porous and permeable reservoir quality rock.

*Source Chance Factor* – The source chance factor ( $P_{\text{source}}$ ) is defined as the probability associated with the presence of a hydrocarbon source rock rich enough, of sufficient volume, and in the proper spatial position to charge the prospective area or areas.

*Standard Deviation* – Standard deviation (SD) is a measure of distribution spread. It is the positive square root of the variance. The variance is the summation of the squared distance from the mean of all possible values. Since the units of standard deviation are the same as those of the sample set, it is the most practical measure of population spread.

$$\sigma = \sqrt{\sigma^2} = \sqrt{\frac{\sum_{i=1}^n (x_i - \mu)^2}{n - 1}}$$

where:  $\sigma$  = standard deviation  
 $\sigma^2$  = variance  
 $n$  = sample size  
 $x_i$  = value in data set  
 $\mu$  = sample set mean

*Statistical Aggregation* – The process of probabilistically aggregating distributions that represent estimates of resources quantities at the reservoir, prospect, or portfolio level. Arithmetic summation yields different results.

*Threshold Economic Field Size* – The threshold economic field size (TEFS) is the minimum amount of the producible petroleum required to recover the total capital and operating expenditure used to establish the potential accumulation as having a potential present worth equal to zero.

*Trap Chance Factor* – The trap chance factor ( $P_{\text{trap}}$ ) is defined as the probability associated with the presence of a structural closure and/or a stratigraphic trapping configuration with competent vertical and lateral seals, and the lack of any post migration seal integrity events or breaches.

*Truncated Mean Estimate* – The truncated mean estimate is the resulting expected value calculated from the truncation of the resources distribution by the threshold economic field size. This truncated distribution produces a new set of statistical metrics.

*Variance* – The variance ( $\sigma^2$ ) is a measure of how much the distribution is spread from the mean. The variance sums up the squared distance from the mean of all possible values of  $x$ . The

DEGOLYER AND MACNAUGHTON

variance has units that are the squared units of  $x$ . The use of these units limits the intuitive value of variance.

$$\sigma^2 = \frac{\sum_{i=1}^n (x_i - \mu)^2}{n - 1}$$

where:  $\sigma^2$  = variance  
 $n$  = sample size  
 $x_i$  = value in data set  
 $\mu$  = sample set mean



TABLE P1  
PROSPECT PORTFOLIO SUMMARY  
as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in  
CERTAIN OIL PROSPECTS  
VARIOUS LICENSE BLOCKS  
BRAZIL and PERU

Prospect	Country	Basin	License Block	Equity (decimal)	Fraction in Block (decimal)	Statistical Mean Potential Present Worth per Barrel (U.S.\$/bbl)	Threshold Economic Field Size (10 <sup>3</sup> bbl)	Well Cost Estimate (10 <sup>3</sup> U.S.\$)	Prospect Potential Fluid	Target Zone Depth (meters)	Water Depth (meters)
Morro da Igreja (Beta)	Brazil	Santos	Block S-1102-1037	1.000	1.000	7.820	35,000	40,000	Oil	3,000	250
Charlie (Theta)	Brazil	Santos	Block S-1166	1.000	1.000	7.280	10,000	40,000	Oil	2,900	400
Pre-Salt	Brazil	Santos	Block 1102	1.000	1.000	5.030	35,000	130,000	Oil	7,500	500
Pico do Jaragua (Alpha)	Brazil	Santos	Block S-1101-1165	1.000	1.000	11.100	35,000	40,000	Oil	3,000	500
Monte Roriana	Brazil	Santos	Block 1166	1.000	1.000	5.290	35,000	35,000	Oil	2,500	100
Acores	Brazil	Santos	Block 1352	0.200	1.000	3.150	35,000	65,000	Oil	5,000	465
Quasi	Brazil	Santos	Block 1354	0.200	1.000	8.660	35,000	30,000	Oil	2,000	570
Marujá	Brazil	Santos	Block 1352	0.200	1.000	8.900	35,000	50,000	Oil	3,900	394
A	Peru	Tumbes	Z38	0.750	1.000	8.590	20,000	30,000	Oil	1,700	340
B	Peru	Tumbes	Z38	0.750	1.000	9.240	20,000	30,000	Oil	950	480
G	Peru	Tumbes	Z38	0.750	1.000	7.070	20,000	30,000	Oil	750	300
B-144	Peru	Maranon	Block 144	1.000	1.000	6.180	25,000	35,000	Oil	5,200	-
D	Peru	Tumbes	Z38	0.750	1.000	7.520	20,000	30,000	Oil	750	300

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

**TABLE 1**  
**ESTIMATE of the GROSS PROSPECTIVE OIL RESOURCES**

as of  
AUGUST 31, 2010

for  
**KAROON GAS AUSTRALIA LTD**  
and its subsidiary  
**KAROON PETRÓLEO & GÁS S.A.**  
in  
**CERTAIN OIL PROSPECTS**  
**VARIOUS LICENSE BLOCKS**  
**BRAZIL and PERU**

Gross Prospective Oil Resources Summary									
Prospect	Country	Basin	License	Low Estimate (10 <sup>3</sup> bbl)	Best Estimate (10 <sup>3</sup> bbl)	High Estimate (10 <sup>3</sup> bbl)	Mean Estimate (10 <sup>3</sup> bbl)	Probability of Geologic Success, P <sub>g</sub> (decimal)	P <sub>g</sub> -Adjusted Mean Estimate (10 <sup>3</sup> bbl)
Morro da Igreja (Beta)	Brazil	Santos	Block S-1102-1037	289,667	565,814	1,040,471	632,785	0.250	157,971
Charlie (Theta)	Brazil	Santos	Block S-1166	31,049	87,177	242,440	116,431	0.448	52,161
Pre-Salt	Brazil	Santos	Block 1102	35,681	101,195	256,959	126,475	0.189	23,904
Pico do Jaraguá (Alpha)	Brazil	Santos	Block S-1101-1165	206,821	345,391	569,750	372,156	0.501	186,587
Monte Fontana	Brazil	Santos	Block 1166	26,751	46,675	79,609	50,790	0.420	21,332
Acores	Brazil	Santos	Block 1352	49,824	99,883	188,689	111,479	0.175	19,509
Quail	Brazil	Santos	Block 1354	13,051	34,775	90,448	44,313	0.175	7,755
Manujá	Brazil	Santos	Block 1352	91,875	176,413	315,607	194,078	0.210	40,756
A	Peru	Tumbes	Z38	54,446	190,239	611,423	273,158	0.216	59,002
B	Peru	Tumbes	Z38	23,411	81,082	237,756	113,305	0.125	14,163
G	Peru	Tumbes	Z38	88,420	288,656	888,722	418,754	0.140	58,626
B-144	Peru	Maranon	Block 144	37,117	79,887	160,293	90,577	0.250	22,844
D	Peru	Tumbes	Z38	33,332	90,700	236,440	116,146	0.140	16,260
<b>Statistical Aggregate</b>				<b>1,299,024</b>	<b>2,379,576</b>	<b>4,359,360</b>	<b>2,660,446</b>	<b>0.256</b>	<b>680,671</b>
<b>Arithmetic Summation</b>				<b>683,443</b>	<b>2,187,687</b>	<b>4,918,608</b>	<b>2,660,446</b>	<b>0.256</b>	<b>680,671</b>

**Notes:**

1. Low, best, mean, and high estimates follow the PRMS guidelines for prospective resources.
2. Application of P<sub>g</sub> does not equate prospective resources to contingent resources or reserves.
3. Low, best, mean, and high estimates in this table are P<sub>50</sub>, P<sub>50</sub>, mean, and P<sub>10</sub>, respectively.
4. Only the mean can be arithmetically summed; P<sub>50</sub>, P<sub>50</sub>, and P<sub>10</sub> are not additive.
5. P<sub>g</sub> is defined as the probability of discovering reservoirs which flow petroleum at a measurable rate.
6. Recovery efficiency is applied to prospective resources in this table.
7. P<sub>g</sub> has been rounded for presentation purposes. Multiplication using this presented P<sub>g</sub> yields imprecise results. Dividing the P<sub>g</sub>-adjusted mean estimate by the mean estimate yields the precise P<sub>g</sub>.
8. Arithmetic summation is a requirement of the PRMS guidelines.
9. Prospective resources classified as lead or play are assigned a P<sub>g</sub> of 0.05; leads are not valued in this report.
10. There is no certainty that any portion of the prospective resources estimated herein will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

**TABLE 2**  
**ESTIMATE of the NET PROSPECTIVE OIL RESOURCES**

as of  
AUGUST 31, 2010

for  
**KAROON GAS AUSTRALIA LTD**  
and its subsidiary  
**KAROON PETROLEO & GAS S.A.**  
in  
**CERTAIN OIL PROSPECTS**  
**VARIOUS LICENSE BLOCKS**  
**BRAZIL and PERU**

Net Prospective Oil Resources Summary									
Prospect	Country	Basin	License	Low Estimate (10 <sup>3</sup> bbl)	Best Estimate (10 <sup>3</sup> bbl)	High Estimate (10 <sup>3</sup> bbl)	Mean Estimate (10 <sup>3</sup> bbl)	Probability of Geologic Success, P <sub>g</sub> (decimal)	P <sub>g</sub> -Adjusted Mean Estimate (10 <sup>3</sup> bbl)
Morro da Igreja (Beta)	Brazil	Santos	Block S-1102-1037	289,667	565,814	1,040,471	632,785	0.250	157,971
Charlie (Thera)	Brazil	Santos	Block S-1166	31,049	87,177	242,440	116,431	0.448	52,161
Pre-Salt	Brazil	Santos	Block 1102	35,681	101,195	256,959	126,475	0.189	23,904
Pico do Jaraguá (Alpha)	Brazil	Santos	Block S-1101-1165	208,821	345,391	569,750	372,156	0.501	186,587
Monte Roraima	Brazil	Santos	Block 1166	26,751	46,675	79,609	50,790	0.420	21,332
Acores	Brazil	Santos	Block 1352	9,965	19,977	37,738	22,296	0.175	3,902
Quasi	Brazil	Santos	Block 1354	2,610	6,955	18,090	8,863	0.175	1,551
Manujá	Brazil	Santos	Block 1352	18,375	35,283	63,121	38,816	0.210	8,151
A	Peru	Tumbes	Z38	40,834	142,679	458,567	204,869	0.216	44,252
B	Peru	Tumbes	Z38	17,559	60,812	178,317	84,978	0.125	10,622
G	Peru	Tumbes	Z38	66,315	216,492	666,542	314,065	0.140	43,969
B-144	Peru	Maranon	Block 144	37,117	79,887	160,293	90,577	0.250	22,644
D	Peru	Tumbes	Z38	24,999	68,025	177,330	87,109	0.140	12,195
<b>Statistical Aggregate</b>				<b>905,667</b>	<b>1,843,789</b>	<b>3,762,742</b>	<b>2,150,209</b>	<b>0.274</b>	<b>589,242</b>
<b>Arithmetic Summation</b>				809,742	1,776,161	3,949,227	2,150,209	0.274	589,242

