

December 19, 2014

Mr. Scott C. Larsen  
Park Place Energy Corp.  
2200 Ross Avenue, Suite 4500E  
Dallas, Texas 75201

Dear Mr. Larsen:

In accordance with your request, we have estimated the unrisks gross (100 percent) prospective resources, as of September 30, 2014, for certain coalbed methane (CBM) prospective formations located in the Vranino 1-11 License, Dobrudja Basin, Bulgaria. It is our understanding that Park Place Energy Corp. (PPEC) owns a 100 percent working interest in these prospective formations. We completed our evaluation on or about the date of this letter. Prospective resources are those quantities of petroleum which are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. It should be understood that potentially significant quantities of coal are known to be present in the project area; however, without sufficient gas content and coal permeability data, this area is considered an undiscovered CBM opportunity and the gas volumes are classified as prospective resources rather than contingent resources. A geologic risk assessment was performed for these prospective formations, as discussed in subsequent paragraphs. This report does not include economic analysis for these prospective formations. Based on analogous field developments, it appears that, assuming a CBM discovery is made, the unrisks best estimate prospective resources in this report have a reasonable chance of being economically viable. The estimates in this report have been prepared in accordance with the definitions and guidelines set forth in the 2007 Petroleum Resources Management System (PRMS) approved by the Society of Petroleum Engineers (SPE); definitions are presented immediately following this letter.

Totals of unrisks prospective resources beyond the prospect and lead levels are not reflective of volumes that can be expected to be recovered and are shown for convenience only. Because of the geologic risk associated with each prospect and lead, meaningful totals beyond these levels can be defined only by summing risks prospective resources. Such risk is often significant.

We estimate the unrisks gross (100 percent) prospective gas resources for these CBM prospective formations, as of September 30, 2014, to be:

Prospective Formations	Unrisks Gross (100%) Prospective Gas Resources <sup>(1)</sup> (BCF)		
	Low Estimate	Best Estimate	High Estimate
Macedonka	66.0	260.4	491.5
Mogilishte	64.4	312.4	757.4
Total	130.4	572.8	1,248.9

<sup>(1)</sup> PPEC owns a 100 percent working interest in these prospective formations.

Gas volumes are expressed in billions of cubic feet (BCF) at standard temperature and pressure bases.

The prospective resources shown in this report have been estimated using deterministic methods and are dependent on a CBM discovery being made. If a discovery is made and development is undertaken, the approximate probability that the recoverable volumes will equal or exceed the unrisks estimated amounts is

generally inferred to be 90 percent for the low estimate, 50 percent for the best estimate, and 10 percent for the high estimate.

Unrisked prospective resources for CBM prospective formations are estimated ranges of recoverable gas volumes assuming their discovery and development and are based on estimated ranges of in-place volumes. Geologic risking of prospective resources addresses the probability of success for the discovery of a significant quantity of potentially moveable petroleum; this risk analysis is conducted independent of estimations of petroleum volumes and without regard to the chance of development. For CBM prospective formations, principal geologic risk elements include coal quantity, gas content, and coal permeability. Development risking of prospective resources for CBM accumulations should include consideration of whether the entire area addressed by the assessment can and will be developed; this component is generally unique to CBM prospective formations because of the thickness and areal extent and the wide variability in rock, gas content, and production characteristics across that areal extent. For CBM prospective formations, principal development risk elements are reservoir quality across the evaluated acreage, development and application of technology needed to commercially produce the acreage, and the ability to depressure the reservoir over a reasonable period of time (all categorized herein as "gas producibility") and financial, marketing, legal, social, and governmental factors that contribute to project commercial conditions along with a reasonable expectation of a commitment to develop the acreage (both categorized herein as "economic recovery"). Risk assessment is a highly subjective process dependent upon the experience and judgment of the evaluators and is subject to revision with further data acquisition or interpretation. Included in this report is a discussion of the primary geologic and development risk elements.

Data from coal exploration wells have helped to determine the lateral continuity and volume of coal for identifying potentially attractive target areas. However, there still exists a wide range of uncertainties regarding gas content and permeability of the coals across these areas. PPEC has developed an exploration plan for near-term exploration wells to determine the gas content and producibility of coals targeted for CBM production. If exploration results are favorable, pilot projects will be required to determine if permeability and producibility are adequate to justify future commercial development.

This report includes a Technical Discussion followed by pertinent figures.

For the purposes of this report, we did not perform any field inspection of the prospective formations. We have not investigated possible environmental liability related to the prospective formations.

It should be understood that the prospective resources discussed and shown herein are those highly speculative resources estimated beyond reserves or contingent resources where geological and geophysical data suggest the potential for discovery of producible CBM but where the level of proof is insufficient for classification as reserves or contingent resources. The unrisked prospective gas resources shown in this report are the range of volumes that could reasonably be expected to be recovered in the event of the discovery and development of these prospective formations.

For the purposes of this report, we used technical data including, but not limited to, coal properties, gas content and composition data, well logs, geologic maps, seismic data, well test data, production data, and property ownership interests. The resources in this report have been estimated using deterministic methods; these estimates have been prepared in accordance with generally accepted petroleum engineering and evaluation principles set forth in the Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information promulgated by the SPE (SPE Standards). We used standard engineering and geoscience methods, or a combination of methods, including volumetric analysis and analogy, that we considered to be appropriate and necessary to classify, categorize, and estimate volumes in accordance with the 2007 PRMS definitions and guidelines. As in all aspects of oil and gas evaluation, there are uncertainties inherent in the interpretation of engineering and geoscience data; therefore, our conclusions necessarily represent only informed professional judgment.

The data used in our estimates were obtained from PPEC, public data sources, and the nonconfidential files of Netherland, Sewell & Associates, Inc. and were accepted as accurate. Supporting work data are on file in our office. We have not examined the contractual rights to the prospective formations or independently confirmed the actual degree or type of interest owned. The technical persons responsible for preparing the estimates presented herein meet the requirements regarding qualifications, independence, objectivity, and confidentiality set forth in the SPE Standards. We are independent petroleum engineers, geologists, geophysicists, and petrophysicists; we do not own an interest in these prospective formations nor are we employed on a contingent basis.

Sincerely,

**NETHERLAND, SEWELL & ASSOCIATES, INC.**  
Texas Registered Engineering Firm F-2699

/s/ C.H. (Scott) Rees III

By:

C.H. (Scott) Rees III, P.E.  
Chairman and Chief Executive Officer

/s/ Richard B. Talley, Jr.

By:

Richard B. Talley, Jr., P.E. 102425  
Vice President

/s/ David E. Nice

By:

David E. Nice, P.G. 346  
Vice President

Date Signed: December 19, 2014

Date Signed: December 19, 2014

RBT:TML

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## PETROLEUM RESERVES AND RESOURCES CLASSIFICATION AND DEFINITIONS

Excerpted from the Petroleum Resources Management System Approved by the Society of Petroleum Engineers (SPE) Board of Directors, March 2007

This document contains information excerpted from definitions and guidelines prepared by the Oil and Gas Reserves Committee of the Society of Petroleum Engineers (SPE) and reviewed and jointly sponsored by the World Petroleum Council (WPC), the American Association of Petroleum Geologists (AAPG), and the Society of Petroleum Evaluation Engineers (SPEE).

### Preamble

Petroleum resources are the estimated quantities of hydrocarbons naturally occurring on or within the Earth's crust. Resource assessments estimate total quantities in known and yet-to-be-discovered accumulations; resources evaluations are focused on those quantities that can potentially be recovered and marketed by commercial projects. A petroleum resources management system provides a consistent approach to estimating petroleum quantities, evaluating development projects, and presenting results within a comprehensive classification framework.

These definitions and guidelines are designed to provide a common reference for the international petroleum industry, including national reporting and regulatory disclosure agencies, and to support petroleum project and portfolio management requirements. They are intended to improve clarity in global communications regarding petroleum resources. It is expected that this document will be supplemented with industry education programs and application guides addressing their implementation in a wide spectrum of technical and/or commercial settings.

It is understood that these definitions and guidelines allow flexibility for users and agencies to tailor application for their particular needs; however, any modifications to the guidance contained herein should be clearly identified. The definitions and guidelines contained in this document must not be construed as modifying the interpretation or application of any existing regulatory reporting requirements.

### 1.0 Basic Principles and Definitions

The estimation of petroleum resource quantities involves the interpretation of volumes and values that have an inherent degree of uncertainty. These quantities are associated with development projects at various stages of design and implementation. Use of a consistent classification system enhances comparisons between projects, groups of projects, and total company portfolios according to forecast production profiles and recoveries. Such a system must consider both technical and commercial factors that impact the project's economic feasibility, its productive life, and its related cash flows.

