DeGolyer and MacNaughton
5001 Spring Valley Road
Suite 800 East
Dallas, Texas 75244

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DeGolyer and MacNaughton
F-716
TEXAS REGISTERED ENGINEERING FIRM

DeGolyer and MacNaughton
5001 Spring Valley Road
Suite 800 East
Dallas, Texas 75244

REPORT
as of
SEPTEMBER 30, 2011
on the
PROSPECTIVE RESOURCES
attributable to
CERTAIN OIL PROSPECTS
owned by
CJSC "INVESTMENTS to RESOURCES of CRUDE HYDROCARBONS"
in
VARIOUS LICENSE BLOCKS
RUSSIA

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FOREWORD

Scope of Investigation

This report presents estimates, as of September 30, 2011, of the prospective petroleum resources of various prospects located in various license blocks in Russia. This report is being prepared on behalf of CJSC "Investments to resources of crude hydrocarbons" (Irzus). Irzus represents that it currently owns 100-percent interest in these prospects under the terms of the exploration and production licenses issued (Table P1).

Irzus 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, Irzus 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.

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 resources quantities in this report are expressed as gross prospective resources. Gross prospective resources are defined as the total estimated petroleum that is potentially recoverable after September 30, 2011. The prospects are located in various license blocks in Russia.

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 P1 and 1 through 7 summarize the estimated prospective resources for six prospects, as of September 30, 2011.

At the request of Irzus, a model was prepared to estimate potential values that might be realized from the prospective resources estimated herein should these prospective 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 at 10 percent. 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 at 10 percent. Potential present worth at 10 percent 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 September 30, 2011, after deductions for operating expenses, capital costs, taxes, and royalties. In this report, potential present worth values were estimated using a discount rate of 10 percent. Values of potential present worth at 10 percent have been estimated by field analogy, statistical analyses, and regional experience. A potential present worth at 10 percent per prospective resources quantity methodology was utilized to develop a potential present worth at 10 percent 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 at 10 percent 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 at 10 percent estimates are provided as a means of comparison to the potential present worth at 10 percent estimates of other prospective resources and do not provide a means of direct comparison to the potential present worth estimates attributable to contingent resources or the present worth estimates attributable to reserves. 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 at 10 percent 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 at 10 percent estimates presented in this report are expressed in United States dollars (U.S.$). The total failure scenario for potential present worth at 10 percent 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.

Authority

This report was authorized by O. P. Safonov, General Director, Irzus.

Source of Information

In the preparation of this report we have relied, without independent verification, upon information furnished by or on behalf of Irzus 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 September 30, 2011.

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. Because of the lack of commerciality or sufficient 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.

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.

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.

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. The P_e 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.

Estimates of recovery efficiency presented in this report incorporate potential rock and fluid properties as well as development options, costs, economic parameters, and product prices. Potential development profiles have been truncated to eliminate potential negative cash flows. Consequently, the resulting recovery efficiency may be less than the potential recovery efficiency due to these economic considerations. Recovery efficiency estimates presented herein are subject to change upon selection of economic variables different from those used in the preparation of this report.

In this report, six potential accumulations are referred to as prospects to reflect the current stage of technical evaluation. Prospective resources volumes in this report are identified herein as oil.

Quantitative Risk
<u>Assessment and the Application of P_g</u>

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 rock volume and petrophysical and engineering parameters were produced from these representations and are summarized in Tables 5 and 6.

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 September 30, 2011, evaluated herein are shown in Tables 1 and 2. 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.

Application of P_e

TEFS required for prospect economic success was 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 (zero dependency) summed and redistributed to produce the truncated, TEFS-adjusted, P_e-adjusted prospective resources estimates.

Estimates, as of September 30, 2011, of the truncated, TEFS-adjusted gross prospective resources evaluated herein are summarized in Tables 3 and 4.

Application of the P_e factor to estimate the P_e-adjusted prospective resources quantities 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 study, but also include data from similar geologic settings or technological advancements that could affect the estimation of P_e.

VALUATION of PROSPECTIVE 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 at 10 percent 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 at 10 percent 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 at 10 percent estimates an assessment of the fair market value of the properties evaluated herein.

