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Exhibit 10.3

PETROLEUM AGREEMENT

AMONG



**GOVERNMENT OF THE REPUBLIC OF GHANA
GHANA NATIONAL PETROLEUM CORPORATION**



AND

**TULLOW GHANA LIMITED
SABRE OIL AND GAS LIMITED
KOSMOS ENERGY GHANA HC**

IN RESPECT OF

**THE DEEPWATER TANO
CONTRACT AREA**

DATED MARCH 10, 2006

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NOW THEREFORE, in consideration of the mutual covenants herein contained, it is hereby agreed and declared as follows:

ARTICLE 1

DEFINITIONS

1. **In this Agreement:**

- 1.1 **“Accounting Guide”** means the accounting guide which is attached hereto as Annex 2 and made a part hereof;
- 1.2 **“Additional Interest”** means the Additional Interest of GNPC provided for in Article 2.5 and Article 2.6;
- 1.3 **“Affiliate”** means any person, whether a natural person, corporation, partnership, unincorporated association or other entity:
- a) in which one of the Parties hereto or one of the companies comprising Contractor directly or indirectly hold more than fifty percent (50%) of the share capital or voting rights;
 - b) which holds directly or indirectly more than fifty percent (50%) of the share capital or voting rights in a Party hereto or of the companies comprising Contractor;
 - c) in which the share capital or voting rights are directly or indirectly and to an extent more than fifty percent (50%) held by a company or companies holding directly or indirectly more than fifty percent (50%) of the share capital or voting rights in a Party hereto or in one of the companies comprising Contractor; or
 - d) which holds directly five percent (5%) or more of the share capital or voting rights in Contractor.
- 1.4 **“Agreement”** means this Agreement between the State, GNPC and Contractor, and includes the Annexes attached hereto;
- 1.5 **“Appraisal Programme”** means a programme carried out following a Discovery of Petroleum for the purpose of delineating the accumulation of Petroleum to which that Discovery relates in terms of thickness and lateral extent and estimating the quantity of recoverable Petroleum therein;

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- 1.6 **“Appraisal Well”** means a well drilled for the purposes of an Appraisal Programme;
- 1.7 **“Associated Gas”** means Natural Gas produced from a well in association with Crude Oil;
- 1.8 **“Barrel”** means a quantity or unit of Crude Oil equal to forty-two (42) United States gallons at a temperature of sixty (60) degrees fahrenheit and at 14.65 psia pressure.
- 1.9 **“Block”** means an area of approximately 685 square kilometres as depicted on the reference map prepared by the Minister in accordance with the provisions of the Petroleum Law;
- 1.10 **“Calendar Year”** means the period of twelve (12) months of the Gregorian calendar, commencing on January 1 and ending on the succeeding December 31;
- 1.11 **“Carried Interest”** means an interest held by GNPC in respect of which Contractor pays for the conduct of Petroleum Operations without any entitlement to reimbursement from GNPC as expressly provided for in this Agreement;
- 1.12 **“Commercial Discovery”** means a Discovery which is determined to be commercial in accordance with the provisions of this Agreement;
- 1.13 **“Commercial Production Period”** means in respect of each Development and Production Area the period from the Date of Commencement of Commercial Production until the termination of this Agreement or earlier relinquishment of such Development and Production Area;

- 1.14 **“Contract Area”** means the area of 1,108 sq km covered by this Agreement in which Contractor is authorised to explore for, develop and produce Petroleum, which is described in Annex 1 attached hereto and made a part of this Agreement, but excluding any portions of such area in respect of which Contractor’s rights hereunder are from time to time relinquished or surrendered pursuant to this Agreement;
- 1.15 **“Contractor”** means Tullow Ghana Limited, Sabre Oil and Gas Limited and Kosmos Energy Ghana HC and their respective successors and assignees;
- 1.16 **“Contract Year”** means a period of twelve (12) Months, commencing on the Effective Date or any anniversary thereof;

- 1.17 **“Crude Oil”** means hydrocarbons which are liquid at 14.65 psia pressure and sixty (60) degrees Fahrenheit and includes condensates and distillates obtained from Natural Gas;
- 1.18 **“Date of Commencement of Commercial Production”** means, in respect of each Development and Production Area, the date on which production of Petroleum under a programme of regular production, lifting and sale commences;
- 1.19 **“Date of Commercial Discovery”** means the date referred to in Article 8.12;
- 1.20 **“Delivery Point”** shall have the meaning ascribed it in Article 10.5;
- 1.21 **“Development”** or **“Development Operations”** means the preparation of a Development Plan, the design, engineering, building and installation of facilities for Production, and includes drilling of Development Wells, construction and installation of equipment, pipelines, facilities, plants and systems, in and outside the Contract Area, which are required for achieving Production, treatment, transport, storage and lifting of Petroleum, and preliminary Production and testing activities carried out prior to the Date of Commencement of Commercial Production, and includes all related planning and administrative work, and also includes drilling and installation of wells and equipment for pressure maintenance and/or for increasing production rates and may also include the construction and installation of secondary and tertiary recovery systems, where these are included as part of the Development Plan;
- 1.22 **“Development Costs”** means Petroleum Costs incurred in Development Operations;
- 1.23 **“Development and Production Area”** means that portion of the Contract Area reasonably determined by Contractor (or by GNPC if a Sole Risk Operation pursuant to Article 9) on the basis of the available seismic and well data to cover the areal extent of an accumulation of Petroleum constituting a Commercial Discovery, enlarged in area by ten percent (10%), such enlargement to extend uniformly around the perimeter of such accumulation; and further enlarged by the area covering any extension of the accumulation which is revealed by further development work provided such extension is within the Contract Area;
- 1.24 **“Development Period”** means in respect of each Development and Production Area, the period from the Date of Commercial Discovery until the Date of Commencement of Commercial Production;
- 1.25 **“Development Plan”** means the plan for development of a Commercial Discovery prepared by Contractor in consultation with the Joint Management Committee and approved by the Minister pursuant to Article 8;

- 1.26 **“Development Well”** means a well drilled in accordance with a Development Plan for producing Petroleum, for pressure maintenance or for increasing the Production rate;
- 1.27 **“Discovery”** means finding during Exploration Operations an accumulation of Petroleum not previously known or proven to have existed, which is recovered or recoverable at the surface in a flow measurable by conventional petroleum industry testing methods;
- 1.28 **“Discovery Area”** means that portion of the Contract Area, reasonably determined by Contractor (or by GNPC if a Sole Risk Operation pursuant to Article 9) on the basis of the available seismic and well data to cover the areal extent of the geological structure in which a Discovery is made. A Discovery Area may be modified at any time by Contractor (or by GNPC if applicable), if justified on the basis of new information, but may not be modified after the date of completion of the Appraisal Programme;
- 1.29 **“Effective Date”** shall have the meaning ascribed to it in Article 26.9;
- 1.30 **“Exploration”** or **“Exploration Operations”** means the search for Petroleum by geological, geophysical and other methods and the drilling of Exploration Well(s) and includes any activity in connection therewith or in preparation thereof and any relevant processing and appraisal work, including technical and economic feasibility studies, that may be carried out to determine whether a Discovery of Petroleum constitutes a Commercial Discovery;
- 1.31 **“Exploration Costs”** means all expenditures made and costs incurred, both within and outside Ghana, in conducting Exploration Operations hereunder determined in accordance with the Accounting Guide attached hereto an Annex 2;
- 1.32 **“Exploration Period”** means the period commencing on the Effective Date and continuing during the time provided for in Article 3.1 within which Contractor is authorised to carry out Exploration Operations and shall include any periods of extensions provided for in this Agreement. The period shall terminate with respect to any Discovery Area on the Date of Commercial Discovery in respect of such Discovery Area;
- 1.33 **“Exploration Well”** means a well drilled in the course of Exploration Operations conducted hereunder during the Exploration Period, but does not include an Appraisal Well;

- 1.34 **“Extension Period”** means any of the First Extension Period or Second Extension Period;
- 1.35 **“First Extension Period”** shall have the meaning ascribed to it in Article 3.1(a)(ii);
- 1.36 **“First SubPeriod”** shall have the meaning ascribed to it in Article 3.1(a)(i);
- 1.37 **“Force Majeure”** means any event beyond the reasonable control of the Party claiming to be affected by such event which has not been brought about at its instance, including, but not limited to, earthquake, storm, flood, lightning or other adverse weather conditions, war, embargo, blockade, riot or civil disorder;
- 1.38 **“Foreign National Employee”** means an expatriate employee of Contractor, its Affiliates, or its Sub-contractors who is not a citizen of Ghana;
- 1.39 **“Ghana”** means the territory of the Republic of Ghana and includes the sea, seabed and subsoil, the continental shelf and all other areas within the jurisdiction of the Republic of Ghana;
- 1.40 **“Gross Production”** means the total amount of Petroleum produced and saved from a Development and Production Area during Production Operations which is not used by Contractor in Petroleum Operations and is available for distribution to the Parties in accordance with Article 10;
- 1.41 **“Gross Negligence”** means any act or failure to act (whether sole, joint or concurrent) which was in reckless disregard of or wanton indifference to harmful consequences such person or entity knew or should have known such act or failure would have on another person or entity;
- 1.42 **“Initial Exploration Period”** shall have the meaning ascribed to it in Article 3.1(a)(i);
- 1.43 **“Initial Interest”** means the interest of GNPC in all Petroleum Operations provided for in Article 2.4;
- 1.44 **“Joint Management Committee (JMC)”** means the committee established pursuant to Article 6.1 hereof;
- 1.45 **“Market Price”** shall have the meaning ascribed to it in Article 11.7;
- 1.46 **“Minister”** means Minister for Energy;
- 1.47 **“Month”** means a month of the Calendar Year;

- 1.48 **“Natural Gas”** means all hydrocarbons which are gaseous at 14.65 psia pressure and sixty (60) degrees fahrenheit temperature and includes wet gas, dry gas and residue gas remaining after the extraction of liquid hydrocarbons from wet gas;
- 1.49 **“Non-Associated Gas”** means Natural Gas produced from a well other than in association with Crude Oil;
- 1.50 **“Operator”** means Tullow or such other Party as may be appointed by Contractor with the approval of GNPC and the State, which approval shall not be unreasonably withheld or delayed;
- 1.51 **“Participating Interest”** means for GNPC, the interest held by GNPC in accordance with the provisions of Article 2.4 and Article 2.5 and for Contractor, the interest held by Contractor in accordance with the provisions of Article 2.9;
- 1.52 **“Party”** means the State, GNPC or Contractor, as the case may be;
- 1.53 **“Paying Interest”** means an interest held by GNPC in respect of which GNPC pays for the conduct of Petroleum Operations;
- 1.54 **“Petroleum”** means Crude Oil or Natural Gas or a combination of both;
- 1.55 **“Petroleum Costs”** means all expenditures made and costs incurred, both within and outside Ghana, in conducting Petroleum Operations hereunder determined in accordance with the Accounting Guide attached hereto as Annex 2;
- 1.56 **“Petroleum Income Tax Law”** means the Petroleum Income Tax Law, 1987 (PNDCL 188);
- 1.57 **“Petroleum Law”** means the Petroleum (Exploration and Production) Law, 1984 (PNDCL 84);
- 1.58 **“Petroleum Operations”** means all activities, both in and outside Ghana, relating to the Exploration for, Appraisal, Development, Production, handling and transportation of Petroleum contemplated under this Agreement and includes Exploration Operations, Development Operations and Production Operations and all activities in connection therewith;
- 1.59 **“Petroleum Product”** means any product derived from Petroleum by any refining or other process;

- 1.60 **“Production”** or **“Production Operations”** means activities not being Development Operations, undertaken in order to extract, save, treat, measure, handle, store, load and transport Petroleum to storage and/or loading points and to carry out any type of primary and secondary operations, including recycling, recompression, maintenance of pressure and water flooding and all related activities such as planning and administrative work and shall also include maintenance, repair and replacement of facilities, and well workovers, conducted after the Date of Commencement of Commercial Production of the respective Development and Production Area;
- 1.61 **“Production Costs”** means Petroleum Costs incurred in Production Operations;
- 1.62 **“Quarter”** means a period of three (3) Months, commencing January 1, April 1, July 1 or October 1;
- 1.63 **“Rate of Return”** shall have the meaning ascribed to it in Article 10;
- 1.64 **“Second Extension Period”** shall have the meaning ascribed to it in Article 3.1(a)(ii);
- 1.65 **“Second Sub Period”** shall have the meaning ascribed to it in Article 3.1(a)(i);
- 1.66 **“Sole Risk Operation”** means an operation conducted at the sole cost, risk and expense of GNPC referred to in Article 9;
- 1.67 **“Specified Rate”** means the rate which the National Westminster Bank, Plc, London, certifies to be the London Interbank offered rate (LIBOR) in the London Interbank Eurodollar market on thirty (30) day deposits, in effect on the last business day of the last respective preceding month, plus one point five percent (1.5%);
- 1.68 **“Standard Cubic Foot”** or **“SCF”** means the quantity of gas that occupies one (1) cubic foot at 14.65 psia pressure and sixty (60) degrees fahrenheit temperature;
- 1.69 **“State”** means the Government of the Republic of Ghana;
- 1.70 **“Subcontractor”** has the meaning assigned to that term in the Petroleum Income Tax Law;
- 1.71 **“Termination”** means termination of this Agreement pursuant to Article 23 hereof;
- 1.72 **“Work Programme”** means the annual plan for the conduct of Petroleum Operations prepared pursuant to Articles 4.3, 6.4 and 6.5;

ARTICLE 2

SCOPE OF THE AGREEMENT, INTERESTS OF THE PARTIES AND CONTRACT AREA

- 2.1 This Agreement provides for the Exploration for and Development and Production of Petroleum in the Contract Area by GNPC in association with Contractor.
- 2.2 Subject to the provisions of this Agreement, Contractor shall be responsible for the execution of such Petroleum Operations as are required by the provisions of this Agreement and subject to Article 9, is hereby appointed the exclusive entity to conduct Petroleum Operations in the Contract Area. GNPC shall at all times participate in the management of Petroleum Operations and in order that the Parties may cooperate in the implementation of Petroleum Operations GNPC and Contractor shall establish a Joint Management Committee, to conduct and manage Petroleum Operations.
- 2.3 In the event that no Commercial Discovery is made in the Contract Area, or that Gross Production achieved from the Contract Area is insufficient fully to reimburse Contractor in accordance with the terms of this Agreement, then Contractor shall bear its own loss; GNPC and the State shall have no obligations whatsoever to contractor in respect of such loss.
- 2.4 GNPC shall have a ten percent (10%) Initial Interest in all Petroleum Operations under this Agreement. With respect to all Exploration and Development Operations GNPC’s Initial Interest shall be a Carried Interest. With respect to all Production Operations GNPC’s Initial Interest shall be a Paying Interest.