#### 1.1 Petroleum Resources Classification Framework

Petroleum is defined as a naturally occurring mixture consisting of hydrocarbons in the gaseous, liquid, or solid phase. Petroleum may also contain non-hydrocarbons, common examples of which are carbon dioxide, nitrogen, hydrogen sulfide and sulfur. In rare cases, non-hydrocarbon content could be greater than 50%.

The term "resources" as used herein is intended to encompass all quantities of petroleum naturally occurring on or within the Earth's crust, discovered and undiscovered (recoverable and unrecoverable), plus those quantities already produced. Further, it includes all types of petroleum whether currently considered "conventional" or "unconventional."

Figure 1-1 is a graphical representation of the SPE/WPC/AAPG/SPEE resources classification system. The system defines the major recoverable resources classes: Production, Reserves, Contingent Resources, and Prospective Resources, as well as Unrecoverable petroleum.

The "Range of Uncertainty" reflects a range of estimated quantities potentially recoverable from an accumulation by a project, while the vertical axis represents the "Chance of

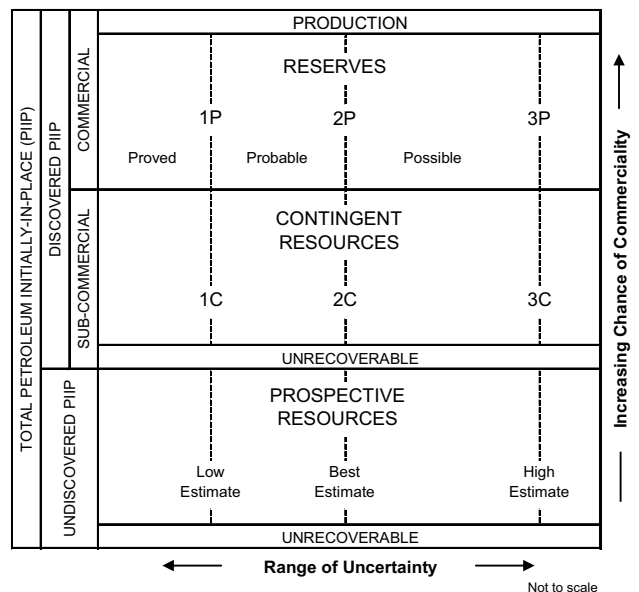


Figure 1-1: Resources Classification Framework.

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Commerciality", that is, the chance that the project that will be developed and reach commercial producing status. The following definitions apply to the major subdivisions within the resources classification:

**TOTAL PETROLEUM INITIALLY-IN-PLACE** is that quantity of petroleum that is estimated to exist originally in naturally occurring accumulations. It includes that quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations prior to production plus those estimated quantities in accumulations yet to be discovered (equivalent to "total resources").

**DISCOVERED PETROLEUM INITIALLY-IN-PLACE** is that quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations prior to production.

**PRODUCTION** is the cumulative quantity of petroleum that has been recovered at a given date. While all recoverable resources are estimated and production is measured in terms of the sales product specifications, raw production (sales plus non-sales) quantities are also measured and required to support engineering analyses based on reservoir voidage (see Production Measurement, section 3.2).

Multiple development projects may be applied to each known accumulation, and each project will recover an estimated portion of the initially-in-place quantities. The projects shall be subdivided into Commercial and Sub-Commercial, with the estimated recoverable quantities being classified as Reserves and Contingent Resources respectively, as defined below.

**RESERVES** are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must further satisfy four criteria: they must be discovered, recoverable, commercial, and remaining (as of the evaluation date) based on the development project(s) applied. Reserves are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by development and production status.

**CONTINGENT RESOURCES** are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations, but the applied project(s) are not yet considered mature enough for commercial development due to one or more contingencies. Contingent Resources may include, for example, projects for which there are currently no viable markets, or where commercial recovery is dependent on technology under development, or where evaluation of the accumulation is insufficient to clearly assess commerciality. Contingent Resources are further categorized in accordance with the level of certainty associated with the estimates and may be subclassified based on project maturity and/or characterized by their economic status.

**UNDISCOVERED PETROLEUM INITIALLY-IN-PLACE** is that quantity of petroleum estimated, as of a given date, to be contained within accumulations yet to be discovered.

**PROSPECTIVE RESOURCES** are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective Resources have both an associated chance of discovery and a chance of development. Prospective Resources are further subdivided in accordance with the level of certainty associated with recoverable estimates assuming their discovery and development and may be sub-classified based on project maturity.

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

Estimated Ultimate Recovery (EUR) is not a resources category, but a term that may be applied to any accumulation or group of accumulations (discovered or undiscovered) to define those quantities of petroleum estimated, as of a given date, to be potentially recoverable under defined technical and commercial conditions plus those quantities already produced (total of recoverable resources).

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### 1.2 Project-Based Resources Evaluations

The resources evaluation process consists of identifying a recovery project, or projects, associated with a petroleum accumulation(s), estimating the quantities of Petroleum Initially-in-Place, estimating that portion of those in-place quantities that can be recovered by each project, and classifying the project(s) based on its maturity status or chance of commerciality.

This concept of a project-based classification system is further clarified by examining the primary data sources contributing to an evaluation of net recoverable resources (see Figure 1-2) that may be described as follows:

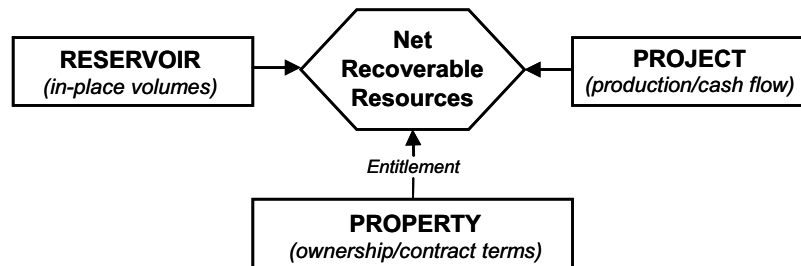


Figure 1-2: Resources Evaluation Data Sources.

- The Reservoir (accumulation): Key attributes include the types and quantities of Petroleum Initially-in-Place and the fluid and rock properties that affect petroleum recovery.
- The Project: Each project applied to a specific reservoir development generates a unique production and cash flow schedule. The time integration of these schedules taken to the project's technical, economic, or contractual limit defines the estimated recoverable resources and associated future net cash flow projections for each project. The ratio of EUR to Total Initially-in-Place quantities defines the ultimate recovery efficiency for the development project(s). A project may be defined at various levels and stages of maturity; it may include one or many wells and associated production and processing facilities. One project may develop many reservoirs, or many projects may be applied to one reservoir.
- The Property (lease or license area): Each property may have unique associated contractual rights and obligations including the fiscal terms. Such information allows definition of each participant's share of produced quantities (entitlement) and share of investments, expenses, and revenues for each recovery project and the reservoir to which it is applied. One property may encompass many reservoirs, or one reservoir may span several different properties. A property may contain both discovered and undiscovered accumulations.

In context of this data relationship, "project" is the primary element considered in this resources classification, and net recoverable resources are the incremental quantities derived from each project. Project represents the link between the petroleum accumulation and the decision-making process. A project may, for example, constitute the development of a single reservoir or field, or an incremental development for a producing field, or the integrated development of several fields and associated facilities with a common ownership. In general, an individual project will represent the level at which a decision is made whether or not to proceed (i.e., spend more money) and there should be an associated range of estimated recoverable quantities for that project.

An accumulation or potential accumulation of petroleum may be subject to several separate and distinct projects that are at different stages of exploration or development. Thus, an accumulation may have recoverable quantities in several resource classes simultaneously.

In order to assign recoverable resources of any class, a development plan needs to be defined consisting of one or more projects. Even for Prospective Resources, the estimates of recoverable quantities must be stated in terms of the sales products derived from a development program assuming successful discovery and commercial development. Given the major uncertainties involved at this early stage, the development program will not be of the detail expected in later stages of maturity. In most cases, recovery efficiency may be largely based on analogous projects. In-place quantities for which a feasible project cannot be defined using current, or reasonably forecast improvements in, technology are classified as Unrecoverable.