Deterministic and probabilistic methodologies were used to estimate potential present worth at 10 percent 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.$70.45 low-price scenario, U.S.$101.13 mid-price scenario, and U.S.$131.81 high-price scenario per barrel, not escalated), potential production, depreciation, taxes, time value of money, field life, development well costs, development timing, and abandonment costs, with consideration of other factors. 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 at 10 percent per unit of resources based on three prospective resources quantity estimates: low, mode, and high. These three deterministic-based potential present worth at 10 percent per unit of resources (low, mode, and high) estimates were used to construct potential present worth per unit of volume 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 at 10 percent that could be realized for the truncated, TEFS-adjusted mean estimate prospective resources are presented after adjustment for P_e. Potential present worth at 10 percent per volume methodology was used in the quantitative risk assessment in conjunction with the truncated, TEFS-adjusted P_e-adjusted prospective resources to estimate potential present worth at 10 percent. (The Glossary of Probabilistic Terms bound with this report presents relevant equations and definitions).

The potential present worth at 10 percent per volume methodology is a probabilistic estimation. Therefore, the potential present worth at 10 percent per volume 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 at 10 percent per volume 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 at 10 percent for the truncated, TEFS-adjusted, P_e-adjusted 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 at 10 percent for the prospective resources considered the timing and costs of exploration, drilling, appraisal and development costs, and other information depending on the prospect.

Potential present worth at 10 percent estimation considers potential exploration success against potential exploration failure. Exploration success probabilistically incorporates TEFS, P_e-adjusted volumes, net ownership, and potential present worth at 10 percent per volume. Exploration failure probabilistically incorporates 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 at 10 percent to negative potential present worth at 10 percent. For example, a negative potential present worth at 10 percent could result for a prospect with a small truncated, TEFS-adjusted volume, a low P_e, a low-to-moderate positive potential present worth at 10 percent per volume, 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. Various distributions of potential present worth at 10 percent per barrel of oil equivalent were used in the simulation. For each prospect, the input modal potential present worth at 10 percent per barrel of oil equivalent is summarized in Table P1.

The estimated potential present worth at 10 percent, expressed in thousands of U.S.$, of the truncated, TEFS-adjusted, P_e-adjusted prospective resources attributable to the license area if the prospects were successfully discovered and developed, is summarized in Table 7.

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.

An estimation of PPS quantifies the inherent uncertainties associated with the probability that none of the prospects within the portfolio will result in successful discovery. The probability of failure for all prospects within the portfolio evaluated herein has been estimated to be between 30 and 40 percent. Moreover, the current set of geologic chance factors and P_g's in the portfolio results in an estimated mean number of geologic discoveries of one. This estimate assumes drilling all six prospects in the current portfolio, as well as the assumption that the critical geologic chance factors as interpreted do not significantly change due to the exploratory drilling and the resulting interpretation of the petroleum system.

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 six oil prospects have been identified in various license blocks in Russia. Estimates of the gross prospective oil resources, as of September 30, 2011, are summarized as follows, expressed in English units in thousands of barrels (10^3bbl) and metric units in thousands of metric tons (10^3mt):

	Low Estimate	Best Estimate	High Estimate	Mean Estimate
English Units				
Gross Prospective Oil Resources, 10^3bbl	63,032	109,548	202,849	122,490
Metric Units				
Gross Prospective Oil Resources, 10^3mt	8,333	14,626	27,292	16,359

Notes:
1. Low, best, and high estimates in this table are P_{90}, P_{50}, and P_{10}, respectively.
2. P_g and P_e have not been applied to the volumes in this table.
3. Application of any geological or economic chance factor does not equate prospective resources with 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.

Estimates of the gross truncated, TEFS-adjusted prospective oil resources, as of September 30, 2011, are summarized as follows, expressed in English units in thousands of barrels (10^3bbl) and metric units in thousands of metric tons (10^3mt):

	Low Estimate	Best Estimate	High Estimate	Mean Estimate
English Units				
Gross Truncated, TEFS-Adjusted Prospective Oil Resources, 10^3bbl	86,884	119,132	210,487	130,313
Metric Units				
Gross Truncated, TEFS-Adjusted Prospective Oil Resources, 10^3mt	11,486	15,905	28,320	17,403

Notes:
1. Low, best, and high estimates in this table are P_{90}, P_{50}, and P_{10}, respectively.
2. P_g and P_e have not been applied to the volumes in this table.
3. Application of any geological or economic chance factor does not equate prospective resources with 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 truncated, TEFS-adjusted, P_e-adjusted mean estimate prospective oil resources, as of September 30, 2011, are summarized as follows, expressed in English units in thousands of barrels (10^3bbl) and metric units in thousands of metric tons (10^3mt):

	Mean Estimate
English Units	
Gross Truncated, TEFS-Adjusted, P_e-Adjusted Prospective Oil Resources, 10^3bbl	16,758
Metric Units	
Gross Truncated, TEFS-Adjusted, P_e-Adjusted Prospective Oil Resources, 10^3mt	2,238

Notes:
1. Application of any geological or economic chance factor does not equate prospective resources with 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.