**Notes:**

1. Low, best, mean, and high estimates follow the PRMS guidelines for prospective resources.
2. Application of P<sub>g</sub> does not equate prospective resources to contingent resources or reserves.
3. Low, best, mean, and high estimates in this table are P<sub>50</sub>, P<sub>50</sub>, mean, and P<sub>10</sub>, respectively.
4. Only the mean can be arithmetically summed; P<sub>50</sub>, P<sub>50</sub>, and P<sub>10</sub> are not additive.
5. P<sub>g</sub> is defined as the probability of discovering reservoirs which flow petroleum at a measurable rate.
6. Recovery efficiency is applied to prospective resources in this table.
7. P<sub>g</sub> has been rounded for presentation purposes. Multiplication using this presented P<sub>g</sub> yields imprecise results. Dividing the P<sub>g</sub>-adjusted mean estimate by the mean estimate yields the precise P<sub>g</sub>.
8. Arithmetic summation is a requirement of the PRMS guidelines.
9. Prospective resources classified as lead or play are assigned a P<sub>g</sub> of 0.05; leads are not valued in this report.
10. There is no certainty that any portion of the prospective resources estimated herein will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 3  
ESTIMATE OF THE GROSS PROSPECTIVE OIL RESOURCES  
TRUNCATED AND ADJUSTED FOR TEFS

as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETROLÉO & GÁS S.A.  
in  
CERTAIN OIL PROSPECTS  
VARIOUS LICENSE BLOCKS  
BRAZIL AND PERU

Gross Truncated, TEFS-Adjusted Prospective Oil Resources Summary									
Prospect	Country	Basin	License	Low Estimate (10 <sup>3</sup> bbl)	Best Estimate (10 <sup>3</sup> bbl)	High Estimate (10 <sup>3</sup> bbl)	Mean Estimate (10 <sup>3</sup> bbl)	Probability of Economic Success, P <sub>e</sub> (decimal)	P <sub>e</sub> -Adjusted Mean Estimate (10 <sup>3</sup> bbl)
Morro da Igreja (Beta)	Brazil	Santos	Block S-1102-1037	319,903	585,332	1,071,094	654,145	0.236	154,226
Charlie (Theta)	Brazil	Santos	Block S-1166	42,313	98,360	228,678	122,158	0.399	48,754
Pre-Salt	Brazil	Santos	Block 1102	39,990	101,602	258,180	132,389	0.169	22,388
Pico do Jaraguá (Alpha)	Brazil	Santos	Block S-1101-1165	222,357	357,285	574,132	382,612	0.475	181,558
Monte Roraima	Brazil	Santos	Block 1166	32,064	53,659	89,750	58,160	0.311	18,077
Acrores	Brazil	Santos	Block 1352	83,528	156,152	291,948	175,919	0.060	10,622
Quasi	Brazil	Santos	Block 1354	20,360	50,623	125,887	65,173	0.085	5,521
Manjé	Brazil	Santos	Block 1352	100,297	179,688	321,950	199,288	0.188	39,457
A	Peru	Tumbes	Z38	60,390	189,247	593,152	281,557	0.192	54,079
B	Peru	Tumbes	Z38	28,063	83,864	250,659	120,799	0.112	13,501
G	Peru	Tumbes	Z38	104,705	311,374	926,130	447,056	0.125	55,972
B-144	Peru	Maranon	Block 144	40,488	80,817	161,333	93,472	0.234	21,911
D	Peru	Tumbes	Z36	35,645	89,951	227,026	116,767	0.131	15,264
Statistical Aggregate				1,391,336	2,548,575	4,869,148	2,849,505	0.225	641,330
Arithmetic Summation				1,130,123	2,337,955	5,119,920	2,849,505	0.225	641,330

Notes:

1. Low, best, mean, and high estimates follow the PRMS guidelines for prospective resources.
2. Application of P<sub>g</sub> and/or P<sub>e</sub> does not equate prospective resources to contingent resources or reserves.
3. Low, best, mean, and high estimates in this table are P<sub>50</sub>, P<sub>50</sub>, mean, and P<sub>10</sub>, respectively.
4. Only the mean can be arithmetically summed; P<sub>50</sub>, P<sub>50</sub>, and P<sub>10</sub> are not additive.
5. P<sub>e</sub> is defined as the probability of discovering economic resources.
6. Recovery efficiency is applied to prospective resources in this table.
7. P<sub>e</sub> has been rounded for presentation purposes. Multiplication using this presented P<sub>e</sub> yields imprecise results. Dividing the P<sub>e</sub>-adjusted mean estimate by the mean estimate yields the precise P<sub>e</sub>.
8. TEFS is defined as the threshold economic field size.
9. Arithmetic summation is a requirement of the PRMS guidelines.
10. Prospective resources classified as lead or play are assigned a P<sub>g</sub> of 0.05; leads are not valued in this report.
11. There is no certainty that any portion of the prospective resources estimated herein will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.



**TABLE 4**  
**ESTIMATE of the NET PROSPECTIVE OIL RESOURCES**  
**TRUNCATED and ADJUSTED for TEFS**

as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETROLEUM & GAS S.A.  
in  
CERTAIN OIL PROSPECTS  
VARIOUS LICENSE BLOCKS  
BRAZIL and PERU

Prospect	Country	Basin	License	Net Truncated, TEFS-Adjusted Prospective Oil Resources Summary					Probability	
				Low Estimate (10 <sup>6</sup> bbl)	Best Estimate (10 <sup>6</sup> bbl)	High Estimate (10 <sup>6</sup> bbl)	Mean Estimate (10 <sup>6</sup> bbl)	Success, P <sub>e</sub> (decimal)	P <sub>e</sub> -Adjusted Mean Estimate (10 <sup>6</sup> bbl)	
Morro da Igreja (Beta)	Brazil	Santos	Block S-1102-1037	319,803	585,332	1,071,094	654,145	0.236	154,226	
Charlie (Theta)	Brazil	Santos	Block S-1166	42,313	98,360	228,678	122,158	0.399	48,754	
Pie-Sail	Brazil	Santos	Block 1102	39,990	101,602	259,180	132,399	0.169	22,388	
Pico do Jaraguá (Alpha)	Brazil	Santos	Block S-1101-1165	272,357	357,285	574,132	382,612	0.475	181,558	
Monte Roriana	Brazil	Santos	Block 1165	32,084	53,659	89,750	58,160	0.311	19,077	
Acres	Brazil	Santos	Block 1352	16,706	31,230	58,390	35,184	0.050	2,124	
Quasi	Brazil	Santos	Block 1354	4,072	10,125	25,177	13,035	0.065	1,104	
Manijá	Brazil	Santos	Block 1352	20,059	35,938	64,390	39,858	0.198	7,891	
A	Peru	Tumbes	Z38	45,293	141,935	444,864	211,168	0.192	40,559	
B	Peru	Tumbes	Z38	21,048	62,898	187,994	90,599	0.112	10,125	
G	Peru	Tumbes	Z38	78,529	233,531	694,598	335,292	0.125	41,979	
B-144	Peru	Maranon	Block 144	40,468	60,617	161,333	93,472	0.234	21,911	
D	Peru	Tumbes	Z38	26,734	67,463	170,269	87,575	0.131	11,448	
<b>Statistical Aggregate</b>				<b>1,101,376</b>	<b>2,017,520</b>	<b>3,696,078</b>	<b>2,245,656</b>	<b>0.225</b>	<b>952,146</b>	
<b>Arithmetic Summation</b>				<b>906,574</b>	<b>1,860,175</b>	<b>4,028,849</b>	<b>2,255,656</b>	<b>0.225</b>	<b>562,146</b>	

**Notes:**

1. Low, best, mean, and high estimates follow the PRMS guidelines for prospective resources.
2. Application of P<sub>g</sub> and/or P<sub>e</sub> does not equate prospective resources to contingent resources or reserves.
3. Low, best, mean, and high estimates in this table are P<sub>50</sub>, P<sub>50</sub>, mean, and P<sub>10</sub>, respectively.
4. Only the mean can be arithmetically summed; P<sub>50</sub>, P<sub>50</sub>, and P<sub>10</sub> are not additive.
5. P<sub>e</sub> is defined as the probability of discovering economic resources.
6. Recovery efficiency is applied to prospective resources in this table.
7. P<sub>e</sub> has been rounded for presentation purposes. Multiplication using this presented P<sub>e</sub> yields imprecise results. Dividing the P<sub>e</sub>-adjusted mean estimate by the mean estimate yields the precise P<sub>e</sub>.
8. TEFS is defined as the threshold economic field size.
9. Arithmetic summation is a requirement of the PRMS guidelines.
10. Prospective resources classified as lead or play are assigned a P<sub>g</sub> of 0.05; leads are not valued in this report.
11. There is no certainty that any portion of the prospective resources estimated herein will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 5  
PROBABILITY DISTRIBUTIONS  
for  
MONTE CARLO SIMULATION  
as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETROLEO & GAS S.A.  
in  
CERTAIN OIL PROSPECTS  
VARIOUS LICENSE BLOCKS  
BRAZIL and PERU

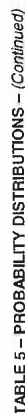
Prospect	Reservoir	Parameter	P <sub>100</sub>	P <sub>90</sub>	P <sub>50</sub>	P <sub>10</sub>	P <sub>0</sub>	Mean
Morro da Igreja (Beta)	Santonian	Productive area, acres	963	1,022	1,313	1,763	1,924	1,355
		Net hydrocarbon thickness, feet	148.7	176.6	275.9	453.1	502.4	297.0
		Geometric correction factor, decimal	0.80	0.82	0.84	0.86	0.88	0.84
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.172	0.195	0.220	0.246	0.279	0.220
		Oil saturation, decimal	0.621	0.661	0.720	0.779	0.820	0.720
		Formation volume factor, Bo	1.424	1.366	1.293	1.222	1.174	1.291
		Recovery efficiency, decimal	0.101	0.174	0.259	0.450	0.567	0.307
		Prospective OOIP, barrels	102,633,968	176,816,016	293,287,456	512,135,936	1,185,755,520	322,800,146
		Prospective gross ultimate recovery, barrels	20,121,450	42,125,736	87,265,832	172,293,088	481,891,616	98,564,231
Morro da Igreja (Beta)	Carnian	Productive area, acres	1,873	3,122	7,399	14,896	18,663	8,240
		Net hydrocarbon thickness, feet	82.7	98.0	153.3	251.8	329.1	155.0
		Geometric correction factor, decimal	0.80	0.82	0.84	0.86	0.88	0.84
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.201	0.225	0.250	0.276	0.307	0.250
		Oil saturation, decimal	0.620	0.661	0.720	0.779	0.820	0.720
		Formation volume factor, Bo	1.577	1.513	1.433	1.354	1.297	1.430
		Recovery efficiency, decimal	0.213	0.261	0.327	0.392	0.443	0.327
		Prospective OOIP, barrels	159,477,104	367,444,032	940,482,752	2,097,822,336	4,879,796,800	1,118,532,207
		Prospective gross ultimate recovery, barrels	41,667,100	121,946,392	296,562,912	704,071,040	1,786,435,968	365,696,398
Morro da Igreja (Beta)	Eocene	Productive area, acres	1,103	1,836	4,356	8,751	10,983	4,847
		Net hydrocarbon thickness, feet	57.8	68.7	107.3	176.2	250.6	115.5
		Geometric correction factor, decimal	0.80	0.82	0.84	0.86	0.88	0.84
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.290	0.275	0.300	0.326	0.356	0.300
		Oil saturation, decimal	0.620	0.661	0.720	0.779	0.820	0.720
		Formation volume factor, Bo	1.578	1.513	1.433	1.354	1.300	1.430
		Recovery efficiency, decimal	0.100	0.155	0.234	0.478	0.658	0.307
		Prospective OOIP, barrels	59,319,272	178,667,728	461,636,832	1,052,877,696	2,453,996,800	550,290,587
		Prospective gross ultimate recovery, barrels	9,432,627	47,355,216	126,872,656	353,598,816	1,016,840,896	168,521,994