Not all technically feasible development plans will be commercial. The commercial viability of a development project is dependent on a forecast of the conditions that will exist during the time period encompassed by the project's activities (see

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Commercial Evaluations, section 3.1). "Conditions" include technological, economic, legal, environmental, social, and governmental factors. While economic factors can be summarized as forecast costs and product prices, the underlying influences include, but are not limited to, market conditions, transportation and processing infrastructure, fiscal terms, and taxes.

The resource quantities being estimated are those volumes producible from a project as measured according to delivery specifications at the point of sale or custody transfer (see Reference Point, section 3.2.1). The cumulative production from the evaluation date forward to cessation of production is the remaining recoverable quantity. The sum of the associated annual net cash flows yields the estimated future net revenue. When the cash flows are discounted according to a defined discount rate and time period, the summation of the discounted cash flows is termed net present value (NPV) of the project (see Evaluation and Reporting Guidelines, section 3.0).

The supporting data, analytical processes, and assumptions used in an evaluation should be documented in sufficient detail to allow an independent evaluator or auditor to clearly understand the basis for estimation and categorization of recoverable quantities and their classification.

## 2.0 Classification and Categorization Guidelines

### 2.1 Resources Classification

The basic classification requires establishment of criteria for a petroleum discovery and thereafter the distinction between commercial and sub-commercial projects in known accumulations (and hence between Reserves and Contingent Resources).

#### 2.1.1 Determination of Discovery Status

A discovery is one petroleum accumulation, or several petroleum accumulations collectively, for which one or several exploratory wells have established through testing, sampling, and/or logging the existence of a significant quantity of potentially moveable hydrocarbons.

In this context, "significant" implies that there is evidence of a sufficient quantity of petroleum to justify estimating the in-place volume demonstrated by the well(s) and for evaluating the potential for economic recovery. Estimated recoverable quantities within such a discovered (known) accumulation(s) shall initially be classified as Contingent Resources pending definition of projects with sufficient chance of commercial development to reclassify all, or a portion, as Reserves. Where in-place hydrocarbons are identified but are not considered currently recoverable, such quantities may be classified as Discovered Unrecoverable, if considered appropriate for resource management purposes; a portion of these quantities may become recoverable resources in the future as commercial circumstances change or technological developments occur.

#### 2.1.2 Determination of Commerciality

Discovered recoverable volumes (Contingent Resources) may be considered commercially producible, and thus Reserves, if the entity claiming commerciality has demonstrated firm intention to proceed with development and such intention is based upon all of the following criteria:

- Evidence to support a reasonable timetable for development.
- A reasonable assessment of the future economics of such development projects meeting defined investment and operating criteria.
- A reasonable expectation that there will be a market for all or at least the expected sales quantities of production required to justify development.
- Evidence that the necessary production and transportation facilities are available or can be made available.
- Evidence that legal, contractual, environmental and other social and economic concerns will allow for the actual implementation of the recovery project being evaluated.

To be included in the Reserves class, a project must be sufficiently defined to establish its commercial viability. There must be a reasonable expectation that all required internal and external approvals will be forthcoming, and there is evidence of firm intention to proceed with development within a reasonable time frame. A reasonable time frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While 5 years is recommended as a benchmark, a longer time frame could be applied where, for example, development of economic projects are deferred at the option of the producer for, among other things, market-related reasons, or to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented.

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To be included in the Reserves class, there must be a high confidence in the commercial producibility of the reservoir as supported by actual production or formation tests. In certain cases, Reserves may be assigned on the basis of well logs and/or core analysis that indicate that the subject reservoir is hydrocarbon-bearing and is analogous to reservoirs in the same area that are producing or have demonstrated the ability to produce on formation tests.

### 2.2 Resources Categorization

The horizontal axis in the Resources Classification (Figure 1.1) defines the range of uncertainty in estimates of the quantities of recoverable, or potentially recoverable, petroleum associated with a project. These estimates include both technical and commercial uncertainty components as follows:

- The total petroleum remaining within the accumulation (in-place resources).
- That portion of the in-place petroleum that can be recovered by applying a defined development project or projects.
- Variations in the commercial conditions that may impact the quantities recovered and sold (e.g., market availability, contractual changes).

Where commercial uncertainties are such that there is significant risk that the complete project (as initially defined) will not proceed, it is advised to create a separate project classified as Contingent Resources with an appropriate chance of commerciality.

#### 2.2.1 Range of Uncertainty

The range of uncertainty of the recoverable and/or potentially recoverable volumes may be represented by either deterministic scenarios or by a probability distribution (see Deterministic and Probabilistic Methods, section 4.2).

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

- There should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the low estimate.
- There should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the best estimate.
- There should be at least a 10% probability (P10) that the quantities actually recovered will equal or exceed the high estimate.

When using the deterministic scenario method, typically there should also be low, best, and high estimates, where such estimates are based on qualitative assessments of relative uncertainty using consistent interpretation guidelines. Under the deterministic incremental (risk-based) approach, quantities at each level of uncertainty are estimated discretely and separately (see Category Definitions and Guidelines, section 2.2.2).

These same approaches to describing uncertainty may be applied to Reserves, Contingent Resources, and Prospective Resources. While there may be significant risk that sub-commercial and undiscovered accumulations will not achieve commercial production, it is useful to consider the range of potentially recoverable quantities independently of such a risk or consideration of the resource class to which the quantities will be assigned.

#### 2.2.2 Category Definitions and Guidelines

Evaluators may assess recoverable quantities and categorize results by uncertainty using the deterministic incremental (risk-based) approach, the deterministic scenario (cumulative) approach, or probabilistic methods (see "2001 Supplemental Guidelines," Chapter 2.5). In many cases, a combination of approaches is used.

Use of consistent terminology (Figure 1.1) promotes clarity in communication of evaluation results. For Reserves, the general cumulative terms low/best/high estimates are denoted as 1P/2P/3P, respectively. The associated incremental quantities are termed Proved, Probable and Possible. Reserves are a subset of, and must be viewed within context of, the complete resources classification system. While the categorization criteria are proposed specifically for Reserves, in most cases, they can be equally applied to Contingent and Prospective Resources conditional upon their satisfying the criteria for discovery and/or development.



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For Contingent Resources, the general cumulative terms low/best/high estimates are denoted as 1C/2C/3C respectively. For Prospective Resources, the general cumulative terms low/best/high estimates still apply. No specific terms are defined for incremental quantities within Contingent and Prospective Resources.

Without new technical information, there should be no change in the distribution of technically recoverable volumes and their categorization boundaries when conditions are satisfied sufficiently to reclassify a project from Contingent Resources to Reserves. All evaluations require application of a consistent set of forecast conditions, including assumed future costs and prices, for both classification of projects and categorization of estimated quantities recovered by each project (see Commercial Evaluations, section 3.1).

Based on additional data and updated interpretations that indicate increased certainty, portions of Possible and Probable Reserves may be re-categorized as Probable and Proved Reserves.

Uncertainty in resource estimates is best communicated by reporting a range of potential results. However, if it is required to report a single representative result, the "best estimate" is considered the most realistic assessment of recoverable quantities. It is generally considered to represent the sum of Proved and Probable estimates (2P) when using the deterministic scenario or the probabilistic assessment methods. It should be noted that under the deterministic incremental (risk-based) approach, discrete estimates are made for each category, and they should not be aggregated without due consideration of their associated risk (see "2001 Supplemental Guidelines," Chapter 2.5).