The following table summarizes the net potential present worth at 10 percent (100 percent net interest to Irzus), 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 at 10 percent per prospective resources quantity methodology, as of September 30, 2011, 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	27,947	44,694	71,477	47,797

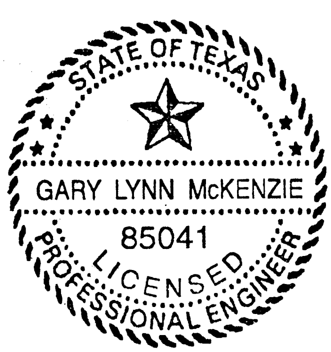
Notes:
1. Low, best, and high estimates in this table are P_{90}, P_{50}, and P_{10}, respectively.
2. Estimates of potential present worth at 10 percent for prospective resources is not comparable to present worth estimates of contingent resources or reserves.
3. Estimates of potential present worth at 10 percent for prospective resources do not consider adjustments for political and/or environmental uncertainties.
4. Estimates of the potential present worth at 10 percent for prospective resources presented above are based on the statistical aggregation method.
5. A possibility exists that the prospects will not result in successful discovery and development, in which case there would be no potential present worth at 10 percent.
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 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 prospective resources tables bound with this report.

Submitted,

DeGOLYER and MacNAUGHTON
Texas Registered Engineering Firm F-716

SIGNED: December 12, 2011



Gary L. McKenzie, 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 and estimates of PPW_{10} at the 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."

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 P90), 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 (Pmigration) 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 WI, P_f, and P_e, which are constants) in the following equation:

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

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 – *distribution*

WI = working interest – *constant*

PW/BOE = present worth at 10 percent per barrel of oil equivalent (EM, economic multiple) – *distribution*

P_f = probability of economic failure – *constant*

DHC = dry hole cost estimate – *distribution*

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. The success case discounted cash flows for the prospect(s) account for all costs, taxes, royalties, government takes, related tranches, various entitlements, discounted at 10 percent compounded monthly over the expected period of realization. Working interest is not included in this statistical metric.

Raw Natural Gas – Raw natural gas is the total gas produced from the reservoir prior to processing or separation and includes all nonhydrocarbon components as well as any gas equivalent of condensate.

Reservoir Chance Factor – The reservoir chance factor ($P_{reservoir}$) 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 PPW_{10} 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

Working Interest – Working interest prospective resources are that portion of the gross prospective resources to be potentially produced from the properties attributable to the interests owned by "Company" before deduction of any associated royalty burdens, net profits payable or government profit share. Working interest is a percentage of ownership in an oil and gas lease granting its owner the right to explore, drill and produce oil and gas from a tract of property. Working interest owners are obligated to pay a corresponding percentage of the cost of leasing, drilling, producing and operating a well or unit. The working interest also entitles its owner to share in production revenues with other working interest owners, based on the percentage of working interest owned.

TABLE P1
PROSPECT PORTFOLIO SUMMARY
as of
SEPTEMBER 30, 2011
for
CJSC "INVESTMENTS TO RESOURCES OF CRUDE HYDROCARBONS"
in
CERTAIN OIL PROSPECTS
VARIOUS LICENSE BLOCKS
RUSSIA

Prospect	Country	Area/Basin	License/Block	Threshold Economic Field Size* (10^3BOE)	Input Statistical Modal Potential Present Worth at 10% per BOE (U.S.$)	Input Statistical Modal Exploration Well Cost Estimate (10^3U.S.$)	Working Interest (decimal)	Prospect Potential Fluid
I	Russia	West Siberia	North Aramashevsky	1,532	4.01	1,700	1.00	Oil
II	Russia	West Siberia	North Aramashevsky	1,532	3.82	1,700	1.00	Oil
III	Russia	West Siberia	North/South Aramashevsky	1,532	3.24	1,700	1.00	Oil
IV	Russia	West Siberia	South Aramashevsky	1,532	3.12	1,700	1.00	Oil
VI	Russia	West Siberia	North Aramashevsky	1,532	3.62	1,700	1.00	Oil
VIII	Russia	West Siberia	South Aramashevsky	1,532	3.28	1,700	1.00	Oil

* The threshold economic field size was provided by Irzus.

