

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

REPORT
as of
JUNE 15, 2011
on the
PROSPECTIVE RESOURCES
attributable to
CERTAIN OIL PROSPECTS
owned by
CGX ENERGY INC.
in the
CORENTYNE PETROLEUM PROSPECTING LICENSE
THE REPUBLIC OF GUYANA

NI 51-101

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FOREWORD

Scope of Investigation

This report presents estimates, as of June 15, 2011, of the prospective petroleum resources of various prospects located in the Corentyne Petroleum Prospecting License of The Republic of Guyana. This report is being prepared on behalf of CGX Energy Inc. (CGX). CGX represents that it currently owns 100-percent interest in these prospects under the terms of the Petroleum Agreement and Petroleum Prospecting License issued.

CGX 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 accumulation or discovered prospect. Also, CGX intends to proceed with development and operation of any commercially viable discovered prospect. Based on these representations, we have included as prospective resources certain quantities that, if discovered, may be produced after the expiration of the current primary license.

This report has been prepared pursuant to the Canadian Securities National Instrument 51-101 Standards of Disclosure For Oil and Gas Activities Section 5.9 where the value of the properties cannot be determined on the basis of recent financial transactions related to the property, such as acquisition cost, but where the resources quantities and estimate of fair value associated with the interests of the reporting issuer are based on a professional valuator. DeGolyer and MacNaughton has been engaged by CGX to undertake the determination of such quantities. Pursuant to section 5.9 of NI 51-101 and Section 5.3.5 of COGE Handbook Volume 1:

“The range of uncertainty of estimated recoverable volumes may be represented by either deterministic scenarios, or by probabilistic distributions. Resource quantities are provided as low, best, and high estimates.”

The prospective resources in this report are expressed as gross prospective resources. Gross prospective resources are defined as the total estimated petroleum that is potentially recoverable after June 15, 2011. The prospects are located in Corentyne Petroleum Prospecting License of The Republic of Guyana.

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 and 2 summarize the estimated prospective resources for two prospects, as of June 15, 2011.

A possibility exists that the prospects will not result in successful discoveries and development, in which case there could be no future revenue. At the request of CGX, no economic analysis has been performed. 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.

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.

Authority

This report was authorized by Kerry E. Sully, Executive Chairman, CGX.

Source of Information

In the preparation of this report we have relied, without independent verification, upon information furnished by or on behalf of CGX 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 June 15, 2011

DEFINITION of PROSPECTIVE RESOURCES

Petroleum resources included in this report are classified as prospective resources and have been prepared in accordance with NI 51-101. Because of the lack of commerciality or sufficient development drilling, 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 quantities. 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 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 the mean estimate.

Uncertainties Related to Prospective Resources – The quantity of petroleum discovered by exploration drilling depends on the number of prospects that are successful as well as the quantity that each success contains. Reliable forecasts of these quantities 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 quantities for the total inventory of prospects.

Application of P_g to estimate the P_g -adjusted prospective resources quantities does not equate prospective resources with reserves or contingent resources. P_g -adjusted prospective resources quantities 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 study 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 quantity 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 mean 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.

ESTIMATION of PROSPECTIVE 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 study 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 estimated to address this uncertainty. The P_g analysis addresses the probability that the identified prospect will contain petroleum that flows at a measurable rate.

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.

Estimates of recovery efficiency presented in this report are based on regional analogues and reflect the potential range in recovery for the potential reservoirs considered in each prospect. Recovery efficiency estimates do not incorporate development or economic input and are subject to change upon selection of specific development options and costs, economic parameters, and product price scenarios.

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 as oil.

In this report, two potential accumulations (Crabwood and Kabukalli) are referred to as prospects to reflect the current stage of technical evaluation.

Quantitative Risk

Assessment and the Application of P_g 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 2.

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 quantities 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 interpretative scenarios, and sensitivity analyses.

A P_g analysis was applied to estimate the quantities 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 prospective resources and the P_g estimates, as of June 15, 2011, evaluated herein are shown in Table 1. The P_g -adjusted mean estimate of the prospective resources was then made 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 quantities does not equate prospective resources with reserves or contingent resources. P_g -adjusted estimates of prospective resources quantities 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 study, but also include data from similar geologic settings or from technological advancements that could affect the estimation of P_g . 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.

SUMMARY and CONCLUSIONS

Prospective resources in two oil prospects have been identified in Corentyne Petroleum Prospecting License of The Republic of Guyana. The prospective resources presented below are based on the statistical aggregation method. Estimates of the gross prospective oil resources, as of June 15, 2011, are summarized as follows, expressed in English units in thousands of barrels (10^3 bbl):

	<u>Low Estimate</u>	<u>Best Estimate</u>	<u>High Estimate</u>	<u>Mean Estimate</u>
Gross Prospective Oil Resources, 10^3 bbl	121,794	414,987	1,207,628	552,606

Notes:

1. Low, best, and high estimates in this table are P_{90} , P_{50} , and P_{10} , respectively.
2. P_g has not been applied to the volumes in this table.
3. Application of any geological and economic chance factor does not equate prospective resources to contingent resources or reserves.
4. Recovery efficiency is applied to prospective resources in this table.
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.