**Table 1: Recoverable Resources Classes and Sub-Classes**

Class/Sub-Class	Definition	Guidelines
<b>Reserves</b>	Reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions.	<p>Reserves must satisfy four criteria: they must be discovered, recoverable, commercial, and remaining based on the development project(s) applied. Reserves are further subdivided in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by their development and production status.</p> <p>To be included in the Reserves class, a project must be sufficiently defined to establish its commercial viability. There must be a reasonable expectation that all required internal and external approvals will be forthcoming, and there is evidence of firm intention to proceed with development within a reasonable time frame.</p> <p>A reasonable time frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While 5 years is recommended as a benchmark, a longer time frame could be applied where, for example, development of economic projects are deferred at the option of the producer for, among other things, market-related reasons, or to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented.</p> <p>To be included in the Reserves class, there must be a high confidence in the commercial producibility of the reservoir as supported by actual production or formation tests. In certain cases, Reserves may be assigned on the basis of well logs and/or core analysis that indicate that the subject reservoir is hydrocarbon-bearing and is analogous to reservoirs in the same area that are producing or have demonstrated the ability to produce on formation tests.</p>
On Production	The development project is currently producing and selling petroleum to market.	<p>The key criterion is that the project is receiving income from sales, rather than the approved development project necessarily being complete. This is the point at which the project "chance of commerciality" can be said to be 100%.</p> <p>The project "decision gate" is the decision to initiate commercial production from the project.</p>

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<b>Class/Sub-Class</b>	<b>Definition</b>	<b>Guidelines</b>
Approved for Development	All necessary approvals have been obtained, capital funds have been committed, and implementation of the development project is under way.	At this point, it must be certain that the development project is going ahead. The project must not be subject to any contingencies such as outstanding regulatory approvals or sales contracts. Forecast capital expenditures should be included in the reporting entity's current or following year's approved budget.  The project "decision gate" is the decision to start investing capital in the construction of production facilities and/or drilling development wells.
Justified for Development	Implementation of the development project is justified on the basis of reasonable forecast commercial conditions at the time of reporting, and there are reasonable expectations that all necessary approvals/contracts will be obtained.	In order to move to this level of project maturity, and hence have reserves associated with it, the development project must be commercially viable at the time of reporting, based on the reporting entity's assumptions of future prices, costs, etc. ("forecast case") and the specific circumstances of the project. Evidence of a firm intention to proceed with development within a reasonable time frame will be sufficient to demonstrate commerciality. There should be a development plan in sufficient detail to support the assessment of commerciality and a reasonable expectation that any regulatory approvals or sales contracts required prior to project implementation will be forthcoming. Other than such approvals/contracts, there should be no known contingencies that could preclude the development from proceeding within a reasonable timeframe (see Reserves class).  The project "decision gate" is the decision by the reporting entity and its partners, if any, that the project has reached a level of technical and commercial maturity sufficient to justify proceeding with development at that point in time.
<b>Contingent Resources</b>	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.	Contingent Resources may include, for example, projects for which there are currently no viable markets, or where commercial recovery is dependent on technology under development, or where evaluation of the accumulation is insufficient to clearly assess commerciality. Contingent Resources are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by their economic status.
Development Pending	A discovered accumulation where project activities are ongoing to justify commercial development in the foreseeable future.	The project is seen to have reasonable potential for eventual commercial development, to the extent that further data acquisition (e.g. drilling, seismic data) and/or evaluations are currently ongoing with a view to confirming that the project is commercially viable and providing the basis for selection of an appropriate development plan. The critical contingencies have been identified and are reasonably expected to be resolved within a reasonable time frame. Note that disappointing appraisal/evaluation results could lead to a re-classification of the project to "On Hold" or "Not Viable" status.  The project "decision gate" is the decision to undertake further data acquisition and/or studies designed to move the project to a level of technical and commercial maturity at which a decision can be made to proceed with development and production.
Development Unclarified or on Hold	A discovered accumulation where project activities are on hold and/or where justification as a commercial development may be subject to significant delay.	The project is seen to have potential for eventual commercial development, but further appraisal/evaluation activities are on hold pending the removal of significant contingencies external to the project, or substantial further appraisal/evaluation activities are required to clarify the potential for eventual commercial development. Development may be subject to a significant time delay. Note that a change in circumstances, such that there is no longer a reasonable expectation that a critical contingency can be removed in the foreseeable future, for example, could lead to a reclassification of the project to "Not Viable" status.  The project "decision gate" is the decision to either proceed with additional evaluation designed to clarify the potential for eventual commercial development or to temporarily suspend or delay further activities pending resolution of external contingencies.

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Class/Sub-Class	Definition	Guidelines
Development Not Viable	A discovered accumulation for which there are no current plans to develop or to acquire additional data at the time due to limited production potential.	The project is not seen to have potential for eventual commercial development at the time of reporting, but the theoretically recoverable quantities are recorded so that the potential opportunity will be recognized in the event of a major change in technology or commercial conditions.  The project "decision gate" is the decision not to undertake any further data acquisition or studies on the project for the foreseeable future.
<b>Prospective Resources</b>	Those quantities of petroleum which are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations.	Potential accumulations are evaluated according to their chance of discovery and, assuming a discovery, the estimated quantities that would be recoverable under defined development projects. It is recognized that the development programs will be of significantly less detail and depend more heavily on analog developments in the earlier phases of exploration.
Prospect	A project associated with a potential accumulation that is sufficiently well defined to represent a viable drilling target.	Project activities are focused on assessing the chance of discovery and, assuming discovery, the range of potential recoverable quantities under a commercial development program.
Lead	A project associated with a potential accumulation that is currently poorly defined and requires more data acquisition and/or evaluation in order to be classified as a prospect.	Project activities are focused on acquiring additional data and/or undertaking further evaluation designed to confirm whether or not the lead can be matured into a prospect. Such evaluation includes the assessment of the chance of discovery and, assuming discovery, the range of potential recovery under feasible development scenarios.
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.	Project activities are focused on acquiring additional data and/or undertaking further evaluation designed to define specific leads or prospects for more detailed analysis of their chance of discovery and, assuming discovery, the range of potential recovery under hypothetical development scenarios.

**Table 2: Reserves Status Definitions and Guidelines**

Status	Definition	Guidelines
<b>Developed Reserves</b>	Developed Reserves are expected quantities to be recovered from existing wells and facilities.	Reserves are considered developed only after the necessary equipment has been installed, or when the costs to do so are relatively minor compared to the cost of a well. Where required facilities become unavailable, it may be necessary to reclassify Developed Reserves as Undeveloped. Developed Reserves may be further sub-classified as Producing or Non-Producing.
Developed Producing Reserves	Developed Producing Reserves are expected to be recovered from completion intervals that are open and producing at the time of the estimate.	Improved recovery reserves are considered producing only after the improved recovery project is in operation.
Developed Non-Producing Reserves	Developed Non-Producing Reserves include shut-in and behind-pipe Reserves.	Shut-in Reserves are expected to be recovered from (1) completion intervals which are open at the time of the estimate but which have not yet started producing, (2) wells which were shut-in for market conditions or pipeline connections, or (3) wells not capable of production for mechanical reasons. Behind-pipe Reserves are expected to be recovered from zones in existing wells which will require additional completion work or future re-completion prior to start of production.  In all cases, production can be initiated or restored with relatively low expenditure compared to the cost of drilling a new well.

**PETROLEUM RESERVES AND RESOURCES CLASSIFICATION AND DEFINITIONS**

Excerpted from the Petroleum Resources Management System Approved by  
the Society of Petroleum Engineers (SPE) Board of Directors, March 2007

Status	Definition	Guidelines
<b>Undeveloped Reserves</b>	Undeveloped Reserves are quantities expected to be recovered through future investments:	(1) from new wells on undrilled acreage in known accumulations, (2) from deepening existing wells to a different (but known) reservoir, (3) from infill wells that will increase recovery, or (4) where a relatively large expenditure (e.g. when compared to the cost of drilling a new well) is required to (a) recomplete an existing well or (b) install production or transportation facilities for primary or improved recovery projects.

**Table 3: Reserves Category Definitions and Guidelines**

Category	Definition	Guidelines
<b>Proved Reserves</b>	Proved Reserves are those quantities of petroleum, which by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods, and government regulations.	<p>If deterministic methods are used, the term reasonable certainty is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate.</p> <p>The area of the reservoir considered as Proved includes (1) the area delineated by drilling and defined by fluid contacts, if any, and (2) adjacent undrilled portions of the reservoir that can reasonably be judged as continuous with it and commercially productive on the basis of available geoscience and engineering data.</p> <p>In the absence of data on fluid contacts, Proved quantities in a reservoir are limited by the lowest known hydrocarbon (LKH) as seen in a well penetration unless otherwise indicated by definitive geoscience, engineering, or performance data. Such definitive information may include pressure gradient analysis and seismic indicators. Seismic data alone may not be sufficient to define fluid contacts for Proved reserves (see "2001 Supplemental Guidelines," Chapter 8).</p> <p>Reserves in undeveloped locations may be classified as Proved provided that:</p> <ul style="list-style-type: none"> <li>• The locations are in undrilled areas of the reservoir that can be judged with reasonable certainty to be commercially productive.</li> <li>• Interpretations of available geoscience and engineering data indicate with reasonable certainty that the objective formation is laterally continuous with drilled Proved locations.</li> </ul> <p>For Proved Reserves, the recovery efficiency applied to these reservoirs should be defined based on a range of possibilities supported by analogs and sound engineering judgment considering the characteristics of the Proved area and the applied development program.</p>
<b>Probable Reserves</b>	Probable Reserves are those additional Reserves which analysis of geoscience and engineering data indicate are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves.	<p>It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the 2P estimate.</p> <p>Probable Reserves may be assigned to areas of a reservoir adjacent to Proved where data control or interpretations of available data are less certain. The interpreted reservoir continuity may not meet the reasonable certainty criteria.</p> <p>Probable estimates also include incremental recoveries associated with project recovery efficiencies beyond that assumed for Proved.</p>