DEGOLYER AND MACNAUGHTON
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TABLE 1
ESTIMATE of the GROSS PROSPECTIVE OIL RESOURCES
as of
SEPTEMBER 30, 2011
for
CJSC "INVESTMENTS TO RESOURCES OF CRUDE HYDROCARBONS"
in
CERTAIN OIL PROSPECTS
VARIOUS LICENSE BLOCKS
RUSSIA

English Units

				Gross Prospective Oil Resources Summary					
Prospect	**Country**	**Area/Basin**	**License/Block**	**Low Estimate (10^3bbl)**	**Best Estimate (10^3bbl)**	**High Estimate (10^3bbl)**	**Mean Estimate (10^3bbl)**	**Probability of Geologic Success, P_g (decimal)**	**P_g-Adjusted Mean Estimate (10^3bbl)**
I	Russia	West Siberia	North Aramashevsky	2,911	9,658	31,792	14,428	0.095	1,363
II	Russia	West Siberia	North Aramashevsky	2,073	6,604	21,286	9,666	0.095	913
III	Russia	West Siberia	North/South Aramashevsky	4,053	14,370	43,239	20,254	0.095	1,914
IV	Russia	West Siberia	South Aramashevsky	2,602	9,031	28,283	13,147	0.164	2,153
VI	Russia	West Siberia	North Aramashevsky	7,844	29,313	92,969	42,520	0.164	6,965
VIII	Russia	West Siberia	South Aramashevsky	4,758	15,546	47,186	22,475	0.164	3,681
Statistical Aggregate				**63,032**	**109,548**	**202,849**	**122,490**	**0.139**	**16,991**
Arithmetic Summation				24,240	84,522	264,755	122,490	0.139	16,991

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.

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

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TABLE 2
ESTIMATE of the GROSS PROSPECTIVE OIL RESOURCES
as of
SEPTEMBER 30, 2011
for
CJSC "INVESTMENTS TO RESOURCES OF CRUDE HYDROCARBONS"
in
CERTAIN OIL PROSPECTS
VARIOUS LICENSE BLOCKS
RUSSIA

Metric Units

				Gross Prospective Oil Resources Summary					
Prospect	**Country**	**Area/Basin**	**License/Block**	**Low Estimate (10^3mt)**	**Best Estimate (10^3mt)**	**High Estimate (10^3mt)**	**Mean Estimate (10^3mt)**	**Probability of Geologic Success, P_g (decimal)**	**P_g-Adjusted Mean Estimate (10^3mt)**
I	Russia	West Siberia	North Aramashevsky	386	1,286	4,281	1,927	0.095	182
II	Russia	West Siberia	North Aramashevsky	277	894	2,850	1,291	0.095	122
III	Russia	West Siberia	North/South Aramashevsky	540	1,933	5,856	2,705	0.095	256
IV	Russia	West Siberia	South Aramashevsky	344	1,194	3,753	1,756	0.164	288
VI	Russia	West Siberia	North Aramashevsky	1,025	3,910	12,256	5,679	0.164	930
VIII	Russia	West Siberia	South Aramashevsky	627	2,080	6,275	3,002	0.164	492
Statistical Aggregate				**8,333**	**14,626**	**27,292**	**16,359**	**0.139**	**2,269**
Arithmetic Summation				3,198	11,298	35,272	16,359	0.139	2,269

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.

DEGOLYER AND MACNAUGHTON
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TABLE 3
ESTIMATE of the GROSS PROSPECTIVE OIL RESOURCES
TRUNCATED and ADJUSTED for TEFS
as of
SEPTEMBER 30, 2011
for
CJSC "INVESTMENTS TO RESOURCES OF CRUDE HYDROCARBONS"
in
CERTAIN OIL PROSPECTS
VARIOUS LICENSE BLOCKS
RUSSIA

English Units

				Gross Truncated, TEFS-Adjusted Prospective Oil Resources Summary					
Prospect	**Country**	**Area/Basin**	**License/Block**	**Low Estimate (10^3bbl)**	**Best Estimate (10^3bbl)**	**High Estimate (10^3bbl)**	**Mean Estimate (10^3bbl)**	**Probability of Economic Success, P_e (decimal)**	**P_e-Adjusted Mean Estimate (10^3bbl)**
I	Russia	West Siberia	North Aramashevsky	3,993	10,612	33,155	15,479	0.087	1,345
II	Russia	West Siberia	North Aramashevsky	2,833	7,267	22,268	10,384	0.087	899
III	Russia	West Siberia	North/South Aramashevsky	5,587	15,532	44,704	21,442	0.088	1,887
IV	Russia	West Siberia	South Aramashevsky	3,576	9,819	29,368	13,968	0.152	2,121
VI	Russia	West Siberia	North Aramashevsky	10,919	31,751	96,161	45,095	0.153	6,885
VIII	Russia	West Siberia	South Aramashevsky	6,505	16,934	49,067	23,945	0.151	3,621
Statistical Aggregate				**86,884**	**119,132**	**210,487**	**130,313**	**0.129**	**16,758**
Arithmetic Summation				33,413	91,915	274,724	130,313	0.129	16,758