- 2.5 GNPC shall have the option to acquire an Additional Interest of five percent (5%) in every Commercial Discovery. In order to acquire the Additional Interest, GNPC must notify Contractor within ninety (90) days after Contractor's notice to the Minister that a Discovery is a Commercial Discovery, of its intention to acquire the Additional Interest. If within such ninety (90) day period GNPC does not give such notice, GNPC's interest will remain as described in Article 2.4. If GNPC acquires the Additional Interest, GNPC shall be responsible for paying five percent (5%) of all future Petroleum Costs including Development and Production Costs as approved by the JMC. GNPC and Contractor shall agree on the mode of financing such Additional Interest.

In the event that Contractor decides to seek project finance from a bank or group of banks for the financing of Development Operations, Contractor shall offer GNPC

the opportunity (but not an obligation) to join in the said project financing with respect to its Additional Interest. GNPC shall not, by its action or inaction, impede or delay Contractor in its efforts to obtain such project financing.

If GNPC fails to pay for the costs associated with its Additional Interest and those associated with Production Operations as described in Article 2.4 and Article 2.6, then Contractor shall be entitled to recover the said costs, together with interest at the Specified Rate, from Production revenues.

In the event that GNPC, having acquired the Additional Interest, subsequently wishes to dispose of it (or part of it) to a third party, GNPC shall notify Contractor of such intent and shall inform Contractor of the price which is to be paid by such third party for the same, and Contractor shall have the right for a period of forty five days from receipt of such notice to inform GNPC that it wishes to acquire such interest at the price notified to it by GNPC, being the price at which it was to have been sold to the third party.

- 2.6 If GNPC opts to take an Additional Interest as provided for in Article 2.5 then within six (6) Months of its election, GNPC shall reimburse Contractor for all expenditures attributable to GNPC's Additional Interest and incurred from the Date of Commercial Discovery to the date GNPC notifies Contractor of its election.
- 2.7 For the avoidance of doubt GNPC shall only be liable to contribute to Petroleum Costs:
- a) incurred in respect of Development Operations in any Development and Production Area and to the extent only of any Additional Interest acquired in such Development and Production Area under Article 2.5; and
 - b) incurred in respect of Production Operations in any Development and Production Area both to the extent of:
 - i) its ten percent (10%) Initial Interest; and
 - ii) any Additional Interest acquired in such development and Production Area under Article 2.5
- 2.8 GNPC may during the Exploration Period assist Contractor in carrying out Contractor's obligations expeditiously and efficiently as stipulated in Article 7.3. Upon completion of the work associated with said assistance, GNPC shall invoice the Contractor for the costs incurred and shall provide reasonable supporting documentation in respect of such costs. Contractor shall pay GNPC the invoiced amount within thirty (30) days of receipt of the invoice. The actual amount of the

invoice submitted by GNPC shall be at rates agreed by GNPC and the Contractor for such services.

- 2.9 Contractor's Participating Interest in all Petroleum Operations and in all rights under this Agreement shall be ninety per cent (90%), reduced proportionately at any given time and in any given part of the Contract Area by the Additional Interest of GNPC pursuant to Article 2.5 or the Sole Risk Interest of GNPC pursuant to Article 9.
- 2.10 As of the Effective Date, the Contract Area shall cover a total of approximately one thousand one hundred and eight square kilometres (1,108 km²) as depicted by Annex 1 and shall from time to time during the term of this Agreement be reduced according to the terms herein. During the term of the Agreement, Contractor shall pay rentals to the State for that area included within the Contract Area at the beginning of each Contract Year according to the provisions of Article 12.2 (e) below provided that a pro-rata payment shall be made to cover a period of less than one (1) full Contract Year.

ARTICLE 3

EXPLORATION PERIOD

- 3.1 The Exploration Period shall begin on the Effective Date and shall not cover a period of more than six and one half (6^{1/2}) years except as provided for in accordance with this Agreement and the Petroleum Law.
- a) The Exploration Period shall be divided as follows:
 - (i) an Initial Exploration Period of two and one half (2^{1/2}) years ("Initial Exploration Period") further divided into Subperiods:
 1. One (1) year ("First Subperiod");
 2. One and one half (1^{1/2}) years ("Second Subperiod") plus
 - (ii) Two (2) extension periods totalling four (4) years:
 1. Two (2) years for the first such period ("First Extension Period"); and
 2. Two (2) years for the second of such periods ("Second Extension Period").
 - b) At the end of The First Subperiod, Contractor shall elect to drill a well during the Second Subperiod or relinquish the entire Contract Area. Contractor shall have the right to relinquish the entire Contract Area and withdraw from this Agreement upon the expiration of any of the First Subperiod, the Second Subperiod, the First Extension Period or the Second Extension period; subject only to notifying GNPC not less than thirty (30) days before expiration of the relevant period and provided Contractor has completed the applicable work obligation of the First Subperiod or Second Subperiod, or any of the Extension Periods (as applicable) during which such relinquishment and withdrawal is made.
 - c) Where Contractor has fulfilled its work and expenditure obligations set out in Article 4.3 before the end of a specific Subperiod or any of the Extension Periods and has exercised its option by applying to the Minister in writing for an extension into the next phase, the Minister will be deemed to have granted an extension into the Second Subperiod, First Extension Period or, Second Extension Period, as applicable.
 - d) For each well drilled by Contractor or with Contractor's participation during the Initial Exploration Period (beyond those referred to in Article 4.3), the Initial Exploration Period shall be extended by three (3) Months and the commencement of subsequent periods shall be postponed in their entirety accordingly.

- 3.2 Following the end of the Second Extension Period, subject to the provisions of Article 3.4, Contractor will be entitled to an extension or extensions, by reference to Article 8, of the Exploration Period as follows:
- a) Where at the end of the Second Extension Period Contractor is drilling or testing any well, Contractor shall be entitled to an extension for such further period as may be reasonably required to enable Contractor to complete such work and assess the results and, in the event that Contractor notifies the Minister that the results from any such well show a Discovery which merits appraisal, Contractor shall be entitled to a further extension for such period as may be reasonably required to carry out an Appraisal Programme and determine whether the Discovery constitutes a Commercial Discovery;
 - b) Where at the end of the Second Extension Period Contractor is engaged in the conduct of an Appraisal Programme in respect of a Discovery which has not been completed, Contractor shall be entitled to a further extension following the end of the Second Extension for such period as may be reasonably required to complete that Appraisal Programme and determine whether the Discovery constitutes a Commercial Discovery;
 - c) Where at the end of the Second Extension Period Contractor is in the process of completing an aspect of the Approved Work Programme not falling under paragraphs (a) or (b) in this Article 3.2 above, or under Article 4.3 (c), Contractor will be entitled to such extension of time as the Minister considers reasonable for the purpose of completing such work;
 - d) Where pursuant to Article 8 Contractor has before the end of the Second Extension Period, including extensions under (a), (b) and (c) above, given to the Minister a notice of Commercial Discovery, Contractor shall, if the Exploration Period would otherwise have been terminated, be entitled to a further extension of the Exploration Period in which to prepare the Development Plan in respect of the Discovery Area to which that Development Plan relates until either:
 - i) the Minister has approved the Development Plan as set out in Article 8, or
 - ii) in the event that the Development Plan is not approved by the Minister as set out in Article 8 and the matter or matters in issue between the Minister and Contractor have been referred for resolution under Article 24, one (1) Month after the date on which the final decision thereunder has been given.

- 3.3 Where Contractor has during the Initial Exploration Period or, as the case may be, during the First Extension Period failed to fulfill its work and expenditure obligations under Article 4 in respect of that period but has made reasonable arrangements to remedy its default during the First Extension Period or, as the case may be, the Second Extension Period, Contractor shall be entitled to an extension subject to such reasonable terms and conditions as the Minister may stipulate to assure performance of the work.
- 3.4 Save in respect of a Discovery Area:
- a) In the circumstances and subject to the limitations set forth in Section 12 (3) of the Petroleum Law; or
 - b) In a case falling within the provisions of Article 3.2 (d)
- nothing in Article 3.2 shall be read or construed as requiring or permitting the extension of the Exploration Period beyond seven (7) years from the Effective Date except for reasons of Force Majeure.
- 3.5 The provisions of Article 3.2 (a), (b) and (c) so far as they relate to the duration of the extension period to which Contractor will be entitled shall be read and construed as requiring the Minister to give effect to the provisions of Article 8 relating to the time within which Contractor must meet the requirements of that Article.
- 3.6 In the event that the Contractor is in the course of drilling or testing any well at the end of the Second Subperiod or the First Extension Period then it shall be permitted to complete the said drilling or testing without breaching this Agreement.

If Contractor elects thereafter to enter into the First Extension Period or the Second Extension Period, as the case may be, the commencement of the First Extension Period or the Second Extension Period shall not be affected by the duration of the period required for the completion of drilling or testing as referred to above, but shall remain as stated in Article 4.3 (b) or Article 4.3 (c) as applicable.

ARTICLE 4

MINIMUM EXPLORATION PROGRAMME

- 4.1 Exploration Operations shall begin as soon as practicable and in any case not later than sixty (60) days after the Effective Date.
- 4.2 GNPC shall, at the request of Contractor, make available to it such records and information relating to the Contract Area as are relevant to the performance of Exploration Operations by Contractor and are in GNPC's possession, provided that Contractor shall reimburse GNPC for the costs reasonably incurred in procuring or otherwise making such records and information available to Contractor.
- 4.3 Subject to the provisions of this Article, in discharge of its obligations to carry out Exploration Operations in the Contract Area, Contractor shall during the several phases into which the Exploration Period is divided carry out the work specified hereinafter:
- a) **Initial Exploration Period:** Commencing on the Effective Date and terminating at the end of the two and one half (2^{1/2}) Contract Years which is made up of the following:
 - First Subperiod (1 year):**
 - Description of Work:** By the end of the First Subperiod of the Initial Exploration Period Contractor shall have undertaken a work programme including the reprocessing of 3D seismic data and seabed logging.
 - Minimum Expenditure:** Contractor's minimum expenditure for the work in the First Subperiod of the Initial Exploration Period shall be two million United States dollars (U.S.\$2,000,000).
 - Second Subperiod (1^{1/2} years):**
 - Description of Work:** By the end of the Second Subperiod of the Initial Exploration Period, Contractor shall

have drilled at least one (1) Exploration Well in the Contract Area.

Minimum Expenditure: Contractor's minimum expenditure for the work in the Second Subperiod of the Initial Exploration Period shall be twenty million United States dollars (U.S.\$20,000,000).

- b) **First Extension Period:** Commencing at the end of the Initial Exploration Period and terminating at the end of a further two (2) Contract Years.

Minimum Expenditure: Contractor's minimum expenditure for the work in the First Extension Period shall be twenty million United States dollars U.S.\$20,000,000).

Description of Work: By the end of the First Extension Period, Contractor shall have drilled at least one (1) Exploration Well in the Contract Area.

- c) **Second Extension Period:** Commencing at the end of the First Extension and terminating at the end of a further two (2) Contract Years.

Description of Work: By the end of the Second Extension Period, Contractor shall have drilled one (1) Exploration Well in the Contract Area.