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 5 – PROBABILITY DISTRIBUTIONS – (Continued)

Prospect	Reservoir	Parameter	P <sub>10%</sub>	P <sub>50%</sub>	P <sub>90%</sub>	P <sub>0</sub>	Mean
Charlie (Theta)	Eocene	Productive area, acres	748	1,242	2,939	5,908	7,415
		Net hydrocarbon thickness, feet	57.8	68.6	107.3	176.2	200.9
		Geometric correction factor, decimal	0.60	0.82	0.84	0.86	0.88
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.230	0.255	0.280	0.305	0.338
		Oil saturation, decimal	0.650	0.691	0.750	0.809	0.849
		Formation volume factor, Bo	1.577	1.513	1.433	1.354	1.297
		Recovery efficiency, decimal	0.100	0.166	0.308	0.485	0.599
		Prospective OOIP, barrels	40,082,596	113,382,192	294,884,672	718,967,296	966,814,847
		Prospective gross ultimate recovery, barrels	6,076,484	31,048,592	87,177,064	242,439,696	628,854,144
Pico do Jaraguá (Alpha)	Stromatolitic Carbonates	Productive area, acres	1,518	2,531	5,983	12,043	15,125
		Net hydrocarbon thickness, feet	90.8	107.9	188.6	277.0	362.4
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.057	0.076	0.100	0.126	0.161
		Oil saturation, decimal	0.625	0.668	0.784	0.824	0.725
		Formation volume factor, Bo	1.480	1.418	1.343	1.269	1.217
		Recovery efficiency, decimal	0.113	0.165	0.249	0.333	0.397
		Prospective OOIP, barrels	65,929,064	158,254,352	421,263,808	997,144,000	1,954,923,776
		Prospective gross ultimate recovery, barrels	11,414,026	35,680,572	101,195,016	256,959,456	638,521,792
Pico do Jaraguá (Alpha)	Santonian	Productive area, acres	1,468	1,627	2,429	3,816	4,395
		Net hydrocarbon thickness, feet	123.8	147.2	230.0	377.6	483.4
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.172	0.195	0.220	0.246	0.280
		Oil saturation, decimal	0.621	0.661	0.720	0.779	0.820
		Formation volume factor, Bo	1.425	1.366	1.293	1.222	1.174
		Recovery efficiency, decimal	0.225	0.300	0.400	0.500	0.577
		Prospective OOIP, barrels	151,948,400	293,497,280	537,415,744	1,022,499,904	2,228,965,120
		Prospective gross ultimate recovery, barrels	49,617,144	112,532,336	214,193,552	404,001,728	945,943,744
Pico do Jaraguá (Alpha)	Maastrichtian	Productive area, acres	3,852	4,085	5,253	7,054	7,697
		Net hydrocarbon thickness, feet	33.0	39.2	61.3	100.6	131.9
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.152	0.175	0.200	0.226	0.258
		Oil saturation, decimal	0.620	0.661	0.720	0.779	0.820
		Formation volume factor, Bo	1.369	1.313	1.244	1.175	1.126
		Recovery efficiency, decimal	0.225	0.300	0.400	0.500	0.577
		Prospective OOIP, barrels	91,083,312	170,652,880	292,375,040	520,429,248	920,844,480
		Prospective gross ultimate recovery, barrels	23,476,486	64,946,716	112,401,352	211,594,704	494,341,888

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.



These data accompany the report of DeGolver and MacNaughton and are subject to its specific conditions.



TABLE 5 -- PROBABILITY DISTRIBUTIONS -- (Continued)

Prospect	Reservoir	Parameter	P <sub>100</sub>	P <sub>50</sub>	P <sub>90</sub>	P <sub>10</sub>	P <sub>50</sub>	P <sub>90</sub>	Mean
A	Upper Miocene - Tumbras	Productive area, acres	856	2,965	7,781	16,070	20,350	8,681	
		Net hydrocarbon thickness, feet	57.8	66.4	113.9	248.3	403.0	137.7	
		Geometric correction factor, decimal	0.63	0.65	0.67	0.65	0.68	0.65	
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00	1.00	
		Porosity, decimal	0.201	0.225	0.250	0.276	0.307	0.250	
		Oil saturation, decimal	0.600	0.641	0.700	0.759	0.700	0.700	
		Formation volume factor, Bo	1.579	1.513	1.433	1.354	1.298	1.430	
		Recovery efficiency, decimal	0.101	0.178	0.370	0.536	0.600	0.393	
		Prospective OOIP, barrels	56,184,292	189,531,248	556,832,896	1,563,605,504	4,001,120,768	749,015,478	
		Prospective gross ultimate recovery, barrels	8,805,416	54,445,740	190,238,800	611,422,720	1,761,780,736	273,158,345	
B	Upper Miocene - Tumbras	Productive area, acres	441	1,245	3,249	6,694	8,452	3,622	
		Net hydrocarbon thickness, feet	57.8	66.4	113.9	248.1	401.7	137.7	
		Geometric correction factor, decimal	0.63	0.65	0.67	0.68	0.69	0.66	
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00	1.00	
		Porosity, decimal	0.201	0.225	0.250	0.275	0.309	0.250	
		Oil saturation, decimal	0.601	0.641	0.700	0.759	0.800	0.700	
		Formation volume factor, Bo	1.579	1.513	1.433	1.354	1.300	1.430	
		Recovery efficiency, decimal	0.101	0.178	0.367	0.534	0.600	0.361	
		Prospective OOIP, barrels	20,749,054	78,575,040	234,166,864	639,231,936	2,162,058,240	315,676,491	
		Prospective gross ultimate recovery, barrels	3,690,451	23,411,352	81,082,384	237,755,584	891,434,880	113,304,568	
G	Upper Miocene - Tumbras	Productive area, acres	1,126	4,413	11,689	24,120	30,559	13,027	
		Net hydrocarbon thickness, feet	57.8	66.4	113.8	249.4	401.8	137.7	
		Geometric correction factor, decimal	0.63	0.65	0.67	0.68	0.69	0.66	
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00	1.00	
		Porosity, decimal	0.201	0.225	0.250	0.276	0.309	0.250	
		Oil saturation, decimal	0.600	0.641	0.700	0.759	0.700	0.700	
		Formation volume factor, Bo	1.582	1.513	1.433	1.354	1.300	1.430	
		Recovery efficiency, decimal	0.101	0.182	0.376	0.548	0.620	0.370	
		Prospective OOIP, barrels	48,222,744	280,649,056	829,507,072	2,487,821,312	7,160,773,120	1,141,018,400	
		Prospective gross ultimate recovery, barrels	5,664,397	88,419,712	288,656,160	888,722,112	3,371,948,800	418,753,575	
B-144	Pozo	Productive area, acres	1,379	2,297	5,441	10,953	13,735	6,059	
		Net hydrocarbon thickness, feet	18.5	19.6	30.7	50.3	65.8	33.0	
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00	
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00	1.00	
		Porosity, decimal	0.152	0.175	0.200	0.226	0.259	0.200	
		Oil saturation, decimal	0.601	0.641	0.700	0.759	0.800	0.700	
		Formation volume factor, Bo	1.316	1.261	1.194	1.128	1.063	1.192	
		Recovery efficiency, decimal	0.113	0.165	0.248	0.333	0.397	0.249	
		Prospective OOIP, barrels	22,793,750	38,497,632	153,596,288	337,966,176	1,081,690,000	182,611,207	
		Prospective gross ultimate recovery, barrels	4,796,187	12,598,844	35,964,056	88,691,560	303,831,936	45,183,792	

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 5 – PROBABILITY DISTRIBUTIONS – (Continued)

Prospect	Reservoir	Parameter	P <sub>10%</sub>	P <sub>50%</sub>	P <sub>90%</sub>	P <sub>0</sub>	Mean
B-144	Wisan	Productive area, acres	1,377	2,296	5,440	10,953	13,737
		Net hydrocarbon thickness, feet	16.5	19.6	30.7	50.4	33.0
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.152	0.175	0.200	0.226	0.200
		Oil saturation, decimal	0.600	0.641	0.700	0.759	0.600
		Formation volume factor, Bo	1.314	1.261	1.184	1.128	1.192
		Recovery efficiency, decimal	0.113	0.165	0.249	0.333	0.249
		Prospective OOIP, barrels	25,723,358	59,711,924	151,187,376	338,648,640	182,357,452
		Prospective gross ultimate recovery, barrels	3,832,347	13,980,476	35,483,280	88,416,680	45,393,231
D	Upper Miocene - Tumbes	Productive area, acres	1,385	2,299	5,443	10,940	13,731
		Net hydrocarbon thickness, feet	57.8	68.6	107.3	176.2	230.9
		Geometric correction factor, decimal	0.65	0.65	0.67	0.68	0.66
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.151	0.175	0.200	0.226	0.200
		Oil saturation, decimal	0.600	0.641	0.700	0.759	0.700
		Formation volume factor, Bo	1.205	1.156	1.084	1.034	1.093
		Recovery efficiency, decimal	0.113	0.165	0.249	0.333	0.249
		Prospective OOIP, barrels	48,365,480	144,084,496	376,487,424	912,811,456	467,518,417
		Prospective gross ultimate recovery, barrels	8,861,058	33,331,640	90,699,824	236,440,464	116,145,892
Acres	Upper Santonian	Productive area, acres	331	551	1,306	2,629	3,296
		Net hydrocarbon thickness, feet	41.3	49.1	76.7	125.8	164.6
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.076	0.095	0.120	0.146	0.121
		Oil saturation, decimal	0.601	0.641	0.700	0.759	0.800
		Formation volume factor, Bo	1.361	1.334	1.263	1.194	1.147
		Recovery efficiency, decimal	0.150	0.188	0.256	0.310	0.241
		Prospective OOIP, barrels	7,455,165	19,620,858	51,725,348	118,076,176	62,429,711
		Prospective gross ultimate recovery, barrels	1,877,199	5,610,481	15,603,962	42,647,140	21,140,375
Acres	Lower Santonian	Productive area, acres	962	1,653	3,917	7,886	9,891
		Net hydrocarbon thickness, feet	41.3	49.0	76.7	125.9	164.5
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.104	0.125	0.150	0.176	0.209
		Oil saturation, decimal	0.600	0.641	0.700	0.759	0.800
		Formation volume factor, Bo	1.369	1.313	1.244	1.175	1.125
		Recovery efficiency, decimal	0.113	0.165	0.249	0.333	0.249
		Prospective OOIP, barrels	33,621,440	76,429,456	194,069,456	441,136,832	236,803,748
		Prospective gross ultimate recovery, barrels	4,703,028	17,620,580	46,262,088	114,683,744	58,944,034

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 5 - PROBABILITY DISTRIBUTIONS - (Continued)