**PETROLEUM RESERVES AND RESOURCES CLASSIFICATION AND DEFINITIONS**

Excerpted from the Petroleum Resources Management System Approved by  
the Society of Petroleum Engineers (SPE) Board of Directors, March 2007

Category	Definition	Guidelines
<b>Possible Reserves</b>	Possible Reserves are those additional reserves which analysis of geoscience and engineering data indicate are less likely to be recoverable than Probable Reserves.	<p>The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P), which is equivalent to the high estimate scenario. When probabilistic methods are used, there should be at least a 10% probability that the actual quantities recovered will equal or exceed the 3P estimate.</p> <p>Possible Reserves may be assigned to areas of a reservoir adjacent to Probable where data control and interpretations of available data are progressively less certain. Frequently, this may be in areas where geoscience and engineering data are unable to clearly define the area and vertical reservoir limits of commercial production from the reservoir by a defined project.</p> <p>Possible estimates also include incremental quantities associated with project recovery efficiencies beyond that assumed for Probable.</p>
<b>Probable and Possible Reserves</b>	(See above for separate criteria for Probable Reserves and Possible Reserves.)	<p>The 2P and 3P estimates may be based on reasonable alternative technical and commercial interpretations within the reservoir and/or subject project that are clearly documented, including comparisons to results in successful similar projects.</p> <p>In conventional accumulations, Probable and/or Possible Reserves may be assigned where geoscience and engineering data identify directly adjacent portions of a reservoir within the same accumulation that may be separated from Proved areas by minor faulting or other geological discontinuities and have not been penetrated by a wellbore but are interpreted to be in communication with the known (Proved) reservoir. Probable or Possible Reserves may be assigned to areas that are structurally higher than the Proved area. Possible (and in some cases, Probable) Reserves may be assigned to areas that are structurally lower than the adjacent Proved or 2P area.</p> <p>Caution should be exercised in assigning Reserves to adjacent reservoirs isolated by major, potentially sealing, faults until this reservoir is penetrated and evaluated as commercially productive. Justification for assigning Reserves in such cases should be clearly documented. Reserves should not be assigned to areas that are clearly separated from a known accumulation by non-productive reservoir (i.e., absence of reservoir, structurally low reservoir, or negative test results); such areas may contain Prospective Resources.</p> <p>In conventional accumulations, where drilling has defined a highest known oil (HKO) elevation and there exists the potential for an associated gas cap, Proved oil Reserves should only be assigned in the structurally higher portions of the reservoir if there is reasonable certainty that such portions are initially above bubble point pressure based on documented engineering analyses. Reservoir portions that do not meet this certainty may be assigned as Probable and Possible oil and/or gas based on reservoir fluid properties and pressure gradient interpretations.</p>

The 2007 Petroleum Resources Management System can be viewed in its entirety at  
<http://www.spe.org/spe-app/spe/industry/reserves/prms.htm>.

TECHNICAL DISCUSSION  
MACEDONKA AND MOGILISHTE PROSPECTIVE FORMATIONS  
VRANINO 1-11 LICENSE, DOBRUDJA BASIN, BULGARIA  
PARK PLACE ENERGY CORP.  
AS OF SEPTEMBER 30, 2014

## OVERVIEW

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As requested, Netherland, Sewell & Associates, Inc. has estimated the unrisks gross (100 percent) prospective resources, as of September 30, 2014, for certain coalbed methane (CBM) prospective formations located in the Vranino 1-11 License, Dobrudja Basin, Bulgaria. It is our understanding that Park Place Energy Corp. (PPEC) owns a 100 percent working interest in these prospective formations. The Vranino 1-11 License covers an area of approximately 417 square kilometers and is situated just north of the city of Kavarna, Bulgaria, as shown in Figure 1.

The estimates in this report have been prepared in accordance with the definitions and guidelines set forth in the 2007 Petroleum Resources Management System approved by the Society of Petroleum Engineers. It should be understood that potentially significant quantities of coal are known to be present in the project area; however, without sufficient gas content and coal permeability data, this area is considered an undiscovered CBM opportunity and the gas volumes are classified as prospective resources rather than contingent resources.

## GEOLOGY AND RESERVOIR CHARACTERIZATION

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The Dobrudja Basin is a Carboniferous basin located in northeastern Bulgaria. The Vranino 1-11 License is on the Vranino Horst Block within the Dobrudja Basin. The Vranino Horst Block is defined by the Kavarna Depression to the east, the Intra-Moesian-Silistrian fault system to the north, the Bezdovitzza Depression to the west, and the Bezdovitzza-Selchantzi fault system to the south.

The principal formations of interest for CBM development in the Dobrudja Basin are the Macedonka and Mogilishte Formations of Upper Carboniferous age. These formations are shown on the stratigraphic column in Figure 2. The Mogilishte Formation is older and deeper than the Macedonka Formation and is prospective in much of the eastern portion of the license where it is shallower due to uplift along the Vranino Fault. The Mogilishte Formation has over 40 coal seams with thicknesses varying from approximately 1 to 2 meters. The Macedonka coals are well developed in the western and central portions of the license and are at depths more conducive to gas production. The coals in this license were deposited in interfluvial and lacustrine environments. The Macedonka Formation contains 12 coal seams with individual seams ranging in thickness from approximately 1 to 10 meters. The coal rank of the Macedonka and Mogilishte coals in the Dobrudja Basin is medium-volatile bituminous to high-volatile bituminous, with rank affected by depth of burial. The coals of the Macedonka and Mogilishte Formations are characterized by moderate to high ash content, with an average of 27.0 percent, and by low moisture content, with an average of 2.8 percent. They have an average density of 1.55 grams per cubic centimeter (g/cc) and a moderate to high vitrinite content.

Information concerning permeability is critical for determining gas flow rates and the potential for economic gas rates. Well tests are required to determine permeability. Pilot well testing is required to demonstrate that economic producing rates can be achieved and that the coals can be successfully dewatered. Two injection fall-off tests were done on the Vranino 1 well in 2005 but were unsuccessful. Further testing was not accomplished because the lease expired. No pilot test data were available for this study to determine if the wells could flow at economic rates. Therefore, the potentially recoverable volumes have been classified as prospective resources and have been estimated based on data from analogous coal seams.

EVALUATION METHODOLOGY

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Available Data

Data for this evaluation were supplied by PPEC. The data included various third-party reports on historical estimates of original gas-in-place (OGIP) or coal tonnage, well logs, daily reports from the drilling operations for the Vranino 1 well, a core sample analysis, seismic data, a Petrel project with interpretations of Overgas Inc. AD (Overgas), a report from Overgas prepared for PPEC, log files from drilling, gas desorption and adsorption analyses for the Vranino 1 well, and many gas content tests for wells from pre-2005 drilling campaigns. We reviewed the seismic interpretation and analyzed the log data and gas content data. Other regional data related to operations in the area were also provided.

Original Gas-in-Place

Data for 125 wells were utilized in this study. We tabulated low, best, and high estimates of net coal thickness using thickness cutoffs of 1.0, 0.4, and 0.0 meters, respectively, for all coals in the logged portion of the wells in the Macedonka and Mogilishte intervals. Pressure was calculated at each coal. As shown in the graphs in Figures 3 and 4, low, best, and high estimate gas content curves were developed. These curves were used to estimate in-place gas content for each coal based on different Langmuir volumes and pressures. These curves represent the average gas content of all the coals at various depths and pressures.

The graphs in Figures 3 and 4 also show adsorption curves. The V1 adsorption curves are based on the average of two tests in the Macedonka Formation and one test in the Mogilishte Formation from cuttings from the Vranino 1 well. All points on the graphs are dry-ash free. The adsorption curves show the theoretical amount of gas a coal can hold and are used to determine the degree of undersaturation of the coals when compared with the desorped values. The desorption values from the Vranino 1 well are from cutting samples and are the sum of the calculated lost gas (Q1) and the desorped gas (Q2). No residual gas (Q3) measurements were done on the cuttings. Typically, all the desorped values, Q1+Q2+Q3, are used to determine the amount of desorped gas in a coal sample. The desorption data from the pre-2005 wells were obtained using three different methodologies: a downhole core sampler with a canister that sampled Q1 and Q2, canister gas that sampled Q2 and some Q3, and a downhole gas sampler that should have measured Q1 and some Q2 depending upon how fast the gas desorps from the coal. We believe that these gas contents are minimums, because none of the tests used all the required volumes of Q1, Q2, and Q3.