Minimum Expenditure: minimum expenditure for work in the Second Extension Period shall be twenty million United States dollars (U.S.\$20,000,000).

- d) Work and expenditures accomplished in any Subperiod or Extension Period in excess of the above obligations may be applied as credit in satisfaction of obligations called for in any other Subperiod or Extension Period. The fulfillment of any work obligation shall relieve Contractor of the corresponding minimum expenditure obligation, but the fulfillment of any minimum expenditure obligation shall not relieve Contractor of the corresponding work obligation.
- (e) The principle of Article 4 is that, the fulfillment of any minimum Work Programme supersedes its corresponding minimum expenditure. However, for any Extension Period or Subperiod, for which the entire minimum work obligation is not met by Contractor, the corresponding part of the minimum expenditure obligation relating to the unfulfilled work obligation shall be paid to GNPC whereupon Contractor shall be deemed to have fulfilled such minimum work obligation. However, Contractor's entitlement to proceed to the next Extension Period or Subperiod shall be at the discretion of the Minister.

4.4 No Appraisal Wells drilled or seismic surveys carried out by Contractor as part of an Appraisal Programme undertaken pursuant to Article 8 and no expenditure incurred by Contractor in carrying out such Appraisal Programme shall be treated as discharging the minimum work obligations under Article 4.3.

4.5 The seismic reprocessing and seabed logging programme in Article 4.3(a), when combined with existing data, shall be such as will enable a study of the regional

geology of the Contract Area and the preparation of a report thereon with appropriate maps, cross sections and illustrations, as well as a geophysical survey of the Contract Area which, when combined with existing data, shall provide:

- a) a minimum seismic grid adequate to define prospective drill sites over prospective closures as interpreted from data available to Contractor; and
- b) a seismic evaluation of structural and stratigraphic conditions over the remaining portions of the Contract Area.

4.6 Each Exploration Well shall be drilled at a location and to an objective depth determined by Contractor in consultation with GNPC. Except as otherwise provided in Article 4.7 and 4.8 below, the minimum depth of each obligatory Exploration Well shall be whichever of the following is first encountered:

- a) the depth of 3,600 metres measured from the Rotary Table Kelly Bushing (RTKB);
- b) the depth sufficient to penetrate 500 metres into the primary target;
- c) the depth at which Contractor encounters geologic basement.

4.7 The minimum depth of the first obligatory Exploration Well in Article 4.3 shall be whichever of the following is first encountered:

- a) the depth of 4,400 meters measured from the Rotary Table Kelly Bushing (RTKB);
- b) the depth sufficient to penetrate 300 metres into the Santonian; or
- c) the depth at which Contractor encounters geological basement.

4.8 If in the course of drilling an Exploration Well the Contractor concludes that drilling to the minimum depth specified in Article 4.6 or 4.7 above is impossible, impracticable or imprudent in accordance with accepted international petroleum industry drilling and engineering practice, then Contractor may plug and abandon the Exploration Well and GNPC shall have the option of either:

- a) waiving the minimum depth requirement, in which case Contractor will be deemed to have satisfied the obligation to drill such Exploration Well; or
- b) requiring Contractor to drill a substitute Exploration Well at a location determined by Contractor in consultation with GNPC and to the relevant

minimum depth set forth in Article 4.6 or 4.7, except that if in the course of drilling such substitute Exploration Well Contractor establishes that drilling to the relevant minimum depth specified in Article 4.6 or 4.7 above is impossible, impracticable or imprudent in accordance with accepted petroleum industry drilling and engineering practice, then Contractor may plug and abandon the substitute Exploration Well and will be deemed to have satisfied the obligation to drill one (1) Exploration Well to the minimum depth to which such well had been planned.

The above option shall be exercised by GNPC within thirty (30) days from the plugging and abandonment of the Exploration Well, and failure to exercise such option shall constitute a waiver of the minimum depth requirement pursuant to Articles 4.6 and 4.7 as the case may be.

- 4.9 During the Exploration Period, Contractor shall have the right to perform additional Exploration Operations, including without limitation performing gravity and magnetic surveys, drilling stratigraphic wells and performing additional geological and geophysical studies, provided the minimum work obligations are performed within the applicable period.
- 4.10 During the Exploration Period, Contractor shall deliver to GNPC and the Minister reports on Exploration Operations conducted during each Calendar Quarter within thirty (30) days following the end of that Quarter. Further requests for information by the Minister under Section 9(1) of the Petroleum Law shall be complied with within a reasonable time and copies of documents and other material containing such information shall be provided to GNPC.
- 4.11 If, upon completion of the minimum exploration programme set forth in Article 4.3, Contractor desires to conduct a further programme of Exploration on those retained areas that will be relinquished upon expiry of the Exploration Period, Contractor shall have a right of first refusal to the granting of a new petroleum agreement covering such retained areas. If Contractor elects to exercise this right, it must do so in writing to GNPC not less than one (1) year before the expiry of the Exploration Period. If GNPC receives such written election from Contractor, the Parties shall use best efforts to negotiate in good faith a new petroleum agreement to cover such retained areas, with the intention that if possible there shall be no lapse between the expiration of this Petroleum Agreement and the effective date of the new petroleum agreement.

ARTICLE 5

RELINQUISHMENT

- 5.1 Except as provided in Article 8.3, 8.9, 14.9 and 14.14, Contractor shall relinquish portions of the Contract Area in the manner provided hereafter.
- a) If on or before the expiration of the Initial Exploration Period, Contractor elects to enter into the First Extension Period pursuant to Article 3.1(c) then subject to Article 5.2 at the commencement of the First Extension Period the area retained shall be one hundred per cent (100%) of the original Contract Area as at the Effective Date;
 - b) If on or before the expiration of the First Extension Period, Contractor elects to enter into the Second Extension Period pursuant to Article 3.1(c) then subject to Article 5.2 at the commencement of the Second Extension Period the area retained shall not exceed fifty (50%) of the original Contract Area as at the Effective Date. Provided always that the area retained shall be permitted to exceed fifty percent (50%) of the original Contract Area but not to exceed seventy-five percent (75%) of the original Contract Area in the event that at that time, the Contractor commits to the drilling of a total of two (2) or more wells in the Second Extension Period in which case the provisions of Article 4.3(c) shall be deemed amended accordingly;
 - c) On the expiration of the Second Extension Period, Contractor shall subject to Article 5.2 relinquish the remainder of the retained Contract Area.
- 5.2 The Provisions of Article 5.1 shall not be read or construed as requiring Contractor to relinquish any portion of the Contract Area which constitutes or forms part of either a Discovery Area or a Development and Production Area.
- PROVIDED HOWEVER THAT if at the end of the First Subperiod, Second Subperiod, First Extension Period or Second Extension Period as the case may be, Contractor elects not to enter into the Second Subperiod, the First Extension Period or the Second Extension Period, Contractor shall relinquish the entire Contract Area, other than any Discovery or Development and Production Area.
- 5.3 Each area to be relinquished pursuant to this Article shall be selected by Contractor and shall be measured as far as possible in terms of continuous and compact units of a size and shape which will permit the carrying out of Petroleum Operations in the relinquished portions.

- 5.4 Without prejudice to the foregoing provisions of this Article 5, in the event that, following the relinquishment of the Contract Area, the Contractor has retained one or more Development and Production Areas, and Contractor and GNPC have, after reviewing all the relevant technical data and information, determined that the field or reservoirs for which a Development and Production Area was granted covers Petroleum lying outside such Development and Production Area, and provided such outside areas are not under any contract, the Contractor and GNPC shall endeavour to reach an agreement on unitization between the Contractor (with respect to the Contract Area) and GNPC (as holder of the area outside of the Contract Area) to cover the full development of the reservoir or field.

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ARTICLE 6

JOINT MANAGEMENT COMMITTEE

- 6.1 In order that the Parties may at all times cooperate in the implementation of Petroleum Operations, GNPC and Contractor shall not later than thirty (30) days after the Effective Date establish a Joint Management Committee (JMC). Without prejudice to the rights and obligations of Contractor for day-to-day management of the operations, the JMC shall oversee and supervise the Petroleum Operations and ensure that all approved Work Programmes and Development Plans are complied with and also that accounting for costs and expenses and the maintenance of records and reports concerning the Petroleum Operations are carried out in accordance with this Agreement and the accounting principles and procedures generally accepted in the international petroleum industry.
- 6.2 The composition of and distribution of functions within the JMC shall be as follows:
- i) The JMC shall constitute of four (4) representatives of GNPC and four (4) representatives of Contractor. GNPC and Contractor shall also designate a substitute or alternate for each member. In the case of absence or incapacity of a member of the JMC, his alternate shall automatically assume the rights and obligations of the absent or incapacitated member;
 - ii) The Chairperson of the JMC shall be designated by GNPC from amongst the members of the JMC;
 - iii) Contractor shall be responsible in consultation with GNPC for the preparation of agenda and supporting documents for each meeting of the JMC and for keeping records of the meetings and decisions of the JMC (GNPC shall have the right to inspect all records of the JMC at any time);
 - iv) At any meeting of the JMC six (6) representatives shall form a quorum, provided that at least two (2) of such representatives shall be representatives of GNPC and at least two (2) of such representatives shall be representatives of the Contractor.
- 6.3 Meetings of the JMC shall be held and decisions taken as follows:
- i) All meetings of the JMC shall be held in Accra, Dublin or London or such other place as may be agreed upon by members of the JMC;

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- ii) The JMC shall meet at least twice yearly and at such times as the members may agree;
- iii) A meeting of the JMC may be convened by either GNPC or the Contractor giving not less than twenty (20) days notice to the other or, in a case requiring urgent action, notice of such lesser duration as the members may agree upon;
- iv) Decisions of the JMC shall require unanimity provided, however, that decisions and approvals required for budgets and day-to-day operational matters associated with Appraisal, Development and Production Operations the expenditures, outlays or advances for which Contractor will be required to make on a one hundred percent (100%) basis shall require approval of the Contractor's representatives only;
- v) Any member of the JMC may vote by written and signed proxy held by another member;
- vi) Decisions of the JMC may be made without holding a meeting if all representatives of both Parties notify their consent thereto in the manner provided in Article 27;
- vii) GNPC and Contractor shall have the right to bring expert advisors to any JMC meetings to assist in the discussions of technical and other matters requiring expert advice;
- viii) The JMC may also establish subcommittees it deems appropriate for carrying out its functions, such as:
 - a) a technical subcommittee;
 - b) an audit subcommittee; and
 - c) an accounting subcommittee,
- ix) costs and expenses related to attendance by GNPC outside Ghana (e.g. business class travel, transportation, lodging, per diem and insurance), shall be borne by Contractor and treated as Petroleum Costs. Subject to GNPC providing to Contractor reasonable supporting documentation in respect of such costs and expenses, those costs and expenses shall be reimbursed by Contractor to GNPC.

6.4 The JMC shall oversee Exploration Operations as follows:

- i) Not later than sixty (60) days after the Effective Date and thereafter at least ninety (90) days before the commencement of each subsequent Contract Year,

Contractor shall prepare and submit to the JMC for its review a reasonably detailed Work Programme and budget setting forth all Exploration Operations which Contractor proposes to carry out in that Contract year and the estimated cost thereof, and shall also give an indication of Contractor's tentative preliminary exploration plans for the succeeding Contract year;

- ii) Upon notice to the Minister and GNPC, Contractor may amend any Work Programme or budget submitted to the JMC pursuant to this Article which notice will state why in Contractor's opinion the amendment is necessary or desirable. Any such amendment shall be submitted to the JMC for review;
- iii) Every Work Programme submitted to the JMC pursuant to this Article 6.4 and every revision or amendment thereof shall be consistent with the requirements set out in Article 4.3 relating to minimum work and expenditure for the period of the Exploration Period in which such Work Programme or budget falls;
- iv) Contractor shall report any Discovery to GNPC immediately following such Discovery and shall place before the JMC for review its Appraisal Programme prior to submission thereof to the Minister. Within thirty (30) days of completion of the Appraisal Programme a JMC meeting to discuss the results of the Appraisal Programme shall be convened to take place before submission of the detailed Appraisal Programme report provided for in Article 8.7;
- v) The JMC will review Work Programmes and budgets and any amendments or revisions thereto, and Appraisal Programmes, submitted to it by Contractor pursuant to this Article 6, and timely give such advice as it deems appropriate which Contractor shall consider before submitting the Programme to GNPC and the Minister for their information;
- vi) After the date of the first Commercial Discovery, Contractor shall seek the concurrence of GNPC's JMC representatives, which concurrence shall not be unreasonably withheld, on any proposal for the drilling of an Exploration Well or Wells not associated with the Commercial Discovery and not otherwise required to be drilled under Article 4.3. If concurrence is not secured by Contractor, Contractor may nevertheless elect to drill the Exploration Well or Wells but the costs of such Well or Wells shall be considered Petroleum Costs for AOE purposes and deductible cost for Ghana income tax purposes only in the event there is a subsequent Commercial Discovery associated with the Well or Wells.