Notes:

1. TEFS is defined as the threshold economic field size.
2. Low, best, high, and mean estimates follow the PRMS guidelines for prospective resources.
3. Low, best, high, and mean estimates in this table are P_{90}, P_{50}, P_{10}, and mean respectively.
4. P_e is defined as the probability of discovering economic resources.
5. P_e has been rounded for presentation purposes. Multiplication using this presented P_e may yield imprecise results. Dividing the P_e-adjusted mean estimate by the mean estimate yields the precise P_e.
6. Application of any geological and economic chance factor does not equate prospective resources to contingent resources or reserves.
7. Recovery efficiency is applied to prospective resources in this table.
8. 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.
9. Summations may vary from those shown here due to rounding.
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.

DeGolyer and MacNaughton
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TEXAS REGISTERED ENGINEERING FIRM

TABLE 4
ESTIMATE of the GROSS PROSPECTIVE OIL RESOURCES
TRUNCATED and ADJUSTED for TEFS
as of
SEPTEMBER 30, 2011
for
CJSC "INVESTMENTS TO RESOURCES OF CRUDE HYDROCARBONS"
in
CERTAIN OIL PROSPECTS
VARIOUS LICENSE BLOCKS
RUSSIA

Metric Units

				Gross Truncated, TEFS-Adjusted Prospective Oil Resources Summary					
Prospect	Country	Area/Basin	License/Block	Low Estimate (10^3mt)	Best Estimate (10^3mt)	High Estimate (10^3mt)	Mean Estimate (10^3mt)	Probability of Economic Success, P_e (decimal)	P_e-Adjusted Mean Estimate (10^3mt)
I	Russia	West Siberia	North Aramashevsky	529	1,413	4,465	2,067	0.087	180
II	Russia	West Siberia	North Aramashevsky	378	984	2,982	1,387	0.087	120
III	Russia	West Siberia	North/South Aramashevsky	745	2,090	6,054	2,864	0.088	252
IV	Russia	West Siberia	South Aramashevsky	473	1,299	3,897	1,865	0.152	283
VI	Russia	West Siberia	North Aramashevsky	1,427	4,235	12,677	6,023	0.153	920
VIII	Russia	West Siberia	South Aramashevsky	857	2,266	6,526	3,198	0.151	484
Statistical Aggregate				**11,486**	**15,905**	**28,320**	**17,403**	**0.129**	**2,238**
Arithmetic Summation				4,408	12,287	36,600	17,403	0.129	2,238

Notes:
1. TEFS is defined as the threshold economic field size.
2. Low, best, high, and mean estimates follow the PRMS guidelines for prospective resources.
3. Low, best, high, and mean estimates in this table are P_{90}, P_{50}, P_{10}, and mean respectively.
4. P_e is defined as the probability of discovering economic resources.
5. P_e has been rounded for presentation purposes. Multiplication using this presented P_e may yield imprecise results. Dividing the P_e-adjusted mean estimate by the mean estimate yields the precise P_e.
6. Application of any geological and economic chance factor does not equate prospective resources to contingent resources or reserves.
7. Recovery efficiency is applied to prospective resources in this table.
8. 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.
9. Summations may vary from those shown here due to rounding.
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.

TABLE 5
PROBABILITY DISTRIBUTIONS
for
MONTE CARLO SIMULATION
as of
SEPTEMBER 30, 2011
for
CJSC "INVESTMENTS TO RESOURCES OF CRUDE HYDROCARBONS"
in
CERTAIN OIL PROSPECTS
VARIOUS LICENSE BLOCKS
RUSSIA

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TEXAS REGISTERED ENGINEERING FIRM