Prospect	Reservoir	Parameter	P <sub>10%</sub>	P <sub>50%</sub>	P <sub>90%</sub>	P <sub>0</sub>	Mean
Aconite	Cenomanian	Productive area, acres	907	1,561	3,703	7,439	9,336
		Net hydrocarbon thickness, feet	24.8	29.4	46.0	75.3	41.20
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.084	0.115	0.140	0.166	0.141
		Oil saturation, decimal	0.600	0.641	0.700	0.759	0.700
		Formation volume factor, Bo	1.346	1.292	1.224	1.156	1.222
		Recovery efficiency, decimal	0.113	0.165	0.249	0.333	0.249
		Prospective OOIP, barrels	12,768,466	40,532,088	104,604,232	240,012,736	126,550,560
		Prospective gross ultimate recovery, barrels	2,403,608	9,954,117	25,103,866	61,614,908	31,384,814
Quasi	Middle Miocene	Productive area, acres	424	756	1,802	3,455	4,195
		Net hydrocarbon thickness, feet	24.8	29.4	46.0	75.3	41.20
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.200	0.225	0.250	0.275	0.250
		Oil saturation, decimal	0.650	0.691	0.750	0.809	0.750
		Formation volume factor, Bo	1.315	1.261	1.194	1.128	1.192
		Recovery efficiency, decimal	0.180	0.243	0.374	0.495	0.371
		Prospective OOIP, barrels	12,473,283	37,893,780	98,007,792	230,359,440	119,645,176
		Prospective gross ultimate recovery, barrels	3,461,878	13,050,856	34,775,428	90,448,304	44,313,105
Manija	Oligocene	Productive area, acres	781	1,297	3,072	6,181	7,745
		Net hydrocarbon thickness, feet	33.0	39.2	61.3	100.7	66.0
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.181	0.205	0.230	0.256	0.230
		Oil saturation, decimal	0.601	0.641	0.700	0.759	0.700
		Formation volume factor, Bo	1.480	1.418	1.343	1.269	1.341
		Recovery efficiency, decimal	0.150	0.200	0.319	0.456	0.325
		Prospective OOIP, barrels	28,614,384	67,361,264	176,048,448	399,825,536	210,508,379
		Prospective gross ultimate recovery, barrels	5,279,231	20,500,048	54,214,144	132,422,768	67,964,734
Manija	Paleocene	Productive area, acres	781	1,295	3,072	6,181	7,751
		Net hydrocarbon thickness, feet	33.0	39.2	61.3	100.6	66.0
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.181	0.205	0.230	0.256	0.230
		Oil saturation, decimal	0.600	0.641	0.700	0.759	0.700
		Formation volume factor, Bo	1.478	1.418	1.343	1.269	1.341
		Recovery efficiency, decimal	0.146	0.201	0.300	0.476	0.300
		Prospective OOIP, barrels	20,474,700	65,692,416	176,293,696	400,824,832	212,451,583
		Prospective gross ultimate recovery, barrels	3,344,425	19,177,012	49,920,576	122,851,432	63,371,937
			0	0	0	0	0

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 5 – PROBABILITY DISTRIBUTIONS – (Continued)

Prospect	Reservoir	Parameter	P <sub>90</sub>	P <sub>80</sub>	P <sub>50</sub>	P <sub>10</sub>	P <sub>5</sub>	Mean
Msu/d	Camparian	Productive area, acres	777	1,299	3,070	6,174	7,753	3,420
		Net hydrocarbon thickness, feet	33.0	38.2	61.3	100.7	131.9	66.0
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Net to gross ratio, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.181	0.205	0.230	0.258	0.289	0.250
		Oil saturation, decimal	0.800	0.641	0.700	0.759	0.800	0.700
		Formation volume factor, Bo	1.478	1.418	1.343	1.269	1.216	1.341
		Recovery efficiency, decimal	0.146	0.201	0.300	0.389	0.476	0.300
		Prospective OOIP, barrels	50,265,062	70,562,848	167,205,712	403,439,712	900,152,960	210,553,761
		Prospective gross ultimate recovery, barrels	6,120,574	18,901,732	50,429,640	123,525,184	288,975,232	62,741,408

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.



TABLE 6  
POTENTIAL PRESENT WORTH at 10 PERCENT  
of the  
NET PROSPECTIVE OIL RESOURCES  
TRUNCATED, TEFS-ADJUSTED, and  $P_e$ -ADJUSTED  
as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in  
CERTAIN PROSPECTS  
VARIOUS LICENSE BLOCKS  
BRAZIL and PERU

Truncated, TEFS-Adjusted, $P_e$ -Adjusted, Net Entitlement Share Oil Resources Potential Present Worth Summary				
Prospect	Low Estimate (10 <sup>3</sup> U.S.\$)	Best Estimate (10 <sup>3</sup> U.S.\$)	High Estimate (10 <sup>3</sup> U.S.\$)	Mean Estimate (10 <sup>3</sup> U.S.\$)
Morro da Igreja (Beta)	717,434	1,019,583	1,329,881	1,020,816
Charlie (Theta)	178,386	289,698	435,764	299,152
Pre-Salt	(68,697)	(26,105)	29,383	(23,142)
Pico do Jaragua (Alpha)	1,299,234	1,853,996	2,602,816	1,906,029
Monte Roraima	23,804	54,663	100,710	59,360
Acores	(9,654)	(6,240)	(2,400)	(6,114)
Quasi	(195)	2,932	7,493	3,326
Marujá	25,684	47,625	77,316	49,182
A	188,024	290,002	403,496	292,950
B	34,129	62,338	94,044	62,981
G	156,170	239,473	331,205	241,595
B-144	48,371	92,054	151,783	96,370
D	30,451	56,733	91,520	58,993
<b>Statistical Aggregate</b>	<b>2,554,572</b>	<b>3,856,914</b>	<b>5,823,575</b>	<b>4,061,497</b>
Arithmetic Summation	2,623,142	3,976,751	5,653,010	4,061,497

Notes:

1. Low, best, mean, and high estimates follow the PRMS guidelines for prospective resources.
2. Low, best, mean, and high estimates in this table are  $P_{90}$ ,  $P_{50}$ , mean, and  $P_{10}$ , respectively.
3. Only the mean can be arithmetically summed;  $P_{90}$ ,  $P_{50}$ , and  $P_{10}$  are not additive.
4. Recovery efficiency is applied to prospective resources in this table.
5. Negative values are denoted with parentheses.
6. Present worth in this table refers to FCP's net interest.
7. The present worth values in this table do not represent a fair market value evaluation.
8. Political risk, market availability, timing, pricing and other economic uncertainties are not included in this table.
9. A possibility exists that the prospects will not result in successful discoveries and development, in which case there would be no positive potential present worth.
10. Estimated potential present worth of prospective resources is not comparable to present worth estimates of contingent resources or reserves.
11. TEFS is defined as the threshold economic field size.
12.  $P_e$  is defined as the probability of discovering economic resources.
13. The potential present worth per barrel of oil equivalent distribution included the condensate and solution gas volumes.
14. Arithmetic summation is a requirement of the PRMS guidelines.
15. There is no certainty that any portion of the prospective resources estimated herein will be discovered.  
If discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources evaluated.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 7  
GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS  
for the  
MEAN TRUNCATED VOLUME  
as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in the  
MORRO DA IGREJA (BETA)  
OIL PROSPECT

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>3</sup> bbl)	Potential Sales Gas Quantities (10 <sup>6</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (Aug)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	(75,000)	0	(75,000)
2013	0	0	0	0	0	0	0	(75,000)	0	(75,000)
2014	0	0	0	0	0	0	0	(75,000)	0	(75,000)
2015	0	0	0	0	0	0	0	(450,000)	(900,000)	(1,350,000)
2016	14,078	0	(195,000)	(28,157)	(14,078)	0	(237,235)	(450,000)	0	(450,000)
2017	29,423	0	(195,000)	(58,846)	(29,423)	0	(283,270)	(450,000)	0	(450,000)
2018	38,678	0	(195,000)	(77,358)	(38,678)	0	(311,037)	(450,000)	0	(450,000)
2019	43,747	0	(195,000)	(87,494)	(43,747)	0	(326,241)	(225,000)	0	(225,000)
2020	46,671	0	(195,000)	(93,342)	(46,671)	0	(335,013)	0	0	0
2021	48,462	0	(195,000)	(96,924)	(48,462)	0	(340,386)	0	0	0
2022	49,612	0	(195,000)	(99,224)	(49,612)	0	(343,836)	0	0	0
2023	50,401	0	(195,000)	(100,802)	(50,401)	0	(346,203)	0	0	0
2024	50,939	0	(195,000)	(101,878)	(50,939)	0	(347,818)	0	0	0
2025	51,302	0	(195,000)	(102,605)	(51,302)	0	(349,718)	0	0	0
2026	51,573	0	(195,000)	(103,146)	(51,573)	0	(349,718)	0	0	0
2027	51,768	0	(195,000)	(103,536)	(51,768)	0	(350,304)	0	0	0
2028	46,055	0	(195,000)	(92,110)	(46,055)	0	(333,164)	0	0	0
2029	29,859	0	(195,000)	(59,719)	(29,859)	0	(284,578)	0	0	0
2030	17,678	0	(195,000)	(35,357)	(17,678)	0	(248,035)	0	0	0
2031	10,853	0	(195,000)	(21,706)	(10,853)	0	(227,558)	0	0	0
2032	8,975	0	(195,000)	(13,950)	(6,975)	0	(215,925)	0	0	0
2033	4,686	0	(195,000)	(9,372)	(4,686)	0	(209,058)	0	0	0
2034	3,260	0	(195,000)	(6,520)	(3,260)	0	(204,779)	0	0	0
2035	2,334	0	(195,000)	(4,668)	(2,334)	0	(202,001)	0	0	0
2036	1,709	0	(195,000)	(3,419)	(1,709)	0	(200,128)	0	0	0
2037	1,282	0	(195,000)	(2,565)	(1,282)	0	(198,847)	0	0	0
2038	978	0	(195,000)	(1,957)	(978)	0	(197,935)	0	0	0
2039	755	0	(195,000)	(1,510)	(755)	0	(197,265)	0	0	0
2040	583	0	(195,000)	(1,187)	(583)	0	(196,780)	0	0	0
2041	470	0	(195,000)	(940)	(470)	0	(196,410)	0	0	0
2042	0	0	0	0	0	(60,000)	(60,000)	0	0	0
2043	0	0	0	0	0	0	0	0	0	0
Total	654,145	0	(5,070,000)	(1,308,280)	(654,145)	(60,000)	(7,092,435)	(2,250,000)	(900,000)	(3,150,000)

Notes:

1. P<sub>g</sub> and P<sub>o</sub> have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered; and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of P<sub>g</sub> and P<sub>o</sub> to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 8  
GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS  
for the  
MEAN TRUNCATED VOLUME  
as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in the  
CHARLIE (THETA)  
OIL PROSPECT