6.5 From the first occurring Date of Commercial Discovery the JMC shall have supervision of Petroleum Operations as follows:

- i. Within sixty (60) days after the Date of Commercial Discovery Contractor shall prepare and submit to the JMC for approval any revisions to its annual Work Programme and budget that may be necessary for the remainder of that Contract Year and for the rest of the Exploration Period;
 - ii. At least ninety (90) days before the Commencement of each subsequent Calendar Year Contractor shall submit to the JMC for review and approval a reasonably detailed Work Programme and budget setting forth all Development and Production Operations which Contractor proposes to carry out in that Calendar Year and the estimated cost thereof and shall also give an indication of Contractor's plans for the succeeding Calendar Year;
 - iii. Within sixty (60) days of the Date of Commencement of Commercial Production and thereafter not later than one hundred and twenty (120) days before the commencement of each Calendar Year Contractor shall submit to the JMC for its review and approval an annual production schedule which shall be in accordance with good international oilfield practice, and shall be designed to provide the most efficient, beneficial and timely production of the Petroleum resources.
- 6.6 The JMC shall approve lifting schedules for Development and Production Areas as well as review all of Contractor's reports on the conduct of Petroleum Operations.
- 6.7 The JMC shall approve Contractor's insurance programme and the programmes for training and technology transfer submitted by Contractor and the accompanying budgets for such schemes and programmes.
- 6.8 If during any meeting of the JMC the Parties are unable to reach agreement concerning any of the matters provided for in Article 6.5 and 6.6, the matter shall be deferred for reconsideration at a further meeting to be held not later than fifteen (15) days following the original meeting. If after such further meeting the Parties are still unable to reach agreement, the matter in dispute shall be referred to the Parties forthwith. Failing agreement within fifteen (15) days thereafter, the matter in dispute shall, at the request of any Party, be referred for resolution under Article 24.

ARTICLE 7**RIGHTS AND OBLIGATIONS OF CONTRACTOR AND GNPC**

- 7.1 Subject to the provisions of this Agreement, Contractor shall be responsible for the conduct of Petroleum Operations and shall:
- a) conduct Petroleum Operations with utmost diligence, efficiency and economy, in accordance with accepted International Petroleum Industry practices, under the same or similar circumstances observing sound technical and engineering practices using appropriate advanced technology and effective equipment, machinery, materials and methods;
 - b) take all practicable steps to ensure compliance with Section 3 of the Petroleum Law including ensuring the recovery and prevention of waste of Petroleum in the Contract Area in accordance with accepted International Petroleum Industry practices under the same or similar circumstances;
 - c) prepare and maintain in Ghana full and accurate records of all Petroleum Operations performed under this Agreement;
 - d) prepare and maintain accounts of all Petroleum Operations under this Agreement in such a manner as to present a full and accurate record of the costs of such Petroleum Operations, in accordance with the Accounting Guide;
 - e) disclose to GNPC and the Minister any operating or other agreement among the Parties that constitute Contractor relating to the Petroleum Operations hereunder, which agreement shall not be inconsistent with the provisions of this Agreement.
- 7.2 In connection with its performance of Petroleum Operations, Contractor shall have the right within the terms of applicable law:
- a) to establish offices in Ghana and to assign to those offices such representatives as it shall consider necessary for the purposes of this Agreement;
 - b) to use public lands for installation and operation of shore bases, and terminals, harbours and related facilities, pipelines from fields to terminals and delivery facilities, camps and other housing;

- c) to receive licenses and permission to install and operate such communications and transportation facilities as shall be necessary for the efficiency of its operations;
- d) to bring to Ghana such number of Foreign National Employees as shall be necessary for its operations, including employees assigned on permanent or resident status, with or without families, as well as those assigned on temporary basis such as rotational (rota) employees;
- e) to provide or arrange for reasonable housing, schooling and other amenities, permanent and temporary, for its employees and to import personal and household effects, furniture and vehicles, for the use of its personnel in Ghana;
- f) to be solely responsible for provision of health, accident, pension and life insurance benefit plans on its Foreign National Employees and their families; and such employees shall not be required to participate in any insurance, compensation or other employee or social benefit programs established in Ghana;
- g) to have, together with its personnel, at all times the right of ingress to egress from its offices in Ghana, the Contract Area, and the facilities associated with Petroleum Operations hereunder in Ghana including the offshore waters, using its owned or chartered means of land, sea and air transportation;
- h) to engage such Subcontractors, expatriate and national, including also consultants, and to bring such Subcontractors and their personnel to Ghana as are necessary in order to carry out the Petroleum Operations in a skillful, economic, safe and expeditious manner; and said Subcontractors shall have the same rights as Contractor specified in this Article 7.2 to the extent they are engaged by Contractor for the Petroleum Operations hereunder.

7.3 GNPC shall assist Contractor in carrying out Contractor's obligations expeditiously and efficiently as stipulated in this Agreement, and in particular GNPC shall use its best efforts to assist Contractor and its Subcontractors to:

- a) establish supply bases and obtain necessary communications facilities, equipment and supplies;
- b) obtain necessary approvals to open bank accounts in Ghana;
- c) subject to Article 21 hereof, obtain entry visas and work permits for such number of Foreign National Employees of Contractor and its Subcontractors engaged in Petroleum Operations and members of their families who will be

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resident in Ghana, and make arrangements for their travel, arrival, medical services and other necessary amenities;

- d) comply with Ghana customs procedures and obtain permits for the importation of necessary materials;
- e) obtain the necessary permits to transport documents, samples or other forms of data to foreign countries for the purpose of analysis or processing if such is deemed necessary for the purposes of Petroleum Operations;
- f) contact Government agencies dealing with fishing, meteorology, navigation and communications as required;
- g) identify qualified Ghanaian personnel as candidates for employment by Contractor in Petroleum Operations; and
- h) procure access on competitive commercial terms, to infrastructure owned by the State or GNPC or any Affiliate of or entity controlled by the State or GNPC or owned by any third party, required for the transportation and/or processing of Petroleum produced under this Agreement.

7.4 All reasonable expenses incurred by GNPC in connection with any of the matters set out in Article 7.3 above shall be borne by Contractor.

7.5 GNPC shall use its best efforts to render assistance to Contractor in emergencies and major accidents, and such other assistance as may be requested by Contractor, provided that any reasonable expenses involved in such assistance shall be borne by Contractor.

ARTICLE 8**COMMERCIALITY**

- 8.1 Contractor shall notify the Minister and GNPC in writing as soon as possible after any Discovery is made, but in any event not later than thirty (30) days after any Discovery is made.
- 8.2 As soon as possible after the analysis of the test results of such Discovery is complete and in any event not later than one hundred (100) days from the date of such Discovery, Contractor shall by a further notice in writing to the Minister indicate whether in the opinion of Contractor the Discovery merits appraisal.
- 8.3 Where the Contractor indicates that the Discovery does not merit appraisal, Contractor shall, subject to Article 8.17 below, relinquish the Discovery Area associated with the Discovery.
- 8.4 Where Contractor indicates that the Discovery merits appraisal, Contractor shall submit to the Minister within one hundred and eighty (180) days from the date of Discovery, an Appraisal Programme to be carried out by Contractor in respect of such Discovery. After thirty (30) days following its submission the Appraisal Programme shall be deemed approved as submitted, unless the Minister has before the end of the said thirty (30) period given the Contractor a notice in writing stating:
- i. that the Appraisal Programme as submitted has not been approved; and
 - ii. the revisions proposed by the Minister to the Appraisal Programme submitted, and the reasons therefor.
- 8.5 Unless Contractor and the Minister otherwise agree in any particular case, Contractor shall have a period of two (2) years from the date of Discovery to complete the Appraisal Programme.
- 8.6 Contractor shall commence to conduct the Appraisal Programme within one hundred and fifty (150) days from the date of approval or deemed approval of the Appraisal Programme by the Minister. Where the Contractor is unable to commence the conduct of the Appraisal Programme within one hundred and fifty (150) days from the date of approval or deemed approval of the Appraisal Programme by the Minister, GNPC shall be entitled to exercise the option provided for in Article 9.1 to enable prompt appraisal, provided however that after Contractor actually embarks on appraisal work or obtains an extension of time for such work, this option may not be exercised.

- 8.7 Not later than ninety (90) days from the date on which said Appraisal Programme relating to the Discovery is completed, Contractor will submit to the Minister a report containing the results of the Appraisal Programme. Such report shall include all available technical and economic data relevant to a determination of commerciality, including, but not limited to, geological and geophysical conditions, such as structural configuration, physical properties and the extent of reservoir rocks, areas, thickness and depth of pay zones, pressure, volume and temperature analysis of the reservoir fluids; preliminary estimates of Crude Oil and Natural Gas reserves; recovery drive characteristics; anticipated production performance per reservoir and per well; fluid characteristics, including gravity, sulphur percentage, sediment and water percentage and refinery assay pattern.
- 8.8 Not later than ninety (90) days from the date on which said Appraisal Programme is completed Contractor will, by a further notice in writing, inform the Minister whether the Discovery in the opinion of Contractor is or is not a Commercial Discovery.
- 8.9 If Contractor informs the Minister that the Discovery is not a Commercial Discovery, then subject to Articles 8.17, Contractor shall relinquish such Discovery Area; provided, however, that in appropriate cases, before declaring that a Discovery is not a Commercial Discovery, Contractor shall consult with the other Parties and may make appropriate representations proposing minor changes in the fiscal and other provisions of this Agreement which may, in the opinion of Contractor, affect the determination of commerciality. The other Parties may, where feasible, and in the best interests of the Parties agree to make such changes or modifications in the existing arrangements.
- 8.10 If Contractor pursuant to Article 8.8 informs the Minister that the Discovery is a Commercial Discovery, Contractor shall not later than one hundred and eighty (180) days thereafter, prepare and submit to the Minister a Development Plan.
- 8.11 The Development Plan referred to in Article 8.10 shall be based on detailed engineering studies and shall include:
- a) Contractor's proposals for the delineation of the proposed Development and Production Area and for the development of any reservoir(s), including the method for the disposal of Associated Gas in accordance with the provisions of Article 14.4;
 - b) the way in which the Development and Production of the reservoir is planned to be financed;

- c) Contractor's proposals relating to the spacing, drilling and completion of wells, the production, storage, transportation and delivery facilities required for the production, storage and transportation of the Petroleum, including without limitation:
 - i) the estimated number, size and production capacity of production platforms if any;
 - ii) the estimated number of Production Wells;
 - iii) the particulars of feasible alternatives for transportation of the Petroleum, including pipelines;
 - iv) the particulars of onshore installations required, including the type and specifications or size thereof; and
 - v) the particulars of other technical equipment required for the operations;
- d) the estimated production profiles for Crude Oil and Natural Gas from the Petroleum reservoirs;
- e) estimates of capital and Production Operation expenditures;
- f) the economic feasibility studies carried out by or for Contractor in respect of alternative methods for Development of the Discovery, taking into account:
 - i) location;
 - ii) water depth (where applicable);
 - iii) meteorological conditions;
 - iv) estimates of capital and Production Operation expenditures; and
 - v) any other relevant data and evaluation thereof;
- g) the safety measures to be adopted in the course of the Development and Production Operations, including measures to deal with emergencies;
- h) the necessary measures to be taken for the protection of the environment;
- i) Contractor's proposals with respect to the procurement of goods and services obtainable in Ghana;
- j) Contractor's plan for training and employment of Ghanaian nationals; and
- k) the timetable for effecting Development Operations.

- 8.12 The date of the Minister's approval of the Development Plan shall be the Date of Commercial Discovery.
- 8.13 After thirty (30) days following its submission, the Development Plan shall be deemed approved as submitted, unless the Minister has before the end of the said thirty (30) day period given Contractor a notice in writing stating:
- i) that the Development Plan as submitted has not been approved; and
 - ii) the revisions, proposed by the Minister, to the Development Plan as submitted, and the reasons thereof.
- 8.14 Where the Development Plan is not approved by the Minister as provided under Article 8.13 above, the Parties shall within a period of thirty (30) days from the date of the notice by the Minister as referred to under Article 8.13 above meet to agree on the revisions proposed by the Minister to the Development Plan. In the event of failure to agree to the proposed revisions, within fourteen (14) days following said meeting any matters in dispute between the Minister and the Contractor shall be referred for resolution in accordance with Article 24.
- 8.15 Where the issue in dispute referred for resolution pursuant to Article 24 is finally decided in favour of Contractor the Minister shall forthwith give the requisite approval to the Development Plan submitted by Contractor.
- 8.16 Where the issue in question referred for resolution pursuant to Article 24 is finally decided in favour of the Minister in whole or in part, Contractor shall forthwith:
- i) amend the proposed Development Plan to give effect to the final decision rendered under Article 24, and the Minister shall give the requisite approval to such revised Development Plan; or
 - ii) subject to Article 8.19 below relinquish the Discovery Area.
- 8.17 Notwithstanding the relinquishment provisions of Articles 8.3 and 8.9 above, if Contractor indicates that a Discovery does not at the time merit appraisal, or after appraisal does not appear to be commercial but may merit appraisal or potentially become commercial at a later date during the Exploration Period, then Contractor need not relinquish the Discovery Area and may continue its Exploration Operations in the Contract Area during the Exploration Period provided that the Contractor shall explain what additional evaluations, including Exploration work or studies (within or outside the Discovery Area), are or may be planned in order to determine whether subsequent appraisal is warranted or that the Discovery is commercial. Such

evaluations shall be performed by Contractor according to a specific time table, subject to its right of earlier relinquishment of the Discovery Area. After completion of the evaluations, Contractor shall make the indications called for under Article 8.2 or 8.8 and either proceed with appraisal, confirm commerciality or relinquish the Discovery Area. In any case, if at the end of the Exploration Period Contractor has not indicated its intent to proceed with an Appraisal Programme or that the Discovery is a Commercial Discovery, then the Discovery Area shall be relinquished.