Low, best, and high estimates of OGIP were calculated for each coal in each well using densities of 1.52, 1.55, and 1.57 g/cc, respectively. The individual OGIP calculations for each coal in each well were summed for the Macedonka and Mogilishte intervals and then mapped in Z-MAP Plus. Maps showing the best estimate OGIP for the Macedonka and Mogilishte Formations are included as Figures 5 and 6. On-lease volumes were determined and are presented below.

We estimate the undiscovered OGIP for the Vranino 1-11 License, as of September 30, 2014, to be:

Prospective Formations	Undiscovered OGIP (BCF)		
	Low Estimate	Best Estimate	High Estimate
Macedonka	220.0	520.8	702.1
Mogilishte	214.6	624.7	1,082.0
Total	434.6	1,145.5	1,784.1

Gas volumes are expressed in billions of cubic feet (BCF) at standard temperature and pressure bases.

Recovery Factors

Drainage area, net coal thickness, gas-in-place, and ultimate recovery must be estimated to fully evaluate and determine the recovery factor. Because of the limited data available and the resulting indeterminate nature of these parameters, there is uncertainty in the overall estimation of the recovery factor. Our analysis of the range of recovery factors for the Vranino 1-11 License coals was largely based on our understanding of the range of recoveries in existing developed commercial CBM plays elsewhere in the world. Low, best, and high estimate recovery factors of 30, 50, and 70 percent, respectively, were used for this evaluation.

PROSPECTIVE RESOURCES

Prospective resources are those quantities of petroleum which are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. It should be understood that potentially significant quantities of coal are known to be present in the project area; however, without sufficient gas content and coal permeability data, this area is considered an undiscovered CBM opportunity and the gas volumes are classified as prospective resources rather than contingent resources.

Totals of unrisks prospective resources beyond the prospect and lead levels are not reflective of volumes that can be expected to be recovered and are shown for convenience only. Because of the geologic risk associated with each prospect and lead, meaningful totals beyond these levels can be defined only by summing risked prospective resources. Such risk is often significant.

We estimate the unrisks gross (100 percent) prospective gas resources for these CBM prospective formations, as of September 30, 2014, to be:

<u>Prospective Formations</u>	<u>Unrisks Gross (100%) Prospective Gas Resources</u> <sup>(1)</sup> (BCF)		
	<u>Low Estimate</u>	<u>Best Estimate</u>	<u>High Estimate</u>
Macedonka	66.0	260.4	491.5
Mogilishte	64.4	312.4	757.4
Total	130.4	572.8	1,248.9

<sup>(1)</sup> PPEC owns a 100 percent working interest in these prospective formations.

PROJECT RISK ANALYSIS

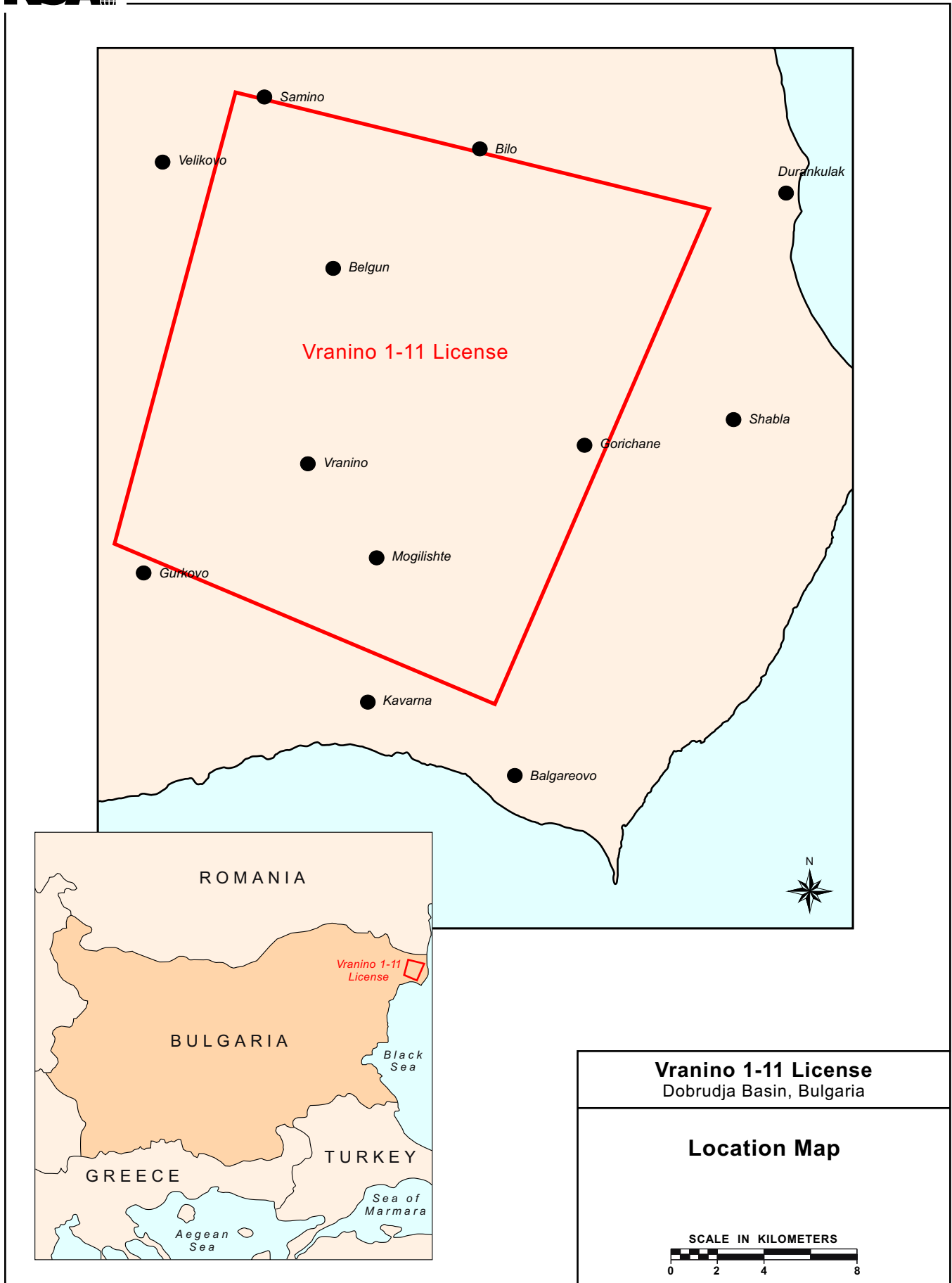
Unrisks prospective resources for CBM prospective formations are estimated ranges of recoverable gas volumes assuming their discovery and development and are based on estimated ranges of in-place volumes. Geologic risking of prospective resources addresses the probability of success for the discovery of a significant quantity of potentially moveable petroleum; this risk analysis is conducted independent of estimations of petroleum volumes and without regard to the chance of development. For CBM prospective formations, principal geologic risk elements include coal quantity, gas content, and coal permeability. Development risking of prospective resources for CBM accumulations should include consideration of whether the entire area addressed by the assessment can and will be developed; this component is generally unique to CBM prospective formations because of the thickness and areal extent and the wide variability in rock, gas content, and production characteristics across that areal extent. For CBM prospective formations, principal development risk elements



are reservoir quality across the evaluated acreage, development and application of technology needed to commercially produce the acreage, and the ability to depressure the reservoir over a reasonable period of time (all categorized herein as "gas producibility") and financial, marketing, legal, social, and governmental factors that contribute to project commercial conditions along with a reasonable expectation of a commitment to develop the acreage (both categorized herein as "economic recovery"). Risk assessment is a highly subjective process dependent upon the experience and judgment of the evaluators and is subject to revision with further data acquisition or interpretation.