English Units

Prospect	Reservoir	Parameter	P_{100}	P_{90}	P_{50}	P_{10}	P_0	Mean
I	Vogulkinskaya	Productive area, acres	681	1,937	4,240	8,283	11,078	4,696
		Net hydrocarbon thickness, feet	3.3	5.6	12.7	28.4	45.8	15.1
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.14	0.16	0.18	0.20	0.22	0.18
		Oil saturation, decimal	0.421	0.482	0.602	0.726	0.800	0.603
		Formation volume factor, Bo	1.010	1.089	1.236	1.395	1.545	1.240
		Recovery efficiency, decimal	0.054	0.160	0.300	0.440	0.543	0.300
		Prospective OOIP, barrels	1,937,603	11,859,788	34,737,624	103,946,266	384,321,372	48,093,391
		Prospective gross ultimate recovery, barrels	219,976	2,910,739	9,657,689	31,792,213	155,634,151	14,428,017
II	Vogulkinskaya	Productive area, acres	721	1,427	2,877	5,335	7,108	3,146
		Net hydrocarbon thickness, feet	3.3	5.6	12.7	28.3	45.6	15.1
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.14	0.16	0.18	0.20	0.22	0.18
		Oil saturation, decimal	0.420	0.482	0.602	0.726	0.799	0.603
		Formation volume factor, Bo	1.011	1.089	1.236	1.395	1.550	1.240
		Recovery efficiency, decimal	0.058	0.160	0.300	0.440	0.547	0.300
		Prospective OOIP, barrels	2,236,199	8,938,310	23,173,428	66,358,312	240,165,652	32,218,367
		Prospective gross ultimate recovery, barrels	252,740	2,073,092	6,603,610	21,286,307	87,189,126	9,665,510
III	Vogulkinskaya	Productive area, acres	874	2,679	5,937	11,691	15,656	6,593
		Net hydrocarbon thickness, feet	3.3	5.6	12.7	28.3	45.6	15.1
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.14	0.16	0.18	0.20	0.22	0.18
		Oil saturation, decimal	0.420	0.482	0.602	0.726	0.800	0.603
		Formation volume factor, Bo	1.011	1.089	1.236	1.395	1.548	1.240
		Recovery efficiency, decimal	0.058	0.160	0.300	0.439	0.542	0.300
		Prospective OOIP, barrels	3,417,930	16,091,806	50,517,851	140,832,580	471,455,386	67,513,719
		Prospective gross ultimate recovery, barrels	344,741	4,053,497	14,370,258	43,238,684	133,803,183	20,254,116

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TABLE 5 – PROBABILITY DISTRIBUTIONS – *(Continued)*

English Units

Prospect	Reservoir	Parameter	P_{100}	P_{90}	P_{50}	P_{10}	P_0	Mean
IV	Vogulkinskaya	Productive area, acres	680	1,805	3,875	7,475	10,009	4,279
		Net hydrocarbon thickness, feet	3.3	5.6	12.7	28.4	45.6	15.1
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.14	0.16	0.18	0.20	0.22	0.18
		Oil saturation, decimal	0.421	0.482	0.602	0.726	0.800	0.603
		Formation volume factor, Bo	1.011	1.089	1.236	1.395	1.547	1.240
		Recovery efficiency, decimal	0.052	0.160	0.300	0.440	0.548	0.300
		Prospective OOIP, barrels	2,901,261	10,697,723	32,536,665	88,770,570	310,586,208	43,823,109
		Prospective gross ultimate recovery, barrels	436,293	2,601,635	9,030,871	28,283,425	121,724,347	13,146,933
VI	Vogulkinskaya	Productive area, acres	1,932	5,416	12,376	24,880	33,550	13,840
		Net hydrocarbon thickness, feet	3.3	5.6	12.7	28.4	45.8	15.1
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.14	0.16	0.18	0.20	0.22	0.18
		Oil saturation, decimal	0.421	0.482	0.602	0.726	0.799	0.603
		Formation volume factor, Bo	1.011	1.090	1.236	1.395	1.547	1.240
		Recovery efficiency, decimal	0.058	0.160	0.300	0.440	0.545	0.300
		Prospective OOIP, barrels	8,581,584	33,768,146	100,164,153	294,467,586	1,114,107,662	141,731,943
		Prospective gross ultimate recovery, barrels	1,963,653	7,843,662	29,313,390	92,968,780	458,895,959	42,519,583
VIII	Vogulkinskaya	Productive area, acres	1,121	3,080	6,632	12,777	17,136	7,316
		Net hydrocarbon thickness, feet	3.3	5.6	12.7	28.4	45.7	15.1
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.14	0.16	0.18	0.20	0.22	0.18
		Oil saturation, decimal	0.420	0.482	0.602	0.726	0.799	0.603
		Formation volume factor, Bo	1.011	1.090	1.236	1.395	1.547	1.240
		Recovery efficiency, decimal	0.054	0.160	0.300	0.439	0.542	0.300
		Prospective OOIP, barrels	6,053,029	18,250,231	55,014,897	157,650,162	543,492,887	74,918,319
		Prospective gross ultimate recovery, barrels	786,603	4,757,764	15,545,786	47,186,030	287,520,050	22,475,496