- 8.18 Before Contractor indicates that the Discovery will not merit appraisal, or after an Appraisal Programme, indicates it will not be a Commercial Discovery, Contractor may consult with the other Parties and may make appropriate representations proposing minor changes in the fiscal and other provisions of this Agreement which may, in the opinion of Contractor, affect the determination of commerciality. The other Parties may, agree to make such changes or modifications in the existing arrangements. In the event the Parties do not agree on such changes or modifications, then subject to Article 8.17 and Article 8.19 Contractor shall relinquish the Discovery Area.
- 8.19 Nothing in Article 8.3, 8.9, 8.16 or 8.17 above shall be read or construed as requiring Contractor to relinquish:
- a) any area which constitutes or forms part of another Discovery Area in respect of which:
 - i) Contractor has given the Minister a separate notice indicating that such Discovery merits appraisal or confirmation; or
 - ii) Contractor has given the Minister a separate notice indicating that such Discovery is a Commercial Discovery; or
 - b) any area which constitutes or forms part of a Development and Production Area.
- 8.20 In the event a field extends beyond the boundaries of the Contract Area, the Minister may require Contractor if it so wishes, to exploit said Field in association with the third party holding the adjacent area, pursuant to unitization and engineering principles and practices in accordance with accepted international Petroleum industry practices.

ARTICLE 9

SOLE RISK ACCOUNT

- 9.1 Subject to Article 8.6, unless and until Contractor has notified GNPC that it wishes to appraise a Discovery, GNPC may notify Contractor that it will at its sole cost, risk and expense commence to appraise that Discovery, provided that within thirty (30) days of such notification from GNPC, Contractor may elect to commence to appraise that Discovery within its Work Programme.
- 9.2 Where an appraisal undertaken under Article 9.1 at the sole expense of GNPC results in a determination that a Discovery is commercial, Contractor may develop the Commercial Discovery upon reimbursement to GNPC of all expenses incurred in undertaking the appraisal and arranging with GNPC satisfactory terms for the payment of a premium equivalent to seven hundred per cent (700%) of such expenses. Such premium shall not be reckoned as cost of Petroleum Operations for the purpose of the Accounting Guide. In the event that Contractor declines to develop said Discovery, Contractor shall relinquish the Development and Production Area established by the Appraisal Programme conducted by GNPC under Article 9.1.
- 9.3 During the Exploration Period GNPC may, at its sole risk and expense, require Contractor to continue drilling to penetrate and test horizons deeper than those contained in the Work Programme of Contractor or required under Article 4. GNPC may also at its sole risk ask the Contractor to test a zone or zones which Contractor has not included in Contractor's test programme. Notice of this shall be given to Contractor in writing as early as possible prior to or during the drilling of the well, but in any case not after Contractor has begun work to test, complete or abandon the well. The exercise by GNPC of this right shall be in an agreed manner which does not prevent Contractor from complying with its work obligations under Article 4.3.
- 9.4 At any time before commencing such deeper drilling or testing under Article 9.3, Contractor may elect to embody the required drilling or testing in its own Exploration Operations, in which case any resulting Discovery shall not be affected by the provisions of this Article 9.

- 9.5 Where any sole risk deeper drilling or testing results in a Discovery, GNPC shall have the right, at its sole cost, risk and expense, to appraise, develop, produce and dispose of all Petroleum from that deeper horizon, provided however that if at the time such Petroleum is tested from the well, Contractor's Work Programme includes a well or wells to be drilled to the same producing horizon, and provided that that the well or wells result (s) in a Petroleum producing well producing from the same

horizon, Contractor shall, after reimbursing GNPC for all costs associated with its Sole Risk deeper drilling in said well, have the right to include production from that well in its total production for the purposes of establishing a Commercial Discovery, and, if a Commercial Discovery is subsequently established, to develop, produce and dispose of the Petroleum in accordance with the provisions of this Agreement.

- 9.6 Alternatively, if at the time such Petroleum is tested from the well, Contractor's Work Programme does not include a well to be drilled to said horizon, Contractor has the option to appraise and /or develop, as the case may be, the Discovery for its account under the terms of this Agreement if it so elects within a period of sixty (60) days after such Discovery. In such case, Contractor shall reimburse GNPC for all expenses incurred by GNPC in connection with such sole risk operations, and shall make satisfactory arrangements with GNPC for the payment of a premium equivalent to seven hundred percent (700%) of such expenses.
- 9.7 During the term of this Agreement, GNPC shall have the right, at its sole cost, risk and expense, and upon six (6) months prior notice to Contractor, to drill one (1) or two (2) wells per Calendar Year within the Contract Area provided that the work intended to be done by GNPC had not been scheduled for a Work Programme to be performed by Contractor and the exercise of such right by GNPC and the arrangement made by GNPC for undertaking such drilling do not hinder Contractor from satisfying its work obligations or delay it in so doing. Within thirty (30) days after receipt of such notice Contractor may elect to drill the required well or wells as part of Contractor's Exploration Operations.
- 9.8 In the event that a well drilled for the account and risk of GNPC in accordance with Article 9.7 above results in a Discovery, GNPC shall have the right to appraise and develop as the case may be or require Contractor to develop, after GNPC declares a Commercial Discovery, such Commercial Discovery for a mutually agreed service fee, so long as Contractor has an interest in the Contract Area, GNPC taking all the interest risk and costs and hence having the right to all Petroleum produced from the Commercial Discovery, provided however that Contractor has the option to appraise and/or develop, as the case may be, the Discovery for its account under the terms of this Agreement if it so elects within a period of sixty (60) days after receipt of GNPC's written notice of such Discovery.
- 9.9 Contractor shall reimburse GNPC for all expenses incurred by GNPC in connection with such Sole Risk Operations, and shall make satisfactory arrangements with GNPC for the payment of a premium equivalent to seven hundred percent (700%) of such expenses before exercising the option under Article 9.7. Such premium shall not be reckoned as Petroleum Costs for the purposes of Accounting Guide.

- 9.10 In the event that Contractor declines to develop the Commercial Discovery or no agreement is reached on the service fee arrangement as provided for in Article 9.8, Contractor shall relinquish the Development and Production Area associated with such Commercial Discovery.
- 9.11 Sole Risk Operations under this Article shall not extend the Exploration Period nor the term of this Agreement and Contractor shall complete any agreed programme of work commenced by it under this Article at GNPC's sole risk, and subject to such provisions hereof as the Parties shall then agree, even though the Exploration Period as defined in Article 3 or the term of this Agreement may have expired.
- 9.12 GNPC shall indemnify and hold harmless Contractor against all actions, claims, demands and proceedings whatsoever brought by any third party or the State, arising out of or in connection with Sole Risk Operations under this Article 9, unless such actions, claims, demands and proceedings are caused by Contractor's Gross Negligence provided that under no circumstances shall Contractor be liable for consequential loss (including but not limited to loss of profit or loss of production).
- 9.13 The exercise by GNPC of its sole risk rights under this Article 9 shall be performed in an agreed manner with Contractor, which does not prevent Contractor from complying with its work obligations under Article 4.3, an Appraisal Programme or a Development Plan and shall include a financing plan satisfactory to Contractor where GNPC has nominated Contractor to perform the Sole Risk Operations on its behalf.
- 9.14 GNPC shall not elect to conduct any Sole Risk Operations during the First Subperiod or within the boundaries of a Development and Production Area.

ARTICLE 10**SHARING OF CRUDE OIL**

- 10.1 Gross Production of Crude Oil from each Development and Production Area shall (subject to a Calendar Year adjustment developed under the provisions of Article 10.7) be distributed amongst the Parties in the following sequence and proportions:
- a) Five per cent (5%) of the Gross Production of Crude Oil shall be delivered to the State as **ROYALTY**, pursuant to the provisions of the Petroleum Law. Royalty for any Crude Oil having an API gravity of less than eighteen degrees (18°) shall be four per cent (4%). The rate of royalty on the Gross Production of Natural Gas shall be three per cent (3%). Upon notice to Contractor, the State shall have the right to elect to receive cash in lieu of its royalty share of such Petroleum. The State's notice shall be given to Contractor at least ninety (90) days in advance of each lifting period, such periods to be established pursuant to the provisions of Article 10.7. In such case, said share of Crude Oil shall be delivered to Contractor and it shall pay to the State the value of said share in cash at the relevant weighted average Market Price for the relevant period as determined in accordance with Article 11.7;
 - b) **The State's AOE** (as hereinafter defined) Share of Crude Oil if any, shall be distributed to the State out of the Contractor's share of Crude Oil determined under Article 10.1 (d). The State shall also have the right to elect to receive cash in lieu of the AOE share of Crude Oil accorded to it pursuant to Article 10.2. Notification of said election shall be given in the same notice in which the State notifies Contractor of its election to receive cash in lieu of Crude Oil under Article 10.1 (a). In such case, said share of Crude Oil shall be delivered to Contractor and it shall pay to the State the value of said share in cash at the Market Price for the relevant period as determined in accordance with Article 11.7 for Crude Oil;
 - c) After distribution of such amounts of Crude Oil as are required pursuant to Article 10.1(a), the amount of Crude Oil, if any, shall be delivered to GNPC to the extent it is entitled for Sole Risk operations under Article 9;
 - d) After distribution of such amounts of Crude Oil as are required pursuant to Article 10(a) and (c) above, the remaining Crude Oil produced from each Development and Production Area shall be distributed to Contractor and, subject to (e) below, to GNPC on the basis of their respective Participating Interests pursuant to Article 2.4, 2.5 and 2.9;

- e) In the event that GNPC has failed to pay any amounts due to Contractor pursuant to Article 15.2 of this Agreement (such amounts together with interest thereon in accordance with Article 26.7 being hereinafter called "Default Amounts") and for so long as any such advances and interest thereon remain unrecovered by Contractor, an amount of Crude Oil shall be delivered to GNPC sufficient in value to reimburse it for its share of Production Costs paid by it to that date, until such share of Production Costs has been fully reimbursed to it, after which a volume of Crude Oil shall be delivered to Contractor equivalent in value to the outstanding amounts of the aforesaid Default Amounts until such Default Amounts are fully recovered by Contractor. The value of the Crude Oil for the purposes of this Article 10 shall be the Market Price determined pursuant to Article 11.7.

10.2 At any time the State shall be entitled to a portion of Contractor's share of Crude Oil then being produced from each separate Development and Production Area (hereinafter referred to as "Additional Oil Entitlements" or "AOE") on the basis of the after-tax inflation-adjusted rate of return ("ROR") which Contractor has achieved with respect to such Development and Production Area as of that time. Contractor's ROR shall be calculated on its NCF and shall be determined separately for each Development and Production Area at the end of each Quarter in accordance with the following computation:

(a) Definitions:

"NCF" means Contractor's net cash flow for the Quarter for which the calculation is being made and shall be computed in accordance with the following formula:

$$\text{NCF} = x - y - z$$

where

"x" equals all revenues received during such Quarter by Contractor from the Development and Production Area, including an amount computed by multiplying the amount of Crude Oil taken by Contractor during such Quarter in accordance with Article 10.1 (d) and (e); excluding such Crude Oil taken by Contractor for payment of advances and interest in respect of Petroleum Costs incurred by Contractor on GNPC's behalf, and Default Amounts as defined in Article 10.1 (e) by the Market Price applicable to Crude Oil during the Quarter when lifted, plus any other proceeds specified in the Accounting Guide received by Contractor, including, without limitation, the proceeds from the sale of any assets to which Contractor continues to have title. For the avoidance of doubt, "x" shall not include revenues from Royalty or AOE Crude Oil delivered to Contractor because the State has elected to receive cash in lieu or which is Crude Oil lifted by

Contractor which is part of another Party's entitlement (e.g. Crude Oil purchased by Contractor from GNPC or the State) but shall include revenues from Crude Oil owned by Contractor but lifted by another Party (e.g. Crude Oil purchased by GNPC or the State from Contractor).