The geologic and development risk elements and overall probability of commerciality for the Vranino 1-11 License are shown in the following table:

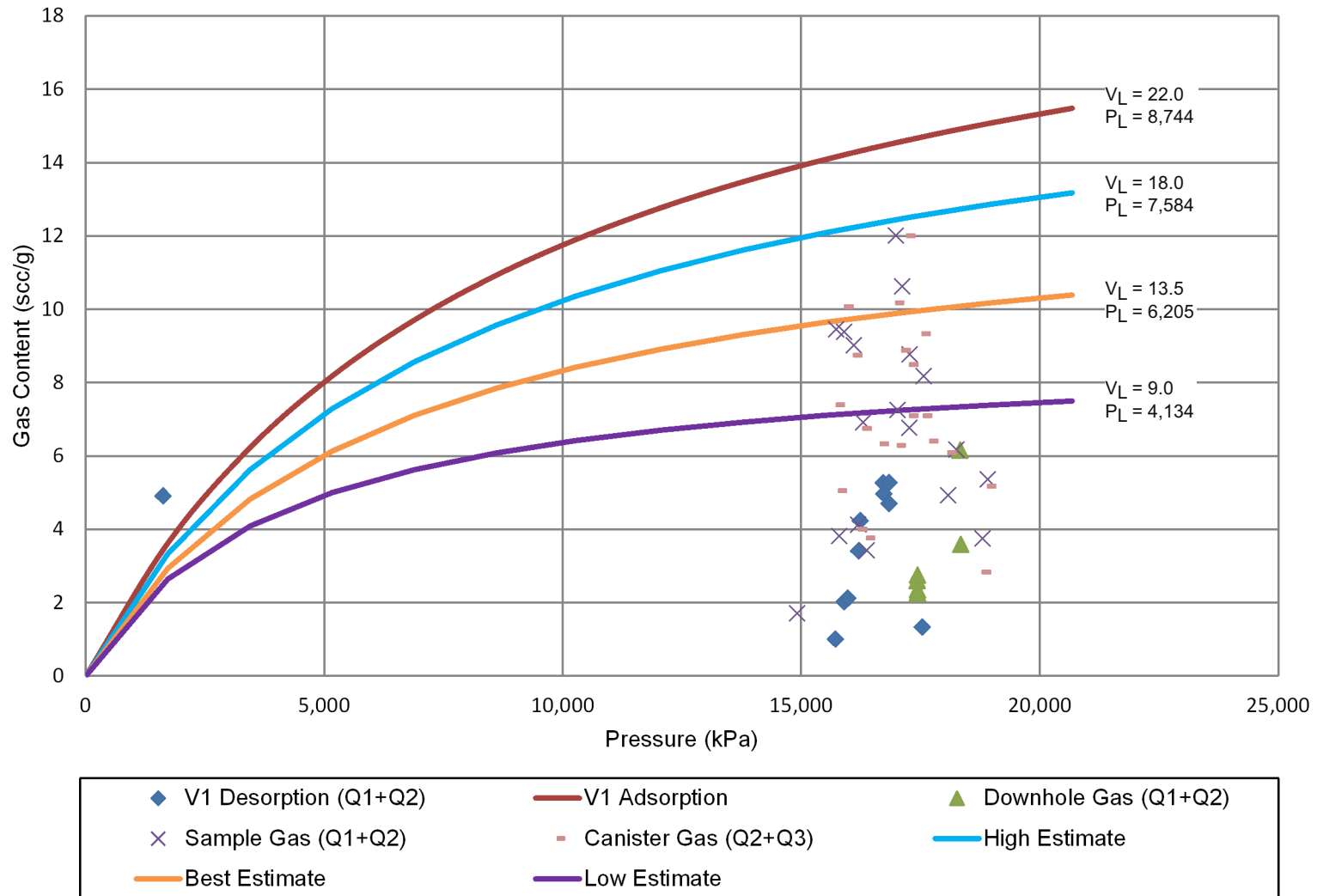
Risk Elements	Probability of Success (%)
Geologic Risk	
Coal Quantity	100
Gas Content	90
Coal Permeability	40
Overall Geologic Risk	36
Development Risk	
Gas Producibility and Economic Recovery	75
Probability of Commerciality	27



Stratigraphic Column  
Namurian-Stephanian Section  
Carboniferous System  
Dobrudja Basin, Bulgaria

Scale m	Age	Main Coal-Bearing Formations
1,500	Stephanian	
1,400		
1,300	Westphalian D	Gurkovo
1,200		
1,100		Krupen
1,000	Bolsovia	
900		Macedonka
800		
700	Duckmantian	Vranino
600		
500	Langsettian	
400		
300		Mogilishte
200		
100		
0	N C	
	NA	

GAS CONTENT VERSUS PRESSURE  
MACEDONKA FORMATION  
DOBRUDJA BASIN, BULGARIA

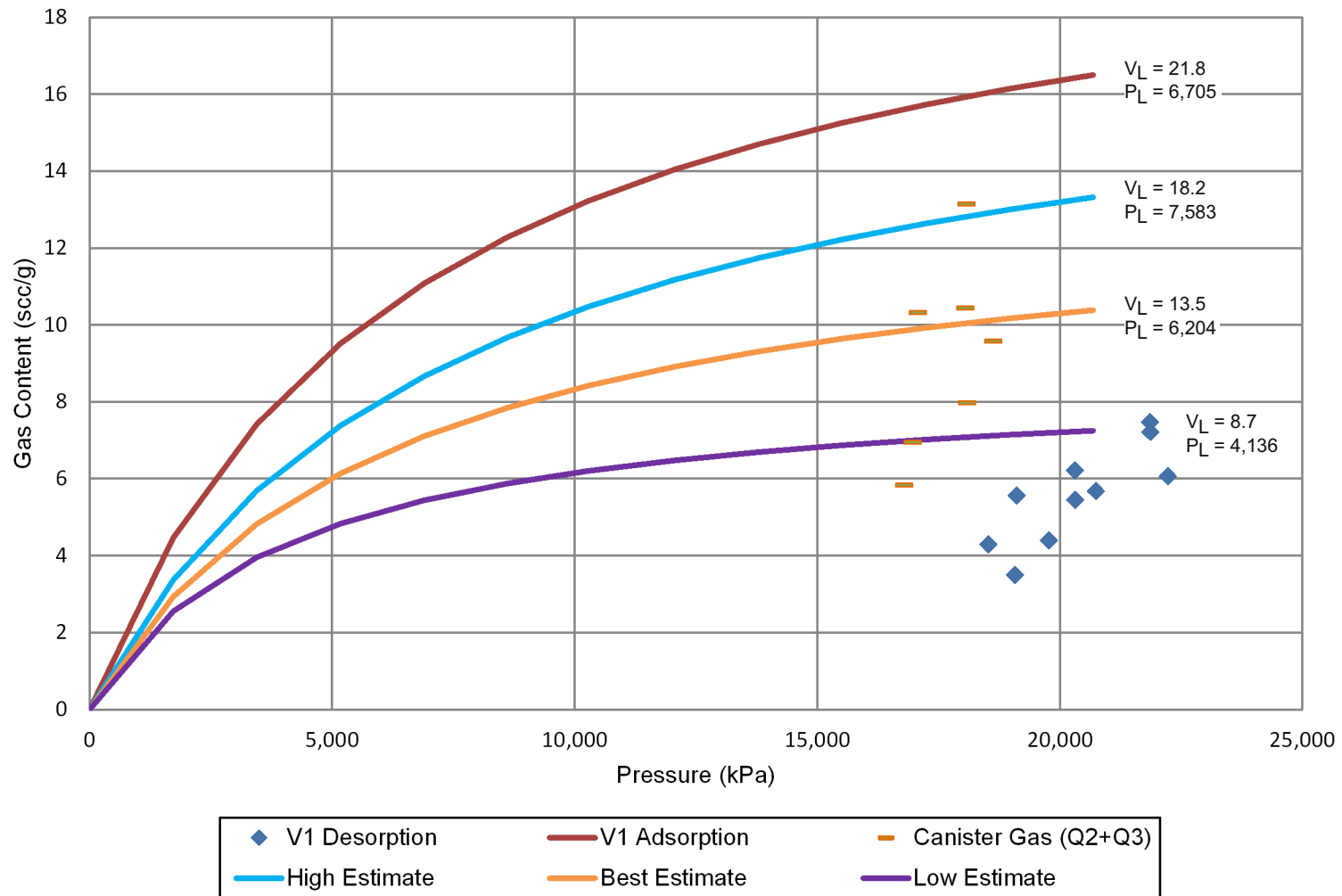


Abbreviations used in this figure are standard cubic centimeters per gram (scc/g), kiloPascal (kPa), Langmuir Volume ( $V_L$ ), and Langmuir Pressure ( $P_L$ ).