DeGolyer and MacNaughton F-716 Texas Registered Engineering Firm

TABLE 6
PROBABILITY DISTRIBUTIONS
for
MONTE CARLO SIMULATION
as of
SEPTEMBER 30, 2011
for
CJSC "INVESTMENTS TO RESOURCES OF CRUDE HYDROCARBONS"
in
CERTAIN OIL PROSPECTS
VARIOUS LICENSE BLOCKS
RUSSIA

Metric Units

Prospect	Reservoir	Parameter	P_{100}	P_{90}	P_{50}	P_{10}	P_0	Mean
I	Vogulkinskaya	Productive area, square kilometers	2.757	7.838	17.160	33.522	44.829	19.0
		Net hydrocarbon thickness, meters	1.0	1.7	3.9	8.6	14.0	4.6
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.14	0.16	0.18	0.20	0.22	0.18
		Oil saturation, decimal	0.421	0.482	0.602	0.726	0.800	0.603
		Formation volume factor, Bo	1.010	1.089	1.236	1.395	1.545	1.240
		Specific Gravity, grams per cubic centimeter	0.78	0.80	0.84	0.88	0.90	0.84
		Recovery efficiency, decimal	0.054	0.160	0.300	0.440	0.543	0.300
		Prospective OOIP, metric tons	262,205	1,562,792	4,638,294	13,733,513	52,391,069	6,422,918
		Prospective gross ultimate recovery, metric tons	28,397	385,703	1,286,195	4,281,221	21,537,102	1,926,875
II	Vogulkinskaya	Productive area, square kilometers	2.917	5.775	11.644	21.590	28.764	12.7
		Net hydrocarbon thickness, meters	1.0	1.7	3.9	8.6	13.9	4.6
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.14	0.16	0.18	0.20	0.22	0.18
		Oil saturation, decimal	0.420	0.482	0.602	0.726	0.799	0.603
		Formation volume factor, Bo	1.011	1.089	1.236	1.395	1.550	1.240
		Specific Gravity, grams per cubic centimeter	0.78	0.80	0.84	0.88	0.90	0.84
		Recovery efficiency, decimal	0.058	0.160	0.300	0.440	0.547	0.300
		Prospective OOIP, metric tons	293,952	1,178,039	3,088,874	8,951,108	32,125,184	4,302,794
		Prospective gross ultimate recovery, metric tons	35,450	276,618	893,994	2,850,130	11,662,645	1,290,838
III	Vogulkinskaya	Productive area, square kilometers	3.536	10.840	24.028	47.314	63.360	26.7
		Net hydrocarbon thickness, meters	1.0	1.7	3.9	8.6	13.9	4.6
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.14	0.16	0.18	0.20	0.22	0.18
		Oil saturation, decimal	0.420	0.482	0.602	0.726	0.800	0.603
		Formation volume factor, Bo	1.011	1.089	1.236	1.395	1.548	1.240
		Specific Gravity, grams per cubic centimeter	0.78	0.80	0.84	0.88	0.90	0.84
		Recovery efficiency, decimal	0.058	0.160	0.300	0.439	0.542	0.300
		Prospective OOIP, metric tons	430,991	2,176,769	6,679,873	18,579,280	64,022,166	9,016,522
		Prospective gross ultimate recovery, metric tons	46,200	540,244	1,933,356	5,855,854	18,165,521	2,704,956