"y" equals one quarter ($\frac{1}{4}$) of the income tax paid by the Contractor to the State with respect to the Calendar Year in respect of the Development and Production Area. If there are two (2) or more Development and Production Areas, the total income tax paid by Contractor in accordance with the Petroleum Income Tax Law 1987 shall for purposes of this calculation be allocated to the Development and Production Area on the basis of hypothetical tax calculations for the separate Development and Production Areas. The hypothetical tax calculation for each Development and Production Area shall be determined by allocating the total amount of tax incurred for each Calendar Year by Contractor under the Petroleum Income Tax Law to each Development and Production Area based on the ratio that the chargeable income from a given Development and Production Area bears to the total chargeable income of Contractor. The chargeable income of Contractor is determined under section 2 of the Petroleum Income Tax Law and the chargeable income of a Development and Production Area shall be calculated by deducting from the gross income derived from or allocated to that Area those expenses deductible under section 3 of the Petroleum Income Tax Law which are directly allocable to that Area as well as those expenses deductible under the said Section 3 which are not attributable to any Development and Production Area where the Development and Production in question had the earliest Date of Commencement of Commercial Production. A negative chargeable income for an Area shall be treated as zero for purposes of this allocation and not more (or less) than the total income tax paid by Contractor shall be allocated between the Areas.

"z" equals all Petroleum Costs specified in the Accounting Guide and expended by Contractor during such Quarter with respect to the Development and Production Area, including any Petroleum Costs paid by Contractor on GNPC's behalf, and not reimbursed by GNPC within the Quarter, provided that all Petroleum Costs for Exploration Operations not directly attributable to a specific Development and Production Area shall for purposes of this calculation be allocated to the Development and Production Area having the earliest date of Commencement of Commercial Production; and provided further that for the purpose of the ROR calculation Petroleum Costs shall not include any amounts in respect of interest on loans obtained for the purposes of carrying out Petroleum Operations.

For the avoidance of doubt, where Petroleum Costs are expended before the first Date of Commencement of Commercial Production, the NCF computation shall nonetheless be made for each such Quarter and once a Development and Production Area is delineated, costs directly attributable to such Area as well as

Exploration Costs not attributable to any other Area shall be retrospectively deemed allocated to the Development and Production Area having the first Date of Commencement of Commercial Production; provided that where, after the delineation of such Development and Production Area but before its Date of Commencement of Commercial Production, another Development and Production Area is delineated, Contractor may elect either to maintain the original retrospective allocation or reallocate those Exploration Costs attributable to the new Development and Production Area to such new area.

"FA_n" "SA_n", "TA_n", "YA_n", and "ZA_n" means First Account, Second Account, Third Account, Fourth Account and Fifth Account, respectively, and represent amounts as of the last day of the Month in question as determined by the formulae in (b) below.

"FA_{n-1}", "SA_{n-1}", "TA_{n-1}", "YA_{n-1}" and "ZA_{n-1}", respectively, mean the lesser of (i) the FA_n, SA_n, TA_n, YA_{n-1} or ZA_n, as the case may be, as of the last day of the Quarter immediately preceding the Quarter in question, or (ii) zero. Stated otherwise, FA_{n-1} shall equal FA_n as of the last day of the Quarter immediately preceding the Quarter in question if such FA_n was a negative number, but shall equal zero if such FA_n was a positive number. Likewise, SA_{n-1} shall equal SA_n as of the last day of the Quarter immediately preceding the Quarter in question if such SA_n was a negative number, but shall equal zero if such SA_n was a positive number. Likewise TA_{n-1} shall equal TA_n as of the last day of the Quarter immediately preceding the Quarter in question if such TA_n was a negative number, but shall equal zero if such TA_n was a positive number. Likewise YA_{n-1} shall equal YA_n as of the last day of the Quarter immediately preceding the Quarter in question if such YA_n was a negative number, but shall equal zero if such YA_n was a positive number. Likewise, ZA_{n-1} shall equal ZA_n as of the last day of the Quarter immediately preceding the Quarter in question if such ZA_n was a negative number, but shall equal zero if such ZA_n was a positive number. In the ROR calculation for the first Quarter of Petroleum Operations, FA_{n-1}, SA_{n-1}, TA_{n-1}, YA_{n-1} and ZA_{n-1} shall be zero.

"i" for the Quarter in question equals one (1) subtracted from the quotient of the United States Industrial Goods

Wholesale Price Index (“USIGWPI) for the Quarter second preceding the Quarter in question as first reported in the International Financial statistics of the International Monetary Fund, divided by the USIGWPI for the same second preceding Quarter as first reported in the International Financial Statistics of the International Monetary Fund. If the USIGWPI ceases to be published, a substitute U.S. Dollar-based price index shall be used.

“n” refers to the nth Quarter in question.

“n-1” refers to the Quarter immediately preceding the nth Quarter

b) Formulae:

$$FA_n = \left(FA_{n-1} \left(1 + \frac{(0.19 + i)}{4} \right) \right) + NCF$$

$$SA_n = \left(SA_{n-1} \left(1 + \frac{(0.20 + i)}{4} \right) \right) + NCF$$

In the calculation of SA_n an amount shall be subtracted from NCF identical to the value of any AOE which would be due to the State if reference were made hereunder only to the FA_n .

$$TA_n = \left(TA_{n-1} \left(1 + \frac{(0.25 + i)}{4} \right) \right) + NCF$$

In the calculation of TA_n an amount shall be subtracted from NCF identical to the value of any AOE which would be due to the State if reference were made hereunder only to the FA_n and SA_n .

$$YA_n = \left(YA_{n-1} \left(1 + \frac{(0.30 + i)}{4} \right) \right) + NCF$$

In the calculation of YA_n an amount shall be subtracted from NCF identical to the value of any AOE which would be due to the State if reference were made hereunder only to the FA_n , SA_n and TA_n .

$$ZA_n = \left(ZA_{n-1} \left(1 + \frac{(0.40 + i)}{4} \right) \right) + NCF$$

In the calculation of ZA_n an amount shall be subtracted from NCF identical to the value of any AOE which would be due to the State if reference were made hereunder only to the FA_n , SA_n , TA_n and YA_n .

c) Prospective Application:

The State's AOE measured in barrels of Crude Oil will be as follows:

- i) If FA_n , SA_n , TA_n , YA_n and ZA_n are all negative, the State's AOE for the Quarter in question shall be zero;
- ii) If FA_n is positive and SA_n , TA_n , YA_n and ZA_n are all negative, the State's AOE for the Quarter in question shall be equal to the absolute amount resulting from the following monetary calculation:

Five percent (5%) of the FA_n for that Quarter divided by the weighted average Market Price of Crude Oil as determined in accordance with Article 11.7.
- iii) If both FA_n and SA_n are positive, but TA_n , YA_n and ZA_n are negative, the State's AOE for the Quarter in question shall be equal to an absolute amount resulting from the following monetary calculation:

the aggregate of five percent (5%) of FA_n for that Quarter plus ten percent (10%) of the SA_n for that Month all divided by the weighted average Market Price of Crude Oil as determined in accordance with Article 11.7.
- iv) If FA_n , SA_n , and TA_n are all positive but both YA_n and ZA_n are negative, the State's AOE for the Quarter in question shall be equal to the absolute amount resulting from the following monetary calculation:

the aggregate of five percent (5%) of the FA_n for that Quarter plus ten percent (10%) of the SA_n for that Quarter plus fifteen percent (15%) of the TA_n for that Quarter all divided by the weighted average Market Price of Crude Oil as determined in accordance with Article 11.7.
- v) If FA_n , SA_n , TA_n and YA_n are all positive but ZA_n is negative, the State's AOE for the Quarter in question shall be equal to the absolute amount resulting from the following monetary calculation:

the aggregate of five percent (5%) of the FA_n for that Quarter plus ten percent (10%) of the SA_n for that Quarter plus fifteen percent (15%) of the TA_n for that Quarter plus twenty percent (20%) of the YA_n for that Quarter all divided by the weighted average Market Price of Crude Oil as determined in accordance with Article 11.7.

- vi) If FA_n , SA_n , TA_n , YA_n and ZA_n are all positive, the State's AOE for the Quarter in question shall be equal to the absolute amount resulting from the following monetary calculation:

the aggregate of five percent (5%) of the FA_n for that Quarter plus ten percent (10%) of the SA_n for that Quarter plus fifteen percent (15%) of the TA_n for that Quarter plus twenty percent (20%) of the YA_n for that Quarter plus twenty five percent (25%) of the ZA_n for that Quarter all divided by the weighted average Market Price as determined in accordance with Article 11.7.

- d) The AOE calculations shall be made in U.S. Dollars with all non-dollar expenditures converted to U.S. Dollars in accordance with Section 1.3.5 of Annex 2. When the AOE calculation cannot be definitively made because of disagreement on the Market Price or any other factor in the formulae, then a provisional AOE calculation shall be made on the basis of best estimates of such factors, and such provisional calculation shall be subject to correction and revision upon the conclusive determination of such factors, and appropriate retroactive adjustments shall be made.
- e) The AOE shall be calculated on a Quarterly basis, with the AOE to be paid commencing with the first Quarter following the Quarter in which the FA_n , SA_n , TA_n , YA_n or ZA_n , (as applicable) becomes positive. Because the precise amount of the AOE for a Quarter cannot be determined with certainty until after the end of that Quarter, deliveries (or payments in lieu) of the AOE with respect to a Quarter shall be made during such Quarter based upon the Contractor's good faith estimates of the amounts owing, with any adjustments following the end of the Quarter to be settled pursuant to the procedures agreed to pursuant to Article 10.7. Final calculations of the AOE shall be made within thirty (30) days following the filing by the Contractor of the annual tax return for such Calendar year pursuant to the Petroleum Income Tax Law, and the amount of the AOE shall be appropriately adjusted in the event of a subsequent adjustment of the amount of tax owing on such term.

- 10.3 GNPC shall act as agent for the State in the collection of all Petroleum or money accruing to the State under this Article and delivery or payment to GNPC by Contractor shall discharge Contractor's liability to deliver the share of the State.
- 10.4 The State or GNPC, having met the requirements of Article 15.1, may elect, in accordance with terms and conditions to be mutually agreed by the Parties, that all or part of the Crude Oil to be distributed to the State or to GNPC pursuant to this Article shall be sold and delivered by the State or GNPC to Contractor or its Affiliate for use and disposal and in such case Contractor or its Affiliate shall pay to the State or to GNPC, as the case may be, the Market Price for any Crude Oil so sold and delivered.

Market Price for purposes of this Article 10.4 shall be determined in the manner specified in Article 11.7.

- 10.5 Except as otherwise provided in this Agreement, GNPC's and Contractor's respective right and entitlement to the volume of gross production of Petroleum at the first metering of fiscalization point shall be shared according to Articles 2.4, 2.5, 2.7 and 2.9. Ownership and risk of loss of all Petroleum lifted or sold by Contractor or GNPC shall pass to Contractor or GNPC, as the case may be, after the custody transfer at the fiscal metering skid at the outlet flange ("Delivery Point") of the marine terminal or other storage or holding facility or pipeline for loading into tankers or other transportation equipment referred to in Article 11.1.
- 10.6 Subject to the provisions of Article 15 hereof, Contractor shall have the right freely to export and dispose of all the Petroleum allocated and/or delivered to it pursuant to this Article.
- 10.7 The Parties shall through consultation enter into supplementary agreements concerning Crude Oil lifting procedures, lifting and tanker schedules, loading conditions, Crude Oil metering, and the settlement of lifting imbalances, if any, among the Parties at the end of each Quarter. The Crude Oil to be distributed or otherwise made available to the Parties in each Calendar Year in accordance with the preceding provisions of this Article shall insofar as possible be in reasonably equal Monthly quantities.
- 10.8 To assist in the making of the AOE calculation in accordance with Article 10.2, there is attached as Annex 3 to this Agreement a worked example of the calculation using hypothetical figures, rates and thresholds, for the purpose of illustration only.

ARTICLE 11**MEASUREMENT AND PRICING OF CRUDE OIL**

- 11.1 Crude Oil shall be delivered by Contractor to storage tanks constructed, maintained and operated in accordance with applicable laws and good international petroleum industry oilfield practice under the same or similar circumstances. Crude Oil shall be metered or otherwise measured for quantity and tested for quality in such storage tanks for all purposes of this Agreement. Any Party may request that measurements and tests be done by an internationally recognised inspection company. Contractor shall arrange and pay for the conduct of any measurement, or test so requested provided, however, that in the case of (1) a test requested for quality purposes and (2) a test requested on metering (or measurement) devices, where the test demonstrates that such devices are accurate within acceptable tolerances, the Party requesting the test shall reimburse Contractor for the costs associated with the test or tests.
- 11.2 GNPC or its authorised agent shall have the right:
- a) to be present at and to observe such measurement of Crude Oil; and
 - b) to examine and test whatever appliances are used by Contractor.
- 11.3 In the event that GNPC considers Contractor's methods of measurement to be inaccurate GNPC shall notify Contractor to this effect and the Parties shall meet within ten (10) days of such notification to discuss the matter. If after thirty (30) days the Parties cannot agree over the issue they shall refer for resolution under Article 24 the sole question of whether Contractor's method of measuring Crude Oil is accurate and reasonable. Retrospective adjustments to measurements shall be made where necessary to give effect to the decision rendered under Article 24.
- 11.4 If upon the examination or testing of appliances provided for in Article 11.2 any such appliances shall be discovered to be defective:
- a) Contractor shall take immediate steps to repair or replace such appliance; and
 - b) subject to the establishment of the contrary, such error shall be deemed to have existed for three (3) Months or since the date of the last examination and testing, whichever occurred more recently.