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>3</sup> bbl)	Potential Sales Gas Quantities (10 <sup>6</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (Aug)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	(70,000)	0	(70,000)
2013	0	0	0	0	0	0	0	(70,000)	0	(70,000)
2014	0	0	0	0	0	0	0	(70,000)	0	(70,000)
2015	0	0	0	0	0	0	0	(420,000)	(450,000)	(870,000)
2016	0	0	0	0	0	0	0	(420,000)	0	(420,000)
2017	8,527	0	(65,000)	(17,055)	(8,527)	0	(90,582)	0	0	0
2018	13,622	0	(65,000)	(27,243)	(13,622)	0	(105,865)	0	0	0
2019	16,495	0	(65,000)	(32,991)	(16,495)	0	(114,486)	0	0	0
2020	18,184	0	(65,000)	(36,368)	(18,184)	0	(119,553)	0	0	0
2021	18,722	0	(65,000)	(37,444)	(18,722)	0	(121,167)	0	0	0
2022	11,766	0	(65,000)	(23,532)	(11,766)	0	(100,297)	0	0	0
2023	6,998	0	(65,000)	(13,995)	(6,998)	0	(85,993)	0	0	0
2024	4,504	0	(65,000)	(9,008)	(4,504)	0	(78,513)	0	0	0
2025	3,157	0	(65,000)	(6,315)	(3,157)	0	(74,472)	0	0	0
2026	2,407	0	(65,000)	(4,813)	(2,407)	0	(72,220)	0	0	0
2027	1,972	0	(65,000)	(3,944)	(1,972)	0	(70,915)	0	0	0
2028	1,705	0	(65,000)	(3,411)	(1,705)	0	(70,119)	0	0	0
2029	1,529	0	(65,000)	(3,058)	(1,529)	0	(69,588)	0	0	0
2030	1,402	0	(65,000)	(2,803)	(1,402)	0	(69,205)	0	0	0
2031	1,298	0	(65,000)	(2,597)	(1,298)	0	(68,895)	0	0	0
2032	1,209	0	(65,000)	(2,417)	(1,209)	0	(68,626)	0	0	0
2033	1,129	0	(65,000)	(2,258)	(1,129)	0	(68,387)	0	0	0
2034	1,057	0	(65,000)	(2,114)	(1,057)	0	(68,172)	0	0	0
2035	991	0	(65,000)	(1,983)	(991)	0	(67,974)	0	0	0
2036	932	0	(65,000)	(1,863)	(932)	0	(67,795)	0	0	0
2037	876	0	(65,000)	(1,752)	(876)	0	(67,627)	0	0	0
2038	820	0	(65,000)	(1,639)	(820)	0	(67,459)	0	0	0
2039	771	0	(65,000)	(1,542)	(771)	0	(67,312)	0	0	0
2040	730	0	(65,000)	(1,460)	(730)	0	(67,190)	0	0	0
2041	692	0	(65,000)	(1,384)	(692)	0	(67,075)	0	0	0
2042	663	0	(65,000)	(1,326)	(663)	0	(66,989)	0	0	0
2043	0	0	0	0	0	(45,000)	(45,000)	0	0	0
Total	122,158	0	(1,690,000)	(244,316)	(122,158)	(45,000)	(2,101,474)	(1,050,000)	(450,000)	(1,500,000)

Notes:

1. P<sub>g</sub> and P<sub>a</sub> have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered; and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of P<sub>g</sub> and P<sub>a</sub> to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 9  
GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS  
for the  
MEAN TRUNCATED VOLUME  
as of  
AUGUST 31, 2010  
for  
KARON GAS AUSTRALIA LTD  
and its subsidiary  
KARON PETRÓLEO & GÁS S.A.  
in the  
PRE-SALT  
OIL PROSPECT

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>3</sup> bbl)	Potential Sales Gas Quantities (10 <sup>6</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (Aug)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	(160,000)	0	(160,000)
2014	0	0	0	0	0	0	0	(160,000)	0	(160,000)
2015	0	0	0	0	0	0	0	(160,000)	0	(160,000)
2016	0	0	0	0	0	0	0	(160,000)	(270,000)	(1,230,000)
2017	0	0	0	0	0	0	0	(160,000)	(30,000)	(190,000)
2018	8,142	0	(65,000)	(16,285)	(8,142)	0	(89,427)	0	0	0
2019	11,442	0	(65,000)	(22,885)	(11,442)	0	(99,327)	0	0	0
2020	13,368	0	(65,000)	(26,736)	(13,368)	0	(105,103)	0	0	0
2021	14,307	0	(65,000)	(28,614)	(14,307)	0	(107,921)	0	0	0
2022	15,013	0	(65,000)	(30,026)	(15,013)	0	(110,039)	0	0	0
2023	15,447	0	(65,000)	(30,894)	(15,447)	0	(111,341)	0	0	0
2024	15,827	0	(65,000)	(31,655)	(15,827)	0	(112,482)	0	0	0
2025	12,151	0	(65,000)	(24,302)	(12,151)	0	(101,453)	0	0	0
2026	6,506	0	(65,000)	(13,013)	(6,506)	0	(84,519)	0	0	0
2027	4,016	0	(65,000)	(8,033)	(4,016)	0	(77,049)	0	0	0
2028	2,731	0	(65,000)	(5,461)	(2,731)	0	(73,192)	0	0	0
2029	2,004	0	(65,000)	(4,009)	(2,004)	0	(71,013)	0	0	0
2030	1,560	0	(65,000)	(3,120)	(1,560)	0	(69,680)	0	0	0
2031	1,257	0	(65,000)	(2,513)	(1,257)	0	(68,770)	0	0	0
2032	1,052	0	(65,000)	(2,104)	(1,052)	0	(68,156)	0	0	0
2033	930	0	(65,000)	(1,861)	(930)	0	(67,791)	0	0	0
2034	852	0	(65,000)	(1,703)	(852)	0	(67,555)	0	0	0
2035	798	0	(65,000)	(1,596)	(798)	0	(67,393)	0	0	0
2036	750	0	(65,000)	(1,499)	(750)	0	(67,249)	0	0	0
2037	706	0	(65,000)	(1,412)	(706)	0	(67,119)	0	0	0
2038	667	0	(65,000)	(1,334)	(667)	0	(67,002)	0	0	0
2039	632	0	(65,000)	(1,264)	(632)	0	(66,896)	0	0	0
2040	601	0	(65,000)	(1,201)	(601)	0	(66,802)	0	0	0
2041	572	0	(65,000)	(1,144)	(572)	0	(66,717)	0	0	0
2042	546	0	(65,000)	(1,092)	(546)	0	(66,637)	0	0	0
2043	521	0	(65,000)	(1,041)	(521)	0	(66,562)	0	0	0
2044	0	0	0	0	0	(40,000)	(40,000)	0	0	0
Total	132,399	0	(1,690,000)	(264,798)	(132,399)	(40,000)	(2,127,197)	(1,600,000)	(300,000)	(1,900,000)

Notes:

1.  $P_0$  and  $P_1$  have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered;  
and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of  $P_0$  and  $P_1$  to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.



TABLE 10  
GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS  
for the  
MEAN TRUNCATED VOLUME  
as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in the  
PICO DO JARAGUA (ALPHA)  
OIL PROSPECT

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>3</sup> bbl)	Potential Sales Gas Quantities (10 <sup>6</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (May)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	(420,000)	0	(420,000)
2012	0	0	0	0	0	0	0	(420,000)	0	(420,000)
2013	0	0	0	0	0	0	0	(420,000)	0	(420,000)
2014	0	0	0	0	0	0	0	(420,000)	(720,000)	(1,140,000)
2015	45,638	0	(195,000)	(91,276)	(45,638)	0	(331,913)	0	0	0
2016	45,638	0	(195,000)	(91,276)	(45,638)	0	(331,913)	0	0	0
2017	45,638	0	(195,000)	(91,276)	(45,638)	0	(331,913)	0	0	0
2018	38,890	0	(195,000)	(77,780)	(38,890)	0	(311,670)	0	0	0
2019	33,140	0	(195,000)	(66,280)	(33,140)	0	(294,419)	0	0	0
2020	28,240	0	(195,000)	(56,480)	(28,240)	0	(279,720)	0	0	0
2021	24,064	0	(195,000)	(48,129)	(24,064)	0	(267,193)	0	0	0
2022	20,506	0	(195,000)	(41,013)	(20,506)	0	(258,519)	0	0	0
2023	17,474	0	(195,000)	(34,949)	(17,474)	0	(247,423)	0	0	0
2024	14,891	0	(195,000)	(29,781)	(14,891)	0	(239,672)	0	0	0
2025	12,689	0	(195,000)	(25,378)	(12,689)	0	(233,067)	0	0	0
2026	10,813	0	(195,000)	(21,826)	(10,813)	0	(227,439)	0	0	0
2027	9,214	0	(195,000)	(18,428)	(9,214)	0	(222,642)	0	0	0
2028	7,852	0	(195,000)	(15,703)	(7,852)	0	(218,555)	0	0	0
2029	6,691	0	(195,000)	(13,382)	(6,691)	0	(215,072)	0	0	0
2030	5,702	0	(195,000)	(11,403)	(5,702)	0	(212,105)	0	0	0
2031	4,859	0	(195,000)	(9,717)	(4,859)	0	(209,576)	0	0	0
2032	4,140	0	(195,000)	(8,280)	(4,140)	0	(207,420)	0	0	0
2033	3,528	0	(195,000)	(7,056)	(3,528)	0	(205,584)	0	0	0
2034	3,006	0	(195,000)	(6,013)	(3,006)	0	(204,019)	0	0	0
2035	0	0	0	0	0	(54,000)	(54,000)	0	0	0
2036	0	0	0	0	0	0	0	0	0	0
2037	0	0	0	0	0	0	0	0	0	0
2038	0	0	0	0	0	0	0	0	0	0
2039	0	0	0	0	0	0	0	0	0	0
2040	0	0	0	0	0	0	0	0	0	0
2041	0	0	0	0	0	0	0	0	0	0
Total	382,512	0	(3,900,000)	(765,224)	(382,612)	(54,000)	(5,101,836)	(1,680,000)	(720,000)	(2,400,000)

Notes:

1. P<sub>1</sub> and P<sub>2</sub> have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered; and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of P<sub>1</sub> and P<sub>2</sub> to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 11  
GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS  
for the  
MEAN TRUNCATED VOLUME  
as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in the  
MONTE ROHAMA  
OIL PROSPECT

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>6</sup> bbl)	Potential Sales Gas Quantities (10 <sup>6</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (Aug)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	(65,000)	0	(65,000)
2014	0	0	0	0	0	0	0	(65,000)	0	(65,000)
2015	0	0	0	0	0	0	0	(65,000)	0	(65,000)
2016	0	0	0	0	0	0	0	(325,000)	(240,000)	(565,000)
2017	6,143	0	(65,000)	(12,286)	(6,143)	0	(83,430)	0	0	0
2018	10,154	0	(65,000)	(20,309)	(10,154)	0	(95,463)	0	0	0
2019	8,113	0	(65,000)	(16,226)	(8,113)	0	(89,339)	0	0	0
2020	5,245	0	(65,000)	(12,489)	(6,245)	0	(83,734)	0	0	0
2021	4,939	0	(65,000)	(9,878)	(4,939)	0	(79,818)	0	0	0
2022	3,925	0	(65,000)	(7,851)	(3,925)	0	(76,776)	0	0	0
2023	3,135	0	(65,000)	(6,270)	(3,135)	0	(74,405)	0	0	0
2024	2,523	0	(65,000)	(5,045)	(2,523)	0	(72,568)	0	0	0
2025	2,050	0	(65,000)	(4,100)	(2,050)	0	(71,150)	0	0	0
2026	1,683	0	(65,000)	(3,365)	(1,683)	0	(70,048)	0	0	0
2027	1,390	0	(65,000)	(2,781)	(1,390)	0	(69,171)	0	0	0
2028	1,153	0	(65,000)	(2,307)	(1,153)	0	(68,460)	0	0	0
2029	964	0	(65,000)	(1,928)	(964)	0	(67,892)	0	0	0
2030	815	0	(65,000)	(1,629)	(815)	0	(67,444)	0	0	0
2031	696	0	(65,000)	(1,391)	(696)	0	(67,087)	0	0	0
2032	600	0	(65,000)	(1,201)	(600)	0	(66,801)	0	0	0
2033	525	0	(65,000)	(1,049)	(525)	0	(66,574)	0	0	0
2034	464	0	(65,000)	(927)	(464)	0	(66,391)	0	0	0
2035	414	0	(65,000)	(827)	(414)	0	(66,241)	0	0	0
2036	373	0	(65,000)	(745)	(373)	0	(66,118)	0	0	0
2037	342	0	(65,000)	(684)	(342)	0	(66,026)	0	0	0
2038	320	0	(65,000)	(640)	(320)	0	(65,961)	0	0	0
2039	305	0	(65,000)	(612)	(305)	0	(65,917)	0	0	0
2040	289	0	(65,000)	(593)	(289)	0	(65,897)	0	0	0
2041	286	0	(65,000)	(592)	(286)	0	(65,888)	0	0	0
2042	294	0	(65,000)	(588)	(294)	0	(65,883)	0	0	0
2043	0	0	0	0	0	(38,000)	(38,000)	0	0	0
<b>Total</b>	<b>58,160</b>	<b>0</b>	<b>(1,890,000)</b>	<b>(116,320)</b>	<b>(58,180)</b>	<b>(38,000)</b>	<b>(1,902,480)</b>	<b>(520,000)</b>	<b>(240,000)</b>	<b>(760,000)</b>