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

TABLE 6 – PROBABILITY DISTRIBUTIONS – *(Continued)*

Metric Units

Prospect	Reservoir	Parameter	P_{100}	P_{90}	P_{50}	P_{10}	P_0	Mean
IV	Vogulkinskaya	Productive area, square kilometers	2.752	7.305	15.683	30.252	40.505	17.3
		Net hydrocarbon thickness, meters	1.0	1.7	3.9	8.7	13.9	4.6
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.14	0.16	0.18	0.20	0.22	0.18
		Oil saturation, decimal	0.421	0.482	0.602	0.726	0.800	0.603
		Formation volume factor, Bo	1.011	1.089	1.236	1.395	1.547	1.240
		Specific Gravity, grams per cubic centimeter	0.78	0.80	0.84	0.88	0.90	0.84
		Recovery efficiency, decimal	0.052	0.160	0.300	0.440	0.548	0.300
		Prospective OOIP, metric tons	372,444	1,422,129	4,324,207	11,920,225	43,448,513	5,852,618
		Prospective gross ultimate recovery, metric tons	59,040	343,827	1,194,269	3,752,780	17,028,257	1,755,785
VI	Vogulkinskaya	Productive area, square kilometers	7.818	21.917	50.085	100.686	135.773	56.0
		Net hydrocarbon thickness, meters	1.0	1.7	3.9	8.6	14.0	4.6
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.14	0.16	0.18	0.20	0.22	0.18
		Oil saturation, decimal	0.421	0.482	0.602	0.726	0.799	0.603
		Formation volume factor, Bo	1.011	1.090	1.236	1.395	1.547	1.240
		Specific Gravity, grams per cubic centimeter	0.78	0.80	0.84	0.88	0.90	0.84
		Recovery efficiency, decimal	0.058	0.160	0.300	0.440	0.545	0.300
		Prospective OOIP, metric tons	1,195,628	4,454,583	13,404,384	40,015,743	138,683,393	18,928,436
		Prospective gross ultimate recovery, metric tons	258,444	1,024,778	3,910,174	12,256,053	58,033,440	5,678,531
VIII	Vogulkinskaya	Productive area, square kilometers	4.537	12.465	26.837	51.708	69.348	29.6
		Net hydrocarbon thickness, meters	1.0	1.7	3.9	8.7	13.9	4.6
		Geometric correction factor, decimal	1.00	1.00	1.00	1.00	1.00	1.00
		Porosity, decimal	0.14	0.16	0.18	0.20	0.22	0.18
		Oil saturation, decimal	0.420	0.482	0.602	0.726	0.799	0.603
		Formation volume factor, Bo	1.011	1.090	1.236	1.395	1.547	1.240
		Specific Gravity, grams per cubic centimeter	0.78	0.80	0.84	0.88	0.90	0.84
		Recovery efficiency, decimal	0.054	0.160	0.300	0.439	0.542	0.300
		Prospective OOIP, metric tons	845,384	2,515,983	7,356,048	20,832,208	75,044,430	10,005,413
		Prospective gross ultimate recovery, metric tons	104,040	626,786	2,080,158	6,275,470	39,837,665	3,001,624

DeGolyer and MacNaughton F-716 TEXAS REGISTERED ENGINEERING FIRM

TABLE 7
POTENTIAL PRESENT WORTH at 10 PERCENT
of the
NET PROSPECTIVE OIL RESOURCES
TRUNCATED, TEFS-ADJUSTED, and P_e-ADJUSTED
as of
SEPTEMBER 30, 2011
for
CJSC "INVESTMENTS TO RESOURCES OF CRUDE HYDROCARBONS"
in
CERTAIN OIL PROSPECTS
VARIOUS LICENSE BLOCKS
RUSSIA

				Truncated, TEFS-Adjusted, P_e-Adjusted, Net Oil Resources Potential Present Worth Summary			
Prospect	**Country**	**Area/Basin**	**License/Block**	**Low Estimate (10^3 U.S.$)**	**Best Estimate (10^3 U.S.$)**	**High Estimate (10^3 U.S.$)**	**Mean Estimate (10^3 U.S.$)**
I	Russia	West Siberia	North Aramashevsky	1,365	3,066	6,887	3,742
II	Russia	West Siberia	North Aramashevsky	699	1,571	3,529	1,918
III	Russia	West Siberia	North/South Aramashevsky	1,596	3,584	8,051	4,375
IV	Russia	West Siberia	South Aramashevsky	1,913	4,297	9,653	5,246
VI	Russia	West Siberia	North Aramashevsky	8,189	18,395	41,321	22,454
VIII	Russia	West Siberia	South Aramashevsky	3,670	8,243	18,516	10,062
Statistical Aggregate				**27,947**	**44,694**	**71,477**	**47,797**
Arithmetic Summation				17,432	39,157	87,958	47,797

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. 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.
4. Recovery efficiency is applied to prospective resources in this table.
5. Negative values are denoted with parentheses.
6. Potential present worth in this table refers to CJSC "Investments to Resources of Crude Hydrocarbons" net interest.
7. The potential present worth quantities in this table do not represent a fair market value evaluation.
8. Estimates of potential present worth at 10 percent for prospective resources do not consider adjustments for political and/or environmental uncertainties.
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 prospective resources.
13. Summations may vary from those shown here due to rounding.
14. 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.