- 11.5 In the event that Contractor desires to adjust, repair or replace any measuring appliance, it shall give GNPC reasonable notice to enable GNPC or its authorised agent to be present.
- 11.6 Contractor shall keep full and accurate accounts concerning all Petroleum measured as aforesaid and provide GNPC with copies thereof on a monthly basis, not later than ten (10) days after the end of each month.
- 11.7 The market price for Crude Oil delivered to Contractor hereunder shall be established with respect to each lifting as follows:
- a) on Crude Oil sold by Contractor in “arm’s length commercial transactions” (defined in Article 11.7 (c) below), the Market Price shall be the price actually realized by Contractor on such sales;
 - b) on other sales by Contractor, on exports by Contractor without sale and on sales under Article 15.2, the Market Price shall be determined by reference to world Market Prices of comparable Crude Oils sold in arm’s length transactions for export in the major world petroleum markets, and adjusted for oil quality, location and conditions of pricing, delivery and payment, provided that in the case of sales under Article 15.2 where such sales relate to part only of Contractor’s entitlement, prices actually realized by Contractor in sales of the balance of its proportionate share falling within Article 11.7(a) above shall be taken into account in determining Market Price;
 - c) sales in “arm’s length commercial transactions” shall mean sales to purchasers independent of the seller, which do not involve Crude Oil exchange or barter transactions, government to government transaction, sales directly or indirectly to Affiliates, or sales involving consideration other than payment in U.S. Dollar or currencies convertible thereto, or affected in whole or in part by considerations other than the usual economic incentives for commercial arm’s length Crude Oil sales;
 - d) the price of Crude Oil shall be expressed in U.S. Dollars per barrel, F.O.B. the Delivery Point by Contractor;
 - e) if the quality of various Crude Oils produced from the Contract Area is different, segregated and sold separately, the Market Price shall be determined separately for each type sold and/or exported by Contractor only to the extent that the different quality grades remain segregated through to the point where they are sold, and if grades of different quality are commingled into a common stream, Contractor and GNPC shall agree to an equitable methodology for assessing relative value for each grade of Crude Oil comprising the blend and shall

implement the agreed methodology for having the producer(s) of higher quality Crude Oil(s) reimbursed by the producer(s) of lower quality Crude Oil(s) as appropriate.

- 11.8 Contractor shall notify GNPC of the market Price determined by it for its respective lifting during each Quarter not later than thirty (30) days after the end of that Quarter.
- 11.9 If GNPC considers that the price notified by Contractor was not correctly determined in accordance with the provisions of Article 11.7, it shall so notify Contractor not later than thirty (30) days after notification by Contractor of such price, and GNPC and Contractor shall meet not later than twenty (20) days thereafter to agree on the correct Market Price.
- 11.10 In the event that GNPC and Contractor fail to agree upon the commencement of meetings for that purpose, or if, having met, cannot agree on the applicable Market Price, the Market Price shall be referred for determination in accordance with Article 24 of this Agreement.
- 11.11 Pending a determination under Article 11.10, the Market Price will be deemed to be the last Market Price agreed or determined, as the case may be, or if there has been no such previous agreement or determination, the price notified by Contractor for the lifting in question under Article 11.8. Should the determined price be different from that used in accordance with the foregoing then the difference plus interest at the Specified Rate shall be paid in cash or in Crude Oil by or to Contractor, as the case may be, within thirty (30) days of such determination.

ARTICLE 12

TAXATION AND OTHER IMPOSTS

- 12.1 No tax, duty, fee or other impost shall be imposed by the State or any political subdivision on Contractor, its Subcontractors or its Affiliates in respect of activities related to Petroleum Operations and to the sale and export of Petroleum other than as provided in this Article.
- 12.2 Contractor shall be subject to the following:
- i) Royalty as provided for in Article 10;
 - ii) Income Tax in accordance with the Petroleum Income Tax Law 1987 (PNDCL188) levied at the rate of thirty-five percent (35%) as stipulated in the Petroleum Income Tax Law 1987, PNDC Law 188. Where a new income tax rate comes into force as a result of the promulgation of the new Petroleum Income Tax Law currently before Cabinet, Contractor shall have the option of either applying the new income tax rate to this Agreement or remaining under the Petroleum Income Tax Law, 1987, PNDC Law 188;
 - iii) Additional Oil Entitlement as provided for in Article 10.2;
 - iv) Payments for rental of Government property, public lands or for the provision of specific services requested by Contractor from public enterprises; provided, however, that the rates charged Contractor for such rentals or services shall not exceed the rates charged to other members of the public who receive similar services or rentals;
 - v) Surface rentals payable to the State pursuant to Section 18 of the Petroleum Law per square kilometre of the area remaining at the beginning of each Contract Year as part of the Contract Area, in the amounts as set forth below:

<u>Phase of Operation</u>	<u>Surface Rentals Per Annum</u>
Initial Exploration Period	US \$ 30 per sq. km.
1st Extension Period	US \$ 50 per sq. km.
2nd Extension Period	US \$ 75 per sq. km.

Development & Production Area

US \$100 per sq. km.

- vi) Taxes, duties, fees or other imposts of a minor nature and amount insofar as they do not relate to the stamping and registration of this (1) Agreement, (2) any assignment of interest in this Agreement, or (3) any contract in respect of Petroleum Operations between Contractor and any Subcontractor.
- 12.3 Save for withholding tax at a rate of five percent (5%) from the aggregate amount due to any Subcontractor (other than the State or any entity wholly-owned or controlled by the State, where such entity is in possession of a certificate of exemption from withholding tax from the Commissioner of Internal Revenue Service, in which case withholding tax shall not be payable) if and when required by Section 27 (1) of the Petroleum Income Tax Law, Contractor shall not be obliged to withhold any amount in respect of tax from any sum due from Contractor to any Subcontractor. Notwithstanding the foregoing, the withholding tax in respect of services provided to Contractor by an Affiliate of any company comprising Contractor shall be waived provided such services are charged at cost.
- 12.4 Contractor shall not be liable for any export tax on Petroleum exported from Ghana and no duty or other charge shall be levied on such exports. Vessels or other means of transport used in the export of Contractor's Petroleum from Ghana shall not be liable for any tax, duty or other charge by reason of their use for that purpose.
- 12.5 Subject to the local purchase obligations hereunder, Contractor and Subcontractors may import into Ghana all plant, equipment and materials to be used solely and exclusively in the conduct of Petroleum Operations without payment of customs and other duties, taxes, fees and charges on imports save minor administrative charges.
- PROVIDED THAT:**
- a) GNPC shall have the right of first refusal for any item imported duty free under this Article which is later sold in Ghana; and
- b) where GNPC does not exercise its right of purchase Contractor may sell to any other person only subject to all import duty and taxes as if such items were being imported at the time of such sale; provided, however, that no duty or tax shall be levied if the purchaser could have imported the item sold free of duty or tax under an exemption similar to Contractor's hereunder.
- 12.6 Foreign National Employees of Contractor or its Affiliates, and of its Subcontractors, shall be permitted to import into Ghana free of import duty their personal and household effects in accordance with Section 22.7 of PNDCL 64; provided, however, that no property imported by such employee shall be resold by such employee in Ghana except in accordance with Article 12.5.

- 12.7 Subject to GNPC's rights under Article 19, Contractor, Subcontractors and Foreign National Employees shall have the right to export from Ghana all previously imported items as defined. Such exports shall be exempt from all customs and other duties, taxes, fees and charges on exports save minor administrative charges.
- 12.8 The Ghana Income Tax law applicable generally to individuals who are not employed in the petroleum industry shall apply in the same fashion and at the same rates to employees of Contractor, its Affiliates and its Subcontractors; provided, however, that Foreign National Employees of Contractor, its Affiliates, and its Subcontractors shall be exempt from the income tax and withholding tax liabilities unless they are resident in Ghana for more than thirty (30) continuous days or sixty (60) days in aggregate in any Calendar Year.
- 12.9 Pursuant to part 1 section 3 (2) of the Petroleum Income Tax Law, the parties hereby confirm that in respect of Capital allowance deductions for the purposes of calculating chargeable income of the Contractor, the Contractor shall fully depreciate in five (5) years. The mode of calculation shall be in accordance with the Capital Allowances schedule annexed to the Petroleum Income Tax Law 1987 (PNDCL.188).
- 12.10 With regard to each Development and Production Area, Contractor shall accrue estimated costs of decommissioning and abandonment of operations and facilities, site restoration and other associated operations and have such costs allowed prior to abandonment as a deduction against chargeable income over the estimated life of the estimated reserves on a straight line basis, commencing on the date when fifty percent (50%) of the estimated reserves have been produced from such area. Estimates with regard to costs will be reviewed on an annual basis for adjustment and will be adjusted to reflect actual expenses as incurred. The implementation of this Article 12.10 shall be subject to detailed guidelines to be issued by the Minister, but to the extent that such guidelines suggest potential changes to what is agreed in this Article 12.10, any such changes shall be subject to prior agreement between the Parties hereto.
- 12.11 It is the intent of the Parties that payments by Contractor of tax levied by the Petroleum Income Tax Law qualify as creditable against the income tax liability of each company comprising Contractor in its jurisdiction. Should the fiscal authority involved determine that the Petroleum Income Tax Law does not impose a creditable tax, the Parties agree to negotiate in good faith with a view to establishing a creditable tax on the precondition that no adverse effect should occur to the economic rights of GNPC or the State.

ARTICLE 13**FOREIGN EXCHANGE TRANSACTIONS**

- 13.1 Contractor shall for the purpose of this Agreement be entitled to receive, remit, keep and utilise freely abroad all the foreign currency obtained from the sales of the Petroleum assigned to it by this Agreement or purchased hereunder, or from transfers, as well as its own capital, receipts from loans and in general all assets thereby acquired abroad. Upon making adequate arrangements with regard to its commitment to conduct Petroleum Operations, Contractor shall be free to dispose of this foreign currency or assets as it deems fit.
- 13.2 Contractor shall have the right to open and maintain in Ghana bank accounts in foreign currency and Ghanaian currency. No restriction shall be made on the import by Contractor in an authorised manner of funds assigned to the performance of the Petroleum Operations and Contractor shall be entitled to purchase Ghanaian currency through authorised means, without discrimination, at the prevailing rate of exchange; provided, however, that such prevailing rate applicable to Contractor hereunder for all transactions for converting Ghanaian currency into U.S. Dollars, and vice versa, shall be at a buying or selling, as the case may be, rate of exchange not less favourable to Contractor than that quoted by the State or its foreign exchange control authority to any person or entity on the dates of such conversion (excepting those special rates provided by the State to discretely defined groups for special, limited purposes).
- 13.3 Contractor shall be entitled to convert in an authorised manner into foreign currencies of its choice funds imported by Contractor for the Petroleum Operations and held in Ghana which exceeds its local requirements at the prevailing rate of exchange referred to in Article 13.2 and remit and retain such foreign currencies outside Ghana.
- 13.4 In the event of resale by Contractor or its Affiliate of Crude Oil purchased from the State or GNPC, the State or GNPC shall have the right to request payment for such sales of its share of production to Contractor or its Affiliate to be held in the foreign currency in which the resale transaction took place or in U.S. Dollars.
- 13.5 Contractor shall have the right to make direct payments outside of Ghana from its home offices, and elsewhere, to its Foreign National Employees, and to those of its Subcontractors and suppliers 'not resident in Ghana' (as that term is defined in Part IV, Division 1, Section 160 of the Internal Revenue Act, 2000 (Act 592) for wages, salaries, purchases of goods and performance of services, whether imported into Ghana or supplied or performed therein for Petroleum Operations carried out

hereunder, in accordance with the provisions of this Agreement, in respect of services performed within the framework of this Agreement, and such payments shall be considered as part of the costs incurred in Petroleum Operations. In the event of any changes in the location of Operator's home or other offices, Operator shall so notify GNPC and the State.

- 13.6 All payments which this Agreement obligates Contractor to make to GNPC or the State, including income taxes, shall be made in U.S. Dollars, except as requested otherwise pursuant to Article 13.4 above. All payments shall be made by electronic transfer in immediately available funds to a bank to be designated by GNPC or the State, and reasonably accessible to Contractor by way of its being able to receive payments made by Contractor and give a confirmation of receipt thereof, or in such other manner as may be mutually agreed.
- 13.7 All payments which this Agreement obligates GNPC or the State to make to Contractor shall be made in U.S. Dollars. All payments shall be made by electronic transfer in immediately available funds to a commercial bank to be designated by Contractor, and reasonably accessible to GNPC or the State by way of its being able to receive payments made by GNPC or the State and give confirmation of receipt thereof, or in such other manner as may be mutually agreed.