Notes:

1. P<sub>90</sub> and P<sub>50</sub> have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered; and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of P<sub>90</sub> and P<sub>50</sub> to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 12  
GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS  
for the  
MEAN TRUNCATED VOLUME  
as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in the  
A  
OIL PROSPECT

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>3</sup> bbl)	Potential Sales Gas Quantities (10 <sup>6</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (Aug)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	(35,000)	0	(35,000)
2012	0	0	0	0	0	0	0	(35,000)	0	(35,000)
2013	0	0	0	0	0	0	0	(35,000)	0	(35,000)
2014	0	0	0	0	0	0	0	(210,000)	(270,000)	(480,000)
2015	0	0	0	0	0	0	0	(102,107)	(210,000)	(390,000)
2016	12,369	0	(65,000)	(24,738)	(12,369)	0	(102,107)	(210,000)	(180,000)	(390,000)
2017	15,659	0	(65,000)	(31,319)	(15,659)	0	(111,978)	(210,000)	(180,000)	(390,000)
2018	17,821	0	(65,000)	(35,643)	(17,821)	0	(118,464)	(210,000)	(180,000)	(390,000)
2019	18,693	0	(65,000)	(37,387)	(18,693)	0	(121,080)	(210,000)	(180,000)	(390,000)
2020	19,042	0	(65,000)	(38,084)	(19,042)	0	(122,126)	(210,000)	(180,000)	(390,000)
2021	19,588	0	(65,000)	(39,176)	(19,588)	0	(123,764)	0	0	0
2022	19,972	0	(65,000)	(39,945)	(19,972)	0	(124,917)	0	0	0
2023	19,679	0	(65,000)	(39,358)	(19,679)	0	(124,037)	0	0	0
2024	19,801	0	(65,000)	(39,602)	(19,801)	0	(124,402)	0	0	0
2025	20,096	0	(65,000)	(40,193)	(20,096)	0	(125,289)	0	0	0
2026	19,987	0	(65,000)	(39,973)	(19,987)	0	(124,960)	0	0	0
2027	19,806	0	(65,000)	(39,611)	(19,806)	0	(124,417)	0	0	0
2028	20,063	0	(65,000)	(40,126)	(20,063)	0	(125,189)	0	0	0
2029	17,753	0	(65,000)	(35,506)	(17,753)	0	(118,258)	0	0	0
2030	9,128	0	(65,000)	(18,256)	(9,128)	0	(92,384)	0	0	0
2031	4,819	0	(65,000)	(9,638)	(4,819)	0	(79,456)	0	0	0
2032	2,666	0	(65,000)	(5,332)	(2,666)	0	(72,998)	0	0	0
2033	1,539	0	(65,000)	(3,079)	(1,539)	0	(69,618)	0	0	0
2034	936	0	(65,000)	(1,873)	(936)	0	(67,809)	0	0	0
2035	608	0	(65,000)	(1,215)	(608)	0	(66,823)	0	0	0
2036	424	0	(65,000)	(848)	(424)	0	(66,271)	0	0	0
2037	318	0	(65,000)	(636)	(318)	0	(65,954)	0	0	0
2038	256	0	(65,000)	(511)	(256)	0	(65,767)	0	0	0
2039	212	0	(65,000)	(425)	(212)	0	(65,637)	0	0	0
2040	174	0	(65,000)	(347)	(174)	0	(65,521)	0	0	0
2041	148	0	(65,000)	(295)	(148)	0	(65,443)	0	0	0
2042	0	0	0	0	0	(69,000)	(69,000)	0	0	0
Total	281,557	0	(1,690,000)	(663,114)	(281,567)	(69,000)	(2,603,671)	(1,365,000)	(1,170,000)	(2,535,000)

Notes:

1.  $P_0$  and  $P_0$  have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered;  
and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of  $P_0$  and  $P_0$  to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 13  
GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS  
for the  
MEAN TRUNCATED VOLUME  
as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in the  
B  
OIL PROSPECT

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>3</sup> bbl)	Potential Sales Gas Quantities (10 <sup>3</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (Aug)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	(30,000)	0	(30,000)
2013	0	0	0	0	0	0	0	(30,000)	0	(30,000)
2014	0	0	0	0	0	0	0	(30,000)	0	(30,000)
2015	0	0	0	0	0	0	0	(180,000)	(270,000)	(450,000)
2016	0	0	0	0	0	0	0	(180,000)	(180,000)	(360,000)
2017	5,991	0	(65,000)	(11,981)	(5,991)	0	(82,972)	(94,662)	(30,000)	(60,000)
2018	9,887	0	(65,000)	(19,774)	(9,887)	0	(94,662)	0	0	0
2019	12,821	0	(65,000)	(25,643)	(12,821)	0	(103,464)	0	0	0
2020	14,916	0	(65,000)	(29,832)	(14,916)	0	(109,749)	0	0	0
2021	16,416	0	(65,000)	(32,831)	(16,416)	0	(114,247)	0	0	0
2022	15,737	0	(65,000)	(31,474)	(15,737)	0	(112,210)	0	0	0
2023	11,027	0	(65,000)	(22,054)	(11,027)	0	(98,081)	0	0	0
2024	7,951	0	(65,000)	(15,902)	(7,951)	0	(88,853)	0	0	0
2025	5,769	0	(65,000)	(11,538)	(5,769)	0	(82,307)	0	0	0
2026	4,238	0	(65,000)	(8,476)	(4,238)	0	(77,715)	0	0	0
2027	3,167	0	(65,000)	(6,334)	(3,167)	0	(74,501)	0	0	0
2028	2,412	0	(65,000)	(4,824)	(2,412)	0	(72,235)	0	0	0
2029	1,872	0	(65,000)	(3,745)	(1,872)	0	(70,617)	0	0	0
2030	1,482	0	(65,000)	(2,965)	(1,482)	0	(69,447)	0	0	0
2031	1,197	0	(65,000)	(2,394)	(1,197)	0	(68,590)	0	0	0
2032	984	0	(65,000)	(1,999)	(984)	0	(67,953)	0	0	0
2033	825	0	(65,000)	(1,649)	(825)	0	(67,474)	0	0	0
2034	703	0	(65,000)	(1,406)	(703)	0	(66,827)	0	0	0
2035	609	0	(65,000)	(1,218)	(609)	0	(66,605)	0	0	0
2036	535	0	(65,000)	(1,070)	(535)	0	(66,427)	0	0	0
2037	476	0	(65,000)	(952)	(476)	0	(66,282)	0	0	0
2038	427	0	(65,000)	(855)	(427)	0	(66,159)	0	0	0
2039	386	0	(65,000)	(773)	(386)	0	(66,056)	0	0	0
2040	352	0	(65,000)	(704)	(352)	0	(65,966)	0	0	0
2041	322	0	(65,000)	(644)	(322)	0	(65,888)	0	0	0
2042	296	0	(65,000)	(592)	(296)	0	(65,888)	0	0	0
2043	0	0	0	0	0	(46,000)	(46,000)	0	0	0
Total	120,799	0	(1,680,000)	(241,598)	(120,799)	(46,000)	(2,098,397)	(480,000)	(480,000)	(960,000)

Notes:

1. P<sub>9</sub> and P<sub>90</sub> have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered; and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of P<sub>9</sub> and P<sub>90</sub> to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.



**TABLE 14**  
**GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS**  
 for the  
**MEAN TRUNCATED VOLUME**  
 as of  
**AUGUST 31, 2010**  
 for  
**KAROON GAS AUSTRALIA LTD**  
 and its subsidiary  
**KAROON PETRÓLEO & GÁS S.A.**  
 in the  
**G**  
**OIL PROSPECT**

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>3</sup> bbl)	Potential Sales Gas Quantities (10 <sup>3</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (Aug)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	(30,000)	0	(30,000)
2013	0	0	0	0	0	0	0	(30,000)	0	(30,000)
2014	0	0	0	0	0	0	0	(180,000)	(240,000)	(420,000)
2015	0	0	0	0	0	0	0	(180,000)	(180,000)	(360,000)
2016	15,511	0	(65,000)	(31,023)	(15,511)	0	(111,534)	(180,000)	(180,000)	(360,000)
2017	18,162	0	(65,000)	(36,324)	(18,162)	0	(119,486)	(180,000)	(180,000)	(360,000)
2018	19,811	0	(65,000)	(39,621)	(19,811)	0	(124,432)	(180,000)	(180,000)	(360,000)
2019	19,692	0	(65,000)	(39,383)	(19,692)	0	(124,075)	(180,000)	(180,000)	(360,000)
2020	20,550	0	(65,000)	(41,100)	(20,550)	0	(126,650)	(180,000)	(180,000)	(360,000)
2021	21,079	0	(65,000)	(42,158)	(21,079)	0	(128,237)	(180,000)	(180,000)	(360,000)
2022	20,406	0	(65,000)	(40,812)	(20,406)	0	(126,218)	(180,000)	(180,000)	(360,000)
2023	20,974	0	(65,000)	(41,949)	(20,974)	0	(127,923)	(180,000)	(180,000)	(360,000)
2024	21,358	0	(65,000)	(42,717)	(21,358)	0	(129,075)	(90,000)	(90,000)	(180,000)
2025	20,614	0	(65,000)	(41,228)	(20,614)	0	(126,842)	0	0	0
2026	21,148	0	(65,000)	(42,296)	(21,148)	0	(128,444)	0	0	0
2027	21,555	0	(65,000)	(43,110)	(21,555)	0	(129,665)	0	0	0
2028	20,785	0	(65,000)	(41,569)	(20,785)	0	(127,354)	0	0	0
2029	21,308	0	(65,000)	(42,616)	(21,308)	0	(128,923)	0	0	0
2030	21,674	0	(65,000)	(43,347)	(21,674)	0	(130,021)	0	0	0
2031	20,909	0	(65,000)	(41,818)	(20,909)	0	(127,728)	0	0	0
2032	21,426	0	(65,000)	(42,851)	(21,426)	0	(129,277)	0	0	0
2033	21,787	0	(65,000)	(43,575)	(21,787)	0	(130,362)	0	0	0
2034	21,022	0	(65,000)	(42,043)	(21,022)	0	(128,065)	0	0	0
2035	21,538	0	(65,000)	(43,076)	(21,538)	0	(129,614)	0	0	0
2036	17,340	0	(65,000)	(34,680)	(17,340)	0	(117,019)	0	0	0
2037	8,346	0	(65,000)	(16,692)	(8,346)	0	(90,039)	0	0	0
2038	4,442	0	(65,000)	(8,894)	(4,442)	0	(78,327)	0	0	0
2039	2,623	0	(65,000)	(5,246)	(2,623)	0	(72,868)	0	0	0
2040	1,725	0	(65,000)	(3,449)	(1,725)	0	(70,174)	0	0	0
2041	1,272	0	(65,000)	(2,544)	(1,272)	0	(68,817)	0	0	0
2042	0	0	0	0	0	(89,000)	(89,000)	0	0	0
2043	0	0	0	0	0	0	0	0	0	0
2044	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>447,056</b>	<b>0</b>	<b>(1,690,000)</b>	<b>(894,112)</b>	<b>(447,056)</b>	<b>(89,000)</b>	<b>(3,120,168)</b>	<b>(1,770,000)</b>	<b>(1,770,000)</b>	<b>(3,540,000)</b>

