

DATED 8<sup>TH</sup> DAY OF FEBRUARY 2005

PETROLEUM LICENCE CE2/04

DEPARTMENT OF ENTERPRISE, TRADE AND INVESTMENT

AND

CONNAUGHT ENERGY LTD

COMMENCING ON 31 DECEMBER 2004

1. **THIS LICENCE** made the 8<sup>TH</sup> day of ~~FEBRUARY~~ two thousand and four BETWEEN THE DEPARTMENT OF ENTERPRISE, TRADE AND INVESTMENT (hereinafter called "the Department" which expression shall where the context so requires or admits include its successors and assigns) of the one part and Connaught Energy Ltd having its registered office Suite 1520, 840-7<sup>th</sup> Avenue SW, Calgary, Alberta, T2P 3G2 (hereinafter called "the Licensee" which expression shall where the context so requires or admits include its assigns) of the other part **AND WHEREAS** the Licensee has applied to the Department for a Licence pursuant to the Petroleum (Production) Act (Northern Ireland) 1964 to search and bore for and get petroleum within the lands hereinafter described **AND WHEREAS** the Department has agreed to grant such Licence on the terms and conditions hereinafter mentioned.

NOW IT IS HEREBY WITNESSED as follows:-

1. The Department in pursuance of such application and agreement and in consideration of the royalties specified in Petroleum Production Royalties Regulations [SR 1965 No 48] and the performance and observance by the Licensee of the terms and conditions hereinafter mentioned and in exercise of the powers conferred on it by Section 2 of the above-mentioned Act **HEREBY GRANTS** to the Licensee full and free and exclusive liberty and licence for a period of five years from 31 December 2004 and thereafter during the continuance of this Licence to search and bore for and get petroleum within all those parts of Counties Antrim and Londonderry more particularly delineated and described on the Ordnance Survey Map annexed hereto and thereon colour washed in red ["the Licence area"] upon the following terms and conditions:-
2. The Model Clauses set out in Schedule 2 to the Petroleum Production Regulations (Northern Ireland) 1987 [SR 1987 No 196] ("the Model Clauses") shall be deemed to be incorporated in this Licence with the following modifications:-
  - (i) in Clause 1(1) – "development scheme" has the meaning assigned thereto by Clause 20(2).
  - (ii) Clause 18 shall be omitted.
  - (iii) in Clause 40(4) the reference to Clause 34(3) should be read as Clause 39(3).
3. The Licensee shall pay all of the Department's advertising and mapping costs incurred in relation to this licence.
4. This licence shall be governed by and construed solely in accordance with the laws of Northern Ireland

## **SCHEDULE**

This Licence CE2/04 and licence CE1/04 form part of a single integrated exploration programme over the Rathlin Basin. The core elements of this programme are

- the development of a hydrocarbon system model for the basin,
- the drilling of one shallow well to provide core, from the Ballycastle Carboniferous coal and organic-rich shale section, that will be analysed for CBM potential,
- the drilling of one exploration well, in the Rathlin Basin, to evaluate the Carboniferous section for commercial coalbed methane and gas shale potential,
- the evaluation of the results from the above to produce a final prospectivity assessment of the licence areas.

Programme of work referred to in Model Clause 9

### **Southern Area**

#### **Years One and Two**

##### **Reprocessing, interpretation and synthesis of available exploration data**

The licensee will acquire, reprocess and evaluate available data to assess the coalbed methane and shale gas resource potential of the licence area. This will include the re-processing and interpretation of seismic, gravity and well data.

*Deliverables: Written report(s) and presentation(s) to be submitted to the Department. All reports, raw and processed data should be provided to the GSNI in both hard copy and digital formats.*

##### **Construct a CBM/Gas Shale hydrocarbon system model for the Rathlin Basin**

The licensee will acquire a geochemical profile based on field mapping, sampling and geochemical analysis. This data will be integrated with the geological structure deduced from the seismic interpretation and gravity modelling to produce a comprehensive coalbed methane/shale gas hydrocarbon system model for the basin.

*Deliverables: Written report(s) on the geochemical survey, analysis and hydrocarbon system model to be submitted to the Department. All reports, raw and processed data should be provided to the GSNI in both hard copy and digital formats.*

At, or before, the end of Year One the licensee will give a presentation to the Department and the GSNI reviewing the year's work and outlining the work programme for the forthcoming year.

Not later than one month before the end of Year Two: The licensee will provide the Department with a detailed written programme of work for Year Three.

At, or before, the end of Year Two the licensee will give a presentation to the Department and the GSNI reviewing the year's work and outlining the work programme for the forthcoming year.

**Review point:** The end of the year review provides an opportunity for the licensee to relinquish the licence if the results from Phase II (the shallow drilling on the adjoining licence) do not warrant further investigation, or the Department to terminate the licence if the licensee's work programme has proved unsatisfactory.

### **Years Three and Four**

The licensee shall either:

1. Drill one exploration well to evaluate the Carboniferous section in the Rathlin Basin for commercial coalbed methane and gas shale potential,  
or
2. Carry out a study of the licence area to identify potential drilling prospects for coalbed methane, shale gas and conventional petroleum exploration.