Figure 3

All estimates and exhibits herein are part of this NSAI report and are subject to its parameters and conditions.

GAS CONTENT VERSUS PRESSURE  
MOGILISHTE FORMATION  
DOBRUDJA BASIN, BULGARIA



Abbreviations used in this figure are standard cubic centimeters per gram (scc/g), kiloPascal (kPa), Langmuir Volume ( $V_L$ ), and Langmuir Pressure ( $P_L$ ).

Figure 4

All estimates and exhibits herein are part of this NSAI report and are subject to its parameters and conditions.

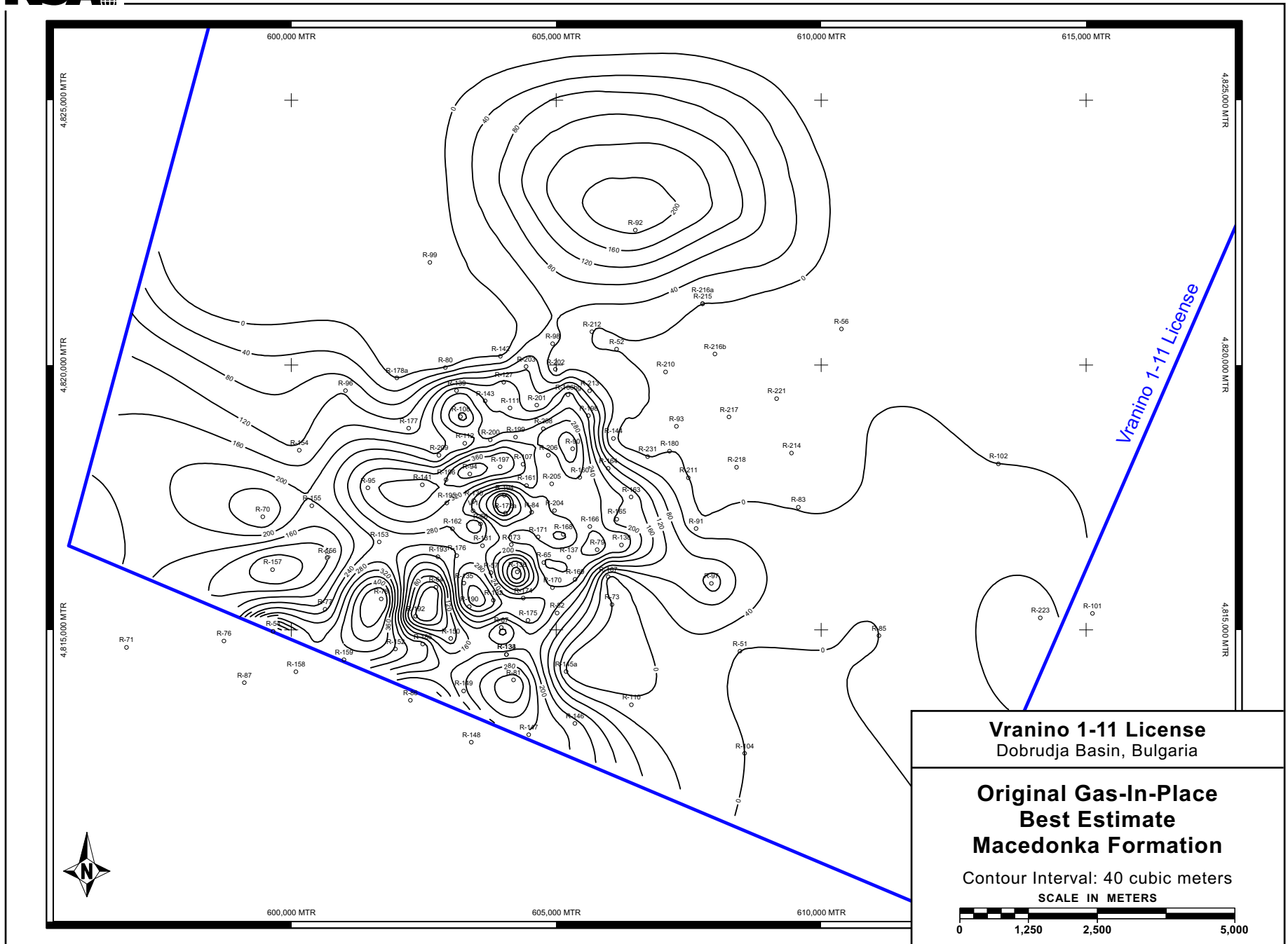


Figure 5

All estimates and exhibits herein are part of this NSAI report and are subject to its parameters and conditions.

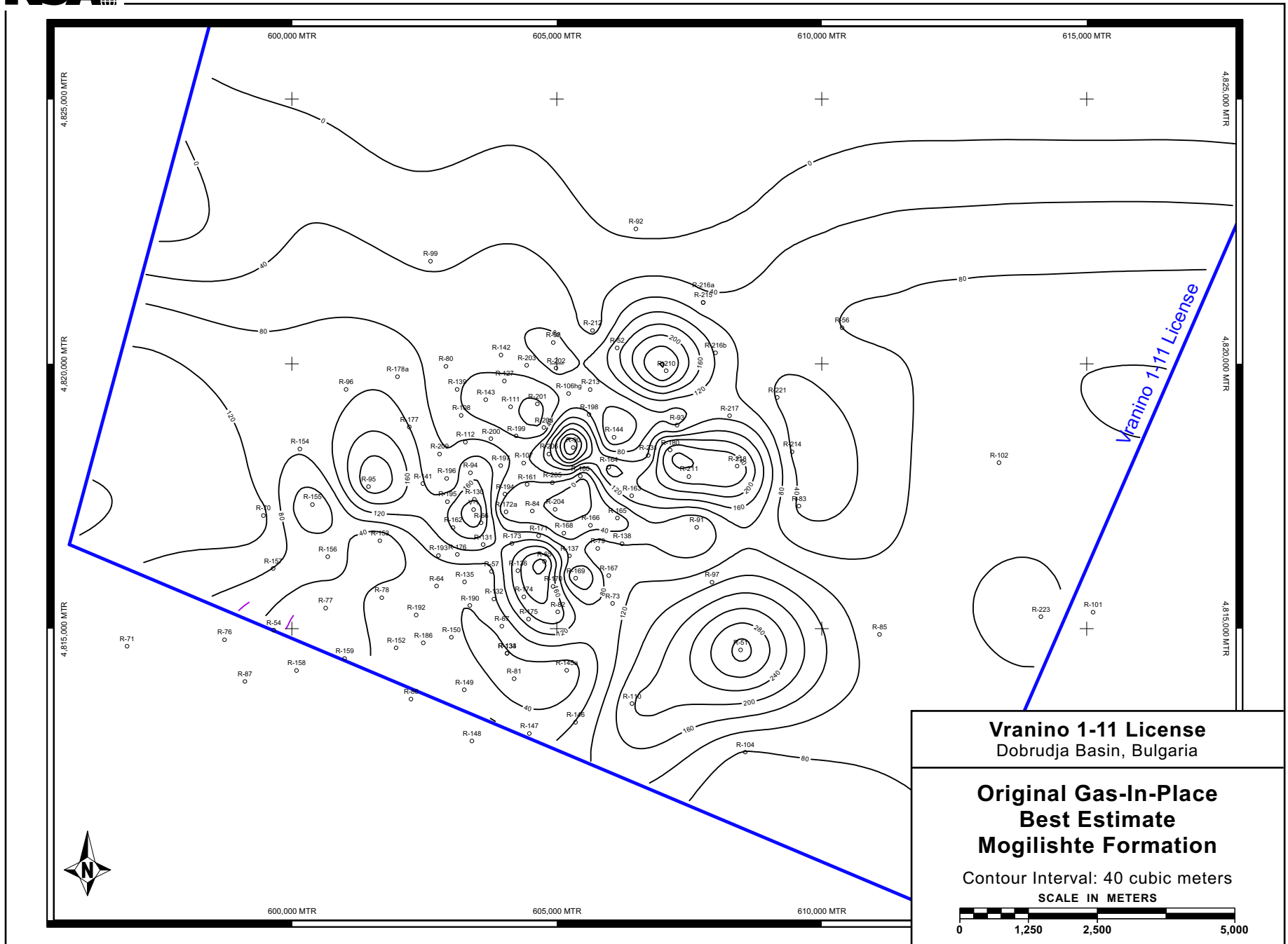


Figure 6

All estimates and exhibits herein are part of this NSAI report and are subject to its parameters and conditions.