**Notes:**

1.  $P_d$  and  $P_s$  have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered; and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of  $P_d$  and  $P_s$  to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 15  
GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS  
for the  
MEAN TRUNCATED VOLUME  
as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in the  
B-144  
OIL PROSPECT

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>3</sup> bbl)	Potential Sales Gas Quantities (10 <sup>6</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (Aug)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	(30,000)	0	(30,000)
2013	0	0	0	0	0	0	0	(30,000)	0	(30,000)
2014	0	0	0	0	0	0	0	(30,000)	0	(30,000)
2015	0	0	0	0	0	0	0	(180,000)	(40,000)	(220,000)
2016	0	0	0	0	0	0	0	(180,000)	0	(180,000)
2017	3,095	0	(15,000)	(6,190)	(3,095)	0	(24,285)	(180,000)	0	(180,000)
2018	4,398	0	(15,000)	(8,797)	(4,398)	0	(28,195)	(180,000)	0	(180,000)
2019	5,504	0	(15,000)	(11,007)	(5,504)	0	(31,511)	(180,000)	0	(180,000)
2020	6,298	0	(15,000)	(12,592)	(6,298)	0	(33,887)	(180,000)	0	(180,000)
2021	6,871	0	(15,000)	(13,741)	(6,871)	0	(35,612)	(180,000)	0	(180,000)
2022	7,291	0	(15,000)	(14,583)	(7,291)	0	(36,874)	(180,000)	0	(180,000)
2023	7,606	0	(15,000)	(15,212)	(7,606)	0	(37,818)	(180,000)	0	(180,000)
2024	7,846	0	(15,000)	(15,692)	(7,846)	0	(38,539)	(90,000)	0	(90,000)
2025	8,033	0	(15,000)	(16,057)	(8,033)	0	(39,100)	0	0	0
2026	8,182	0	(15,000)	(16,363)	(8,182)	0	(39,545)	0	0	0
2027	8,630	0	(15,000)	(16,363)	(8,182)	0	(39,545)	0	0	0
2028	8,630	0	(15,000)	(13,259)	(6,630)	0	(34,889)	0	0	0
2029	4,774	0	(15,000)	(9,548)	(4,774)	0	(29,321)	0	0	0
2030	3,537	0	(15,000)	(7,073)	(3,537)	0	(25,610)	0	0	0
2031	2,663	0	(15,000)	(5,325)	(2,663)	0	(22,988)	0	0	0
2032	2,043	0	(15,000)	(4,085)	(2,043)	0	(21,129)	0	0	0
2033	1,602	0	(15,000)	(3,204)	(1,602)	0	(19,806)	0	0	0
2034	1,285	0	(15,000)	(2,571)	(1,285)	0	(18,856)	0	0	0
2035	1,055	0	(15,000)	(2,109)	(1,055)	0	(18,164)	0	0	0
2036	884	0	(15,000)	(1,768)	(884)	0	(17,853)	0	0	0
2037	757	0	(15,000)	(1,514)	(757)	0	(17,271)	0	0	0
2038	660	0	(15,000)	(1,321)	(660)	0	(16,981)	0	0	0
2039	586	0	(15,000)	(1,172)	(586)	0	(16,758)	0	0	0
2040	528	0	(15,000)	(1,056)	(528)	0	(16,584)	0	0	0
2041	482	0	(15,000)	(965)	(482)	0	(16,447)	0	0	0
2042	447	0	(15,000)	(893)	(447)	0	(16,340)	0	0	0
2043	418	0	(15,000)	(836)	(418)	0	(16,254)	0	0	0
2043	0	0	0	0	0	(84,000)	(84,000)	0	0	0
Total	93,472	0	(390,000)	(186,944)	(93,472)	(84,000)	(754,416)	(1,820,000)	(40,000)	(1,860,000)

Notes:

1. P<sub>g</sub> and P<sub>e</sub> have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered;  
and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of P<sub>g</sub> and P<sub>e</sub> to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 16  
GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS  
for the  
MEAN TRUNCATED VOLUME  
as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in the  
OIL PROSPECT

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>3</sup> bbl)	Potential Sales Gas Quantities (10 <sup>3</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (Aug)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	(30,000)	0	(30,000)
2014	0	0	0	0	0	0	0	(30,000)	0	(30,000)
2015	0	0	0	0	0	0	0	(180,000)	(240,000)	(420,000)
2016	0	0	0	0	0	0	0	(30,000)	0	(30,000)
2017	5,791	0	(65,000)	(11,581)	(5,791)	0	(82,372)	(180,000)	(180,000)	(360,000)
2018	9,557	0	(65,000)	(19,114)	(9,557)	0	(93,672)	(180,000)	(180,000)	(360,000)
2019	12,393	0	(65,000)	(24,787)	(12,393)	0	(102,180)	(180,000)	(180,000)	(360,000)
2020	14,418	0	(65,000)	(28,837)	(14,418)	0	(108,255)	(30,000)	(30,000)	(160,000)
2021	15,868	0	(65,000)	(31,735)	(15,868)	0	(112,603)	0	0	0
2022	15,211	0	(65,000)	(30,423)	(15,211)	0	(110,634)	0	0	0
2023	10,659	0	(65,000)	(21,318)	(10,659)	0	(96,977)	0	0	0
2024	7,686	0	(65,000)	(15,371)	(7,686)	0	(88,057)	0	0	0
2025	5,576	0	(65,000)	(11,153)	(5,576)	0	(81,729)	0	0	0
2026	4,097	0	(65,000)	(8,193)	(4,097)	0	(77,290)	0	0	0
2027	3,061	0	(65,000)	(6,123)	(3,061)	0	(74,184)	0	0	0
2028	2,331	0	(65,000)	(4,863)	(2,331)	0	(71,994)	0	0	0
2029	1,810	0	(65,000)	(3,820)	(1,810)	0	(70,430)	0	0	0
2030	1,433	0	(65,000)	(2,866)	(1,433)	0	(69,299)	0	0	0
2031	1,157	0	(65,000)	(2,314)	(1,157)	0	(68,470)	0	0	0
2032	952	0	(65,000)	(1,903)	(952)	0	(67,855)	0	0	0
2033	797	0	(65,000)	(1,594)	(797)	0	(67,392)	0	0	0
2034	680	0	(65,000)	(1,359)	(680)	0	(67,039)	0	0	0
2035	589	0	(65,000)	(1,177)	(589)	0	(66,766)	0	0	0
2036	517	0	(65,000)	(1,034)	(517)	0	(66,551)	0	0	0
2037	460	0	(65,000)	(920)	(460)	0	(66,380)	0	0	0
2038	413	0	(65,000)	(826)	(413)	0	(66,239)	0	0	0
2039	374	0	(65,000)	(747)	(374)	0	(66,121)	0	0	0
2040	340	0	(65,000)	(680)	(340)	0	(66,020)	0	0	0
2041	311	0	(65,000)	(623)	(311)	0	(65,984)	0	0	0
2042	286	0	(65,000)	(572)	(286)	0	(65,858)	0	0	0
2043	0	0	0	0	0	(57,000)	(57,000)	0	0	0
2044	0	0	0	0	0	0	0	0	0	0
Total	116,767	0	(1,680,000)	(233,534)	(116,767)	(57,000)	(2,097,301)	(810,000)	(810,000)	(1,620,000)

Notes:

1. P<sub>g</sub> and P<sub>a</sub> have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered; and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of P<sub>g</sub> and P<sub>a</sub> to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 17  
GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS  
for the  
MEAN TRUNCATED VOLUME  
as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD  
and its subsidiary  
KAROON PETRÓLEO & GÁS S.A.  
in the  
ACORES  
OIL PROSPECT

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>3</sup> bbl)	Potential Sales Gas Quantities (10 <sup>6</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (Aug)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	(120,000)	0	(120,000)
2013	0	0	0	0	0	0	0	(720,000)	(210,000)	(930,000)
2014	7,728	0	(65,000)	(15,456)	(7,728)	0	(88,185)	(720,000)	(180,000)	(900,000)
2015	9,784	0	(65,000)	(19,568)	(9,784)	0	(94,352)	(720,000)	(180,000)	(900,000)
2016	11,135	0	(65,000)	(22,270)	(11,135)	0	(98,405)	(720,000)	(180,000)	(900,000)
2017	11,680	0	(65,000)	(23,360)	(11,680)	0	(100,039)	0	0	0
2018	11,898	0	(65,000)	(23,795)	(11,898)	0	(100,693)	0	0	0
2019	12,239	0	(65,000)	(24,477)	(12,239)	0	(101,716)	0	0	0
2020	12,479	0	(65,000)	(24,958)	(12,479)	0	(102,437)	0	0	0
2021	12,296	0	(65,000)	(24,591)	(12,296)	0	(101,887)	0	0	0
2022	12,372	0	(65,000)	(24,743)	(12,372)	0	(102,115)	0	0	0
2023	12,556	0	(65,000)	(25,113)	(12,556)	0	(102,669)	0	0	0
2024	12,488	0	(65,000)	(24,976)	(12,488)	0	(102,463)	0	0	0
2025	12,375	0	(65,000)	(24,749)	(12,375)	0	(102,124)	0	0	0
2026	12,536	0	(65,000)	(25,071)	(12,536)	0	(102,607)	0	0	0
2027	11,092	0	(65,000)	(22,184)	(11,092)	0	(98,276)	0	0	0
2028	5,703	0	(65,000)	(11,408)	(5,703)	0	(82,110)	0	0	0
2029	3,011	0	(65,000)	(6,022)	(3,011)	0	(74,033)	0	0	0
2030	1,666	0	(65,000)	(3,331)	(1,666)	0	(69,997)	0	0	0
2031	662	0	(65,000)	(1,924)	(662)	0	(67,885)	0	0	0
2032	585	0	(65,000)	(1,170)	(585)	0	(66,755)	0	0	0
2033	380	0	(65,000)	(759)	(380)	0	(66,139)	0	0	0
2034	265	0	(65,000)	(530)	(265)	0	(65,794)	0	0	0
2035	199	0	(65,000)	(397)	(199)	0	(65,596)	0	0	0
2036	160	0	(65,000)	(319)	(160)	0	(65,479)	0	0	0
2037	133	0	(65,000)	(265)	(133)	0	(65,398)	0	0	0
2038	108	0	(65,000)	(217)	(108)	0	(65,325)	0	0	0
2039	92	0	(65,000)	(185)	(92)	0	(65,277)	0	0	0
2040	0	0	0	0	0	(55,000)	(55,000)	0	0	0
2041	0	0	0	0	0	0	0	0	0	0
Total	175,919	0	(1,680,000)	(351,838)	(175,919)	(55,000)	(2,272,757)	(3,000,000)	(750,000)	(3,750,000)

Notes:

1. P<sub>90</sub> and P<sub>5</sub> have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered; and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of P<sub>90</sub> and P<sub>5</sub> to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.