### **Option One: Drilling programme**

#### **Operational planning and permitting**

The licensee will finalise operational plans and obtain all the necessary permits and permissions for the drilling operations, and rights of access to the drilling location(s).

The licensee will identify suitably qualified contractors responsible for the operation of the drilling activities and the necessary supply of equipment. Master service agreements and firm price quotations will be obtained.

The licensee will submit applications (including all the above details) for, and obtain, consent to drill from the Department. Environmental, planning and health & safety issues and obligations associated with the proposed drilling operations will be addressed and satisfied.

*Deliverables: A completed and approved drilling application, with all necessary permits, permissions and rights of access obtained. All necessary documentation will be provided to the Department.*

#### **Drilling operations and data acquisition**

The licensee will drill one exploration well to evaluate the Carboniferous section for commercial coalbed methane and gas shale potential, at a location to be agreed with the Department. The coal and gas shale section will be fully cored and the core samples subjected to CBM laboratory analysis including desorption/adsorption isotherm proximate analysis. The licensee will perform permeability testing, pump testing and injectivity measurements on the coal and shale gas section.

*Deliverables: one exploration well drilled according to accepted industry operational, environmental, and health & safety standards. A full suite of geological and geophysical logs, test results, analytical data, core slabs and a final well completion report will be supplied to the Department. All reports, raw and processed data should be provided to the GSNI in both hard copy and digital formats.*

### **Option Two: Identification of drilling targets**

The licensee will use the results from Years One and Two to identify areas with the highest prospectivity for coalbed methane, shale gas and conventional petroleum exploration, and to locate individual drilling targets.

*Deliverables: Written report(s), with maps, on the prospectivity evaluation to be submitted to the Department. All reports, raw and processed data should be provided to the GSNI in both hard copy and digital formats.*

Not later than one month before the end of Year Four: The licensee will provide the Department with a detailed written programme of work for Year Five.

At, or before, the end of Year Four the licensee will give a presentation to the Department and the GSNI reviewing the year's work and outlining the work programme for the forthcoming year.

### **Year Five**

Depending on the option chosen in Year Four the work programme will comprise one of the following:

#### **Option One: Final analysis and documentation; well completion**

All the results from the drilling operations will be thoroughly analysed and evaluated. The results will be compared with the prognosis and used to refine the geological model. The data will be integrated with existing information to produce quantitative estimates of gas-in-place volumes, deliverability and recovery volumes. This work will be documented in a final licence report.

The well will be completed as a future production well or permanently plugged and abandoned, as appropriate, if this work has not already been carried out in Year Four.

*Deliverables: Report(s) presenting the results of the analyses and evaluation of the drilling programme, including finalised hydrocarbon productivity estimates and economic model. A final licence report should be written, summarising the results from the licence operations and updating the geological and prospectivity model for the area. A self-assessment of the licensee's exploration strategy and operations, in the light of results, should be included.*

#### **Option Two: refine the prospectivity evaluation**

The results from the drilling operations on the adjoining licence will be used to refine the prospectivity evaluation of this licence.

*Deliverables: Written report(s), with maps, on the revised prospectivity evaluation to be submitted to the Department. All reports, raw and processed data should be provided to the GSNI in both hard copy and digital formats.*

A future exploration and/or development well drilling and data acquisition programme will be designed, and an application for a five-year renewal to the licence submitted to the Department, if required.

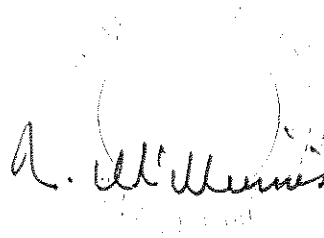
Not later than three months before the end of Year Five: The licensee will submit an application for a five-year renewal of the licence to the Department, with a detailed written programme of work, if required.

At, or before, the end of Year Five the licensee will give a presentation to the Department and the GSNi detailing the results of the year's work and reviewing the licence. If a renewal of the licence is sought, the presentation should cover the proposals for a future work programme.

IN WITNESS whereof the Official Seal of the Department has hereunto been affixed  
and the Licensee has caused his Common Seal(s) to be affixed hereto the day and  
year first herein written

Sealed with the Official Seal of the  
DEPARTMENT OF ENTERPRISE,  
TRADE AND INVESTMENT in the  
presence of:-

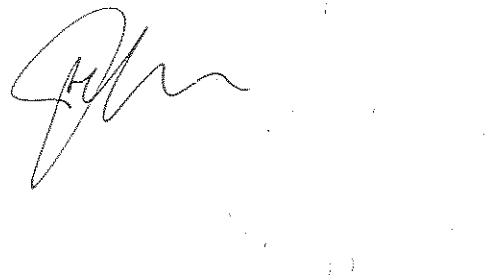
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A circular official seal of the Department of Enterprise, Trade and Investment, featuring a central emblem and the department's name around the perimeter. A handwritten signature is written across the seal.

Senior Officer of the Department of  
Enterprise, Trade and Investment

Sealed with the Common Seal of  
CONNAUGHT ENERGY LTD  
in the presence of:-

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A common seal of Connaught Energy Ltd, featuring a stylized signature or logo. A handwritten signature is written across the seal.