The gross P_g -adjusted mean estimate prospective oil resources, should these prospects result in successful discoveries and development, as of June 15, 2011, are summarized as follows, expressed in English units in thousands of barrels (10^3 bbl):

	<u>Mean Estimate</u>
Gross P_g -Adjusted Prospective Oil Resources, 10^3 bbl	141,693

Notes:

1. Application of any geological and economic chance factor does not equate prospective resources to contingent resources or reserves.
2. Recovery efficiency is applied to prospective resources in this table.
3. The prospective resources presented above are based on the statistical aggregation method.
4. 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

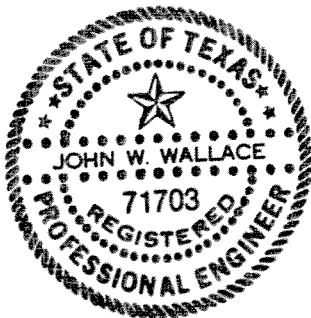
The arithmetic summation method is used to aggregate resources quantities above the field, property, or project level. The prospective resources quantities aggregated by the arithmetic summation method for the prospects evaluated in this report are presented in the prospective resources tables bound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

Submitted,

DeGolyer and MacNaughton

DeGOLYER and MacNAUGHTON
Texas Registered Engineering Firm F-716

SIGNED: June 21, 2011



A handwritten signature in black ink, appearing to read "John W. Wallace", written over a horizontal line.

John W. Wallace, P.E.
Executive 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 and estimates of PPW₁₀ at the prospect or portfolio level. Statistical aggregation yields different results.

Best (Median) Estimate – The best (median) estimate is the P₅₀ quantity. P₅₀ 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.”

Economic Multiple (EM) – See *PW/BOE*

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.

Full Wellstream Gas – Full wellstream gas is the total gas produced from the reservoir prior to processing or separation and includes all nonhydrocarbon components and the gas equivalent of condensate.

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.

Net Revenue Interest – The share of production after all royalty burdens and interests owned by others have been deducted.

P_e -adjusted Mean Estimate – The P_e -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_e -adjusted mean estimate is a “blended” quantity. It is a mean estimation of volumetric uncertainty, geologic (P_g), 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_e -adjusted best estimate is calculated as follows:

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

P_g-adjusted Mean Estimate – The P_g -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_g -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_g -adjusted mean estimate is calculated as follows:

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

P_n Nomenclature – This report uses the convention of denoting probability with a subscript representing the greater than cumulative probability distribution. As such, the notation P_n 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 at 10 percent – Potential present worth at 10 percent (PPW_{10}) is defined as potential future net revenue discounted at 10 percent compounded monthly over the expected period of realization. PPW_{10} is statistically aggregated at the prospect level. The estimation is probabilistically modeled using distributions (except NRI , P_f , and P_e , which are constants) in the following equation:

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

where: PPW_{10} = potential present worth at 10 percent – *probabilistically determined from the Monte Carlo simulation*
 P_e = probability of economic success – *constant*

TVol	=	potential gross recoverable volume, truncated, TEFS-adjusted – <i>distribution</i>
NRI	=	net revenue interest – <i>constant</i>
PW/BOE	=	present worth at 10 percent per barrel of oil equivalent (EM, economic multiple) – <i>distribution</i>
CWCE	=	completed well cost estimate – <i>distribution</i>
P _f	=	probability of economic failure – <i>constant</i>
DHC	=	dry hole cost estimate – <i>distribution</i>

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 Failure – The probability of economic failure (P_f) is defined as the probability that a given discovery will not 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_f is calculated as follows:

$$P_f = 1 - P_e$$

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.

PW/BOE – The potential present worth at 10 percent per barrel of oil equivalent is represented by a distribution in the probabilistic modeling of the PPW_{10} . The distribution is estimated from various economic assumptions, the current fiscal regime, various potential production profiles, various cost schedules, and success case (discovery) discounted cash flow analyses.

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.

Sales Gas – Sales Gas is defined as the total gas to be potentially produced from the reservoirs, measured at the point of delivery, after reduction for projected fuel usage, flare, and shrinkage resulting from field separation and processing.

Source Chance Factor – The source chance factor (P_{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: σ = standard deviation

σ^2 = variance

n = sample size

x_i = value in data set

μ = sample set mean

Statistical Aggregation – The process of probabilistically aggregating distributions that represent estimates of resources quantities at the reservoir, prospect, or portfolio level and estimates of PPW₁₀ at the 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 at 10 percent equal to zero using the mid-price scenario.