**TABLE 1B**  
**GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS**  
 for the  
**MEAN TRUNCATED VOLUME**  
 as of  
**AUGUST 31, 2010**  
 for  
**KAROO GAS AUSTRALIA LTD**  
 and its subsidiary  
**KAROO PETRÓLEO & GÁS S.A.**  
 in the  
**QUASI**  
**OIL PROSPECT**

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>3</sup> bbl)	Potential Sales Gas Quantities (10 <sup>3</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (Aug)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	(40,000)	0	(40,000)
2012	0	0	0	0	0	0	0	(40,000)	0	(40,000)
2013	0	0	0	0	0	0	0	(240,000)	(240,000)	(480,000)
2014	3,232	0	(65,000)	(6,464)	(3,232)	0	(74,696)	(40,000)	(30,000)	(70,000)
2015	5,334	0	(65,000)	(10,669)	(5,334)	0	(81,003)	0	0	0
2016	8,917	0	(65,000)	(13,835)	(8,917)	0	(85,752)	0	0	0
2017	8,048	0	(65,000)	(16,095)	(8,048)	0	(89,143)	0	0	0
2018	8,856	0	(65,000)	(17,713)	(8,856)	0	(91,569)	0	0	0
2019	8,490	0	(65,000)	(16,980)	(8,490)	0	(90,471)	0	0	0
2020	5,949	0	(65,000)	(11,899)	(5,949)	0	(82,848)	0	0	0
2021	4,290	0	(65,000)	(8,579)	(4,290)	0	(77,869)	0	0	0
2022	3,112	0	(65,000)	(6,225)	(3,112)	0	(74,337)	0	0	0
2023	2,287	0	(65,000)	(4,573)	(2,287)	0	(71,860)	0	0	0
2024	1,709	0	(65,000)	(3,417)	(1,709)	0	(70,126)	0	0	0
2025	1,301	0	(65,000)	(2,602)	(1,301)	0	(68,904)	0	0	0
2026	1,010	0	(65,000)	(2,020)	(1,010)	0	(68,031)	0	0	0
2027	800	0	(65,000)	(1,600)	(800)	0	(67,399)	0	0	0
2028	646	0	(65,000)	(1,291)	(646)	0	(66,937)	0	0	0
2029	531	0	(65,000)	(1,062)	(531)	0	(66,593)	0	0	0
2030	445	0	(65,000)	(890)	(445)	0	(66,335)	0	0	0
2031	379	0	(65,000)	(759)	(379)	0	(66,138)	0	0	0
2032	329	0	(65,000)	(657)	(329)	0	(65,986)	0	0	0
2033	289	0	(65,000)	(577)	(289)	0	(65,866)	0	0	0
2034	257	0	(65,000)	(513)	(257)	0	(65,770)	0	0	0
2035	231	0	(65,000)	(461)	(231)	0	(65,692)	0	0	0
2036	209	0	(65,000)	(417)	(209)	0	(65,626)	0	0	0
2037	190	0	(65,000)	(380)	(190)	0	(65,570)	0	0	0
2038	174	0	(65,000)	(348)	(174)	0	(65,521)	0	0	0
2039	160	0	(65,000)	(319)	(160)	0	(65,479)	0	0	0
2040	0	0	0	0	0	(39,000)	(39,000)	0	0	0
2041	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>65,173</b>	<b>0</b>	<b>(1,690,000)</b>	<b>(130,346)</b>	<b>(65,173)</b>	<b>(39,000)</b>	<b>(1,924,519)</b>	<b>(360,000)</b>	<b>(270,000)</b>	<b>(630,000)</b>

**Notes:**

1.  $P_0$  and  $P_*$  have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered; and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of  $P_0$  and  $P_*$  to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

**TABLE 10**  
**GROSS POTENTIAL QUANTITIES, EXPENSES, and COSTS**  
 for the  
**MEAN TRUNCATED VOLUME**  
 as of  
**AUGUST 31, 2010**  
 for  
**KAROO GAS AUSTRALIA LTD**  
 and its subsidiary  
**KAROO PETRÓLEO & GÁS S.A.**  
 in the  
**MARUJÁ**  
**OIL PROSPECT**

(All monetary values are expressed in thousands of U.S. dollars)

Year	Potential Oil and Condensate Quantities (10 <sup>3</sup> bbl)	Potential Sales Gas Quantities (10 <sup>3</sup> ft <sup>3</sup> )	Potential Operating Expenses, 10 <sup>3</sup> U.S.\$					Potential Capital Costs, 10 <sup>3</sup> U.S.\$		
			Fixed	Variable	Transport	Abandonment	Total	Drilling	Facility	Total
2010 (Aug)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	(95,000)	0	(95,000)
2012	0	0	0	0	0	0	0	(95,000)	0	(95,000)
2013	0	0	0	0	0	0	0	(570,000)	(240,000)	(810,000)
2014	8,755	0	(65,000)	(17,510)	(8,755)	0	(91,265)	(570,000)	(180,000)	(750,000)
2015	11,084	0	(65,000)	(22,168)	(11,084)	0	(98,251)	(95,000)	(30,000)	(125,000)
2016	12,614	0	(65,000)	(25,228)	(12,614)	0	(102,842)	0	0	0
2017	13,231	0	(65,000)	(26,463)	(13,231)	0	(104,694)	0	0	0
2018	13,478	0	(65,000)	(26,956)	(13,478)	0	(105,434)	0	0	0
2019	13,864	0	(65,000)	(27,729)	(13,864)	0	(106,593)	0	0	0
2020	14,137	0	(65,000)	(28,273)	(14,137)	0	(107,410)	0	0	0
2021	13,829	0	(65,000)	(27,858)	(13,829)	0	(106,787)	0	0	0
2022	14,015	0	(65,000)	(28,030)	(14,015)	0	(107,045)	0	0	0
2023	14,224	0	(65,000)	(28,449)	(14,224)	0	(107,673)	0	0	0
2024	14,147	0	(65,000)	(28,293)	(14,147)	0	(107,440)	0	0	0
2025	14,019	0	(65,000)	(28,037)	(14,019)	0	(107,056)	0	0	0
2026	14,201	0	(65,000)	(28,402)	(14,201)	0	(107,602)	0	0	0
2027	12,566	0	(65,000)	(25,131)	(12,566)	0	(102,697)	0	0	0
2028	6,461	0	(65,000)	(12,922)	(6,461)	0	(84,383)	0	0	0
2029	3,411	0	(65,000)	(6,822)	(3,411)	0	(75,232)	0	0	0
2030	1,887	0	(65,000)	(3,774)	(1,887)	0	(70,661)	0	0	0
2031	1,090	0	(65,000)	(2,179)	(1,090)	0	(68,269)	0	0	0
2032	663	0	(65,000)	(1,326)	(663)	0	(66,988)	0	0	0
2033	430	0	(65,000)	(860)	(430)	0	(66,290)	0	0	0
2034	300	0	(65,000)	(600)	(300)	0	(65,900)	0	0	0
2035	225	0	(65,000)	(450)	(225)	0	(65,675)	0	0	0
2036	181	0	(65,000)	(362)	(181)	0	(65,543)	0	0	0
2037	150	0	(65,000)	(301)	(150)	0	(65,451)	0	0	0
2038	123	0	(65,000)	(246)	(123)	0	(65,369)	0	0	0
2039	105	0	(65,000)	(209)	(105)	0	(65,314)	0	0	0
2040	0	0	0	0	0	(45,000)	(45,000)	0	0	0
2041	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>199,288</b>	<b>0</b>	<b>(1,890,000)</b>	<b>(398,576)</b>	<b>(199,288)</b>	<b>(45,000)</b>	<b>(2,332,864)</b>	<b>(1,425,000)</b>	<b>(450,000)</b>	<b>(1,875,000)</b>

**Notes:**

1.  $P_{90}$  and  $P_{95}$  have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered; and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of  $P_{90}$  and  $P_{95}$  to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.

TABLE 20  
SUMMARY of CONCEPTUAL DEVELOPMENT PLAN ASSUMPTIONS

as of  
AUGUST 31, 2010  
for  
KAROON GAS AUSTRALIA LTD.  
and its subsidiary  
KAROON PETROLEO & GAS S.A.  
for  
CERTAIN OIL PROSPECTS  
VARIOUS LICENSE BLOCKS  
BRAZIL and PERU

Basins Prospect	Mean Estimate (10 <sup>3</sup> bbl)	Facility Capacity 10 <sup>3</sup> bbl/day	Production Life (Years)	Number of Wells	Development Well Cost Estimate (10 <sup>3</sup> U.S.\$)	Capex (\$bbl)	Fixed Opex		Opex Transport Costs	
							(10 <sup>3</sup> U.S.\$)	(10 <sup>3</sup> U.S.\$)	(U.S.\$/bbl)	(U.S.\$/bbl)
Morro da Igreja (Beta)	654,145	142	26	30	75,000	4.82	195,000	195,000	2.00	1.00
Charlie (Theta)	122,158	51	26	15	70,000	12.28	65,000	65,000	2.00	1.00
Pre-Salt	132,399	43	26	10	160,000	14.36	65,000	65,000	2.00	1.00
Pico do Jaraguá (Alpha)	382,612	125	20	24	70,000	6.27	195,000	195,000	2.00	1.00
Monte Roraima	58,160	28	26	8	65,000	13.07	65,000	65,000	2.00	1.00
Acores	175,919	34	26	25	120,000	21.32	65,000	65,000	2.00	1.00
Quasi	65,173	24	26	9	40,000	9.67	65,000	65,000	2.00	1.00
Marujá	199,288	39	26	15	95,000	9.41	65,000	65,000	2.00	1.00
A	281,557	55	26	39	35,000	9.00	65,000	65,000	2.00	1.00
B	120,799	45	26	16	30,000	7.96	65,000	65,000	2.00	1.00
G	447,066	60	26	59	30,000	7.92	65,000	65,000	2.00	1.00
B-144	93,472	22	26	64	30,000	17.76	15,000	15,000	2.00	1.00
D	116,767	43	26	27	30,000	13.87	65,000	65,000	2.00	1.00

Notes:

1. P<sub>o</sub> and P<sub>e</sub> have not been applied to the quantities, expenses, or costs in this table.
2. There is no certainty that any portion of the prospective resources summarized herein will be discovered;  
and, if discovered, there is no certainty that it will be commercially viable to produce any portion of the prospective resources estimated herein.
3. Application of P<sub>o</sub> and P<sub>e</sub> to the quantities, expenses, or costs in this table, does not in anyway equate these to reserves or contingent resources.

These data accompany the report of DeGolyer and MacNaughton and are subject to its specific conditions.