Trap Chance Factor – The trap chance factor (P_{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 statistical mean calculated from the truncation of the resources distribution by the threshold economic field size.

Truncated Volumes – The truncated volumes estimates are the resulting probabilistically determined volumes from the truncation of the prospective

resources distribution by the threshold economic field size. This truncated distribution produces a new set of statistical metrics.

Variance – The variance (σ^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 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: σ^2 = variance
 n = sample size
 x_i = value in data set
 μ = sample set mean

TABLE 1
ESTIMATE of the GROSS PROSPECTIVE OIL RESOURCES
as of
JUNE 15, 2011
for
CGX ENERGY INC.
in
CERTAIN OIL PROSPECTS
CORENTYNE PETROLEUM PROSPECTING LICENSE
THE REPUBLIC OF GUYANA

Gross Prospective Oil Resources Summary						
Prospect	Area/Basin	License/Block	Low Estimate (10 ³ bbl)	Best Estimate (10 ³ bbl)	High Estimate (10 ³ bbl)	Mean Estimate (10 ³ bbl)
Crabwood	Guyana-Suriname	Corentyne	44,900	217,794	826,809	348,814
Kabukalli	Guyana-Suriname	Corentyne	19,337	107,247	521,271	203,791
Statistical Aggregate			121,794	414,987	1,207,628	552,606
Arithmetic Summation			64,237	325,041	1,348,081	552,606
					0.269	93,761
					0.235	47,932
					0.256	141,693
					0.256	141,693

Notes:

1. Low, best, high, and mean estimates follow the PRMS guidelines for prospective resources.
2. Low, best, high, and mean estimates in this table are P_{90} , P_{50} , P_{10} , and mean respectively.
3. P_g is defined as the probability of discovering reservoirs which flow petroleum at a measurable rate.
4. P_g has been rounded for presentation purposes. Multiplication using this presented P_g may yield imprecise results. Dividing the P_g -adjusted mean estimate by the mean estimate yields the precise P_g .
5. Application of any geological and economic chance factor does not equate prospective resources to contingent resources or reserves.
6. Recovery efficiency is applied to prospective resources in this table.
7. Arithmetic summation of probabilistic estimates produces invalid results except for the mean estimate. Arithmetic summation of probabilistic estimates is presented in this table in compliance with PRMS guidelines.
8. Summations may vary from those shown here due to rounding.
9. 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.

TABLE 2
PROBABILITY DISTRIBUTIONS
for
MONTE CARLO SIMULATION
as of
JUNE 15, 2011
for
CGX ENERGY INC.
in
CERTAIN OIL PROSPECTS
CORENTYNE PETROLEUM PROSPECTING LICENSE
THE REPUBLIC OF GUYANA

Prospect	Reservoir	Parameter	P ₁₀₀	P ₉₀	P ₅₀	P ₁₀	P ₀	Mean
Crabwood	Albian Carbonate	Productive area, acres	579	3,194	12,131	37,621	61,211	16,542
		Productive area, square kilometers	2,342	12,925	49,092	152,245	247,711	66,943
		Net hydrocarbon thickness, feet	72.3	86.5	136.5	224.6	295.0	146.9
		Net hydrocarbon thickness, meters	22.0	26.4	41.6	68.5	89.9	44.8
		Porosity, decimal	0.105	0.122	0.157	0.194	0.220	0.158
		Oil saturation, decimal	0.591	0.639	0.699	0.759	0.799	0.699
		Formation volume factor, Bo	1.650	1.585	1.492	1.401	1.351	1.493
		Recovery efficiency, decimal	0.056	0.111	0.245	0.396	0.500	0.250
		Prospective OOIP, barrels	25,047,283	238,623,498	915,199,695	3,198,277,358	10,527,107,583	1,394,877,635
		Prospective gross ultimate recovery, barrels	3,814,143	44,899,663	217,793,854	826,809,074	3,012,328,719	348,814,234
Kabukallii	Albian Carbonate	Productive area, acres	497	1,384	6,256	23,916	42,035	9,664
		Productive area, square kilometers	2,011	5,601	25,319	96,786	170,109	39,111
		Net hydrocarbon thickness, feet	72.2	86.6	136.4	224.7	294.7	146.9
		Net hydrocarbon thickness, meters	22.0	26.4	41.6	68.5	89.8	44.8
		Porosity, decimal	0.105	0.122	0.157	0.194	0.220	0.158
		Oil saturation, decimal	0.590	0.639	0.699	0.759	0.799	0.699
		Formation volume factor, Bo	1.649	1.585	1.492	1.401	1.351	1.493
		Recovery efficiency, decimal	0.056	0.111	0.245	0.396	0.500	0.250
		Prospective OOIP, barrels	18,484,416	95,526,088	493,424,943	2,015,972,382	7,896,484,124	814,944,103
		Prospective gross ultimate recovery, barrels	1,916,258	19,337,073	107,247,394	521,271,471	2,318,309,072	203,791,426