ARTICLE 14

SPECIAL PROVISIONS FOR NATURAL GAS

PART I - GENERAL

- 14.1 Contractor shall have the right to use Natural Gas produced from any Development and Production Area for Petroleum Operation within the Contract Area such as reinjection for pressure maintenance and/or power generation.
- 14.2 Contractor shall have the right to flare Natural Gas:
- a) to the extent provided in an approved Development Plan;
 - b) during production testing operations;
 - c) when required for the safety of persons engaged in Petroleum Operations in accordance with Petroleum Industry practice;
 - d) where reinjection is inadvisable from the point of view of good reservoir or petroleum engineering practice; or
 - e) as otherwise authorised by the Minister.
- 14.3 Contractor shall have the right to extract condensate and Natural Gas liquids for disposition under the provisions relating to Crude Oil. Residual Natural Gas remaining after the extraction of condensate and Natural Gas liquids is subject to the provisions of this Article.

PART II -ASSOCIATED GAS

- 14.4 Based on the principle of full utilisation of Associated Gas and without substantial impediment to Crude Oil production, the Development Plan of each Development and Production Area shall include a plan of utilisation for Associated Gas.
- 14.5 If Contractor considers that production processing and utilisation of Associated Gas from any Development and Production Area to be non-economic, GNPC shall have the option to offtake such Associated Gas at the outlet flange of the gas-oil separator at its Sole Risk for its own use and to that end the Development Plan proposed by Contractor shall include:

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- a) a statement of the facilities necessary for the delivery to GNPC of such Associated Gas; and
 - b) a plan for the reinjection of such Associated Gas into the reservoir.
- 14.6 **A.** If GNPC elects to offtake Associated Gas under Article 14.5 above, GNPC shall pay for the cost of any additional facilities and any related production cost required for the delivery of the gas to GNPC, provided that:
- a) if Contractor subsequently wishes to participate in GNPC's gas utilisation programme, it shall reimburse GNPC for the costs of such facilities plus a premium of three hundred percent (300%); or
 - b) if Contractor subsequently develops a gas utilisation programme and requires the use of such facilities, Contractor shall pay GNPC an agreed fee for such use.
- B.** The decision of GNPC as to whether or not to exercise the option provided for in Article 14.5 shall be made in a timely manner. In making any such decision and in its subsequent conduct GNPC shall avoid the prevention of, or delay to, the orderly start-up or continuation of the production of Crude Oil as envisaged in Contractor's Development Plan.

PART III - NON-ASSOCIATED GAS

- 14.7 Contractor shall notify the Minister in writing as soon as any Discovery of Non-Associated Gas is made in the

Contract Area.

- 14.8 As soon as possible after the technical evaluation of the test results of such Discovery is complete and in any event not later than one hundred eighty (180) days from the date of Discovery, Contractor shall by a further notice in writing to the Minister (the "Notice") indicate whether in Contractor's opinion the Discovery merits Appraisal.
- 14.9 Where Contractor's Notice indicates that the Discovery does not at that time merit Appraisal but may merit Appraisal or additional evaluation at a later date during the Exploration Period or during the initial period under a new petroleum agreement made pursuant to Article 14.18 below, then Contractor need not submit a proposed Appraisal Programme at that time but instead shall indicate what other studies or evaluations may be warranted before an Appraisal Programme is undertaken. Where Contractor's Notice indicates that the Discovery will not merit appraisal at any time during the Exploration Period or during the initial period under a new petroleum agreement made pursuant to Article 14.18, then GNPC may by Notice to Contractor

require Contractor to relinquish the rights to the Non-Associated Gas within that Discovery Area.

- 14.10 Where Contractor's Notice indicates that the Discovery merits the drilling of one or more Appraisal Wells at that time, Contractor shall prepare and submit to the JMC the appropriate Appraisal Programme which Appraisal Programme shall be scheduled to be completed within two (2) years of the submission of the Notice to the Minister.
- 14.11 Not later than ninety (90) days from the date on which the Appraisal Programme relating to a Discovery is concluded, Contractor shall submit to the Minister a report containing the results of the Appraisal Programme. If the report concludes that the Discovery merits commercial assessment, Contractor shall notify the Minister within one hundred eighty (180) days from the date on which the Appraisal Programme relating to the Discovery was completed of a programme of such assessment and shall conduct such programme during the rest of the Exploration Period and, if applicable, during the initial period under a new petroleum agreement made pursuant to Article 14.18. Notwithstanding the above, Contractor may also notify the Minister that commercial assessment of the Discovery is not warranted at that time but the Discovery may merit such assessment at a later date during the Exploration Period or during the initial period aforesaid. If Contractor so notifies the Minister, Contractor shall also indicate what other studies or evaluation may be warranted before a commercial assessment is undertaken.
- 14.12 The purpose of the commercial assessment shall be to study the uses to which production from the Discovery Area, separately or together with any Natural Gas referred to in Part II of this Article 14, can be devoted and whether involving exports or domestic utilisation. As part of the assessment, the Parties shall also pursue discussions on the required contractual arrangements for disposition of the Natural Gas to potential purchasers and/or consumers of the Natural Gas.
- 14.13 Contractor may consult with the other Parties and may make appropriate representations proposing changes in the fiscal and other provisions of this Agreement which may, in the opinion of Contractor, affect the above determinations made pursuant to Articles 14.10 and 14.11. The other Parties may, where feasible and in the best interests of the Parties, agree to make such changes or modifications in the existing arrangements.
- 14.14 Nothing in this Part III of Article 14 shall be read or construed as requiring Contractor to relinquish any area:

- i) which constitutes or forms part of another Discovery Area in respect of which Contractor has given to the Minister a separate notice indicating that such Discovery merits confirmation or commercial assessments; or
- ii) which Contractor has given the Minister a separate notice in respect of indicating that such Discovery is a Commercial Discovery; or
- iii) which constitutes or forms part of a Development and Production Area.

PART IV NATURAL GAS PROJECTS

- 14.15 If at any time during the commercial assessment Contractor informs the Minister in writing that the Discovery can be produced commercially, it shall as soon as reasonably possible thereafter submit to the Minister and to GNPC its proposals for an agreement in accordance with Article 8 relating to the development of the Discovery on the principles set forth in this Part IV of Article 14. The State and GNPC undertake on receipt of such notice to negotiate in good faith with Contractor with a view to reaching agreement on terms for such production. Any such agreement will be based on terms and fiscal requirements which shall be no less favourable to Contractor than those provided for in Articles 10 and 11 and which take full account of the legitimate interest of the State as the resource owner.
- 14.16 If at any time during the commercial assessment Contractor has identified a market in Ghana for the reserves of Associated and/or Non-Associated Gas or any part thereof that can be saved without prejudice to an export project, the Parties shall proceed in good faith to negotiate the appropriate contractual arrangements for the disposition of the Natural Gas. In the event of a domestic market for such Natural Gas, Contractor and GNPC shall receive for delivery onshore of its share of the Natural Gas at a price to be agreed between GNPC and Contractor taking into account among other things the cost of developing the Natural Gas and the uses which will be made of the Natural Gas.
- 14.17 In the event of a Discovery of Natural Gas in the Contract Area which is to be developed and commercially produced, the provisions of this Agreement in respect to interests, rights and obligations of the Parties regarding Crude Oil shall apply to Natural Gas, with the necessary changes in points of detail, except with respect to specific provisions in this Agreement concerning Natural Gas and different or additional provisions concerning Natural Gas which may be agreed by the Parties in the future:
- a) The system for the allocation of Natural Gas among the Parties shall follow the same general format as Article 10.1 provides for Crude Oil, with the exception

that the Royalty to be delivered to the State on Natural Gas shall be at the rate of three percent (3%) of the annual Gross Production of Natural Gas as an incentive to enhance the viability of a Gas project on the basis herein provided for.

- b) The Parties recognise that projects for the Development and Production of Natural Gas are generally long-term in nature for both the project developers and the customers who purchase the Natural Gas. Substantial investments and dedication of facilities require long-term commitments on both sides. This Agreement, being for a specific term of years, may not cover the length of time for which customers in given cases will require commitments on the part of the Parties to this Agreement to deliver their respective shares of the output. Accordingly the Parties agree to consider undertaking such commitments where reasonably required for the efficient and viable development of a Natural Gas project. It is recognised that, unless otherwise agreed by the Parties hereto, Contractor will have no right or interest in the project or the Natural Gas produced and delivered after the term of this Agreement has expired unless a petroleum agreement pursuant to Article 14.18(A) has been entered into.
 - c) In the event that Contractor or an Affiliate decides to construct facilities to receive Natural Gas from the Development and Production Area for further processing or for use as a feedstock or fuel in order to convert such Natural Gas into one or more commercially marketable products, the Contractor shall be entitled to pay for such Natural Gas the price paid by the State or GNPC under Article 14.16.
 - d) The Parties will consider collaboration in obtaining any common external financing available for Natural Gas processing or Natural Gas utilisation facilities, including project financing; however, each Party shall remain free to finance externally its share of such facilities to the extent it prefers to do so.
- 14.18 A) Where Contractor has during the continuance of the Exploration Period made a Discovery of Non-Associated Gas but has not before the end of the Exploration Period declared that Discovery to be a Commercial Discovery, the State and GNPC will, if Contractor so requests, enter into a new petroleum agreement with Contractor in respect of the Discovery Area to which that Discovery relates.
- B) The State and GNPC shall not be under any obligation to enter into an Agreement pursuant to Article 14.18 (A) unless before the end of the Exploration Period Contractor has carried out an Appraisal Programme in respect of that Discovery pursuant to Article 14.10 and submitted to the Minister a report thereon pursuant to Article 14.11, or has notified the Minister of reasonable

arrangements to undertake and complete such an Appraisal Programme during the period provided for in (C) (i) below.

- C) A Petroleum Agreement entered into pursuant to Article 14.18 (A):
- i) shall unless the Discovery in respect of which the Agreement has been made is declared by Contractor to be a Commercial Discovery continue in force for an initial period not exceeding five (5) years;
 - ii) shall in the event that the Discovery is declared by Contractor to be a Commercial Discovery
 - a) continue in force for an aggregate period not exceeding thirty (30) years;
 - b) include, or be deemed to include, all the provisions which, mutatis mutandis, would have applied to a Commercial Discovery of Non-Associated Gas if Contractor had declared such Discovery to be a Commercial Discovery under this Agreement;
 - iii) shall contain in respect of the initial period or of any renewal period details of the evaluations or studies which Contractor proposes to undertake in order to determine or keep under review the commerciality of the Discovery;
 - iv) shall confer on GNPC preemptive rights in respect of the Gas contained in the reservoir to which the Discovery relates substantially in the form of the provisions hereinafter set out in Article 14.18 (D).
- D) In the event that the Parties are unable to agree to the detailed terms of the Petroleum Agreement contemplated in Article 14.18(a) and the Exploration Period expires, GNPC itself, or a third party may, at its sole risk and expense, complete the Appraisal Programme relating to the Discovery and/or develop the Discovery, provided that Contractor shall have the right of first refusal in respect of any transaction proposed by GNPC or such third party for the development of the Discovery.
- E) i) Where Contractor has not, before the end of the initial period, declared the Discovery to be commercial and the Minister has in his discretion determined that further evaluation or studies may be required before the Discovery can be declared commercial, the right of Contractor to retain the Discovery Area shall continue for a further period not exceeding in the aggregate five (5) years.
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right of Contractor to retain the Discovery Area aforesaid shall be secured by the renewal of the Agreement referred to in Article 14.18 (a) or where necessary by a new Agreement entered into by the Parties for that purpose.

- ii) Where Contractor has not declared the Discovery to be a Commercial Discovery, if GNPC has identified a market for the Gas contained in the reservoir to which the Discovery relates, or any part thereof, it may at any time during the initial period or the aggregate period referred to in 14.18 D above serve on Contractor a notice giving particulars of the quantities of Natural Gas required to serve that market and the price offered; and on the basis of the procedure detailed in Article 9, exercise the right referred to in Article 14.18 C (iv) above.
- 4.19 For the purposes of calculating the State's 3% Royalty share on Natural Gas, if the State elects to take its royalty on Natural Gas in cash, the value of such Natural Gas shall be the actual price realized.
- 4.20 Within four (4) months from the receipt of a notice as aforesaid Contractor may declare the Discovery to be a Commercial Discovery and in accordance with the Agreement and the Petroleum Law prepare and submit to the Minister a Development Plan for the production of the Gas in association with GNPC to serve the market identified at the price offered.
- 4.21 If Contractor has not, within the period of four (4) months aforesaid, declared the Discovery to be a Commercial Discovery, GNPC may at its sole risk and expense develop the Discovery to the extent necessary to meet the requirements of the market identified as aforesaid, and in that event the Contractor shall cease to have any rights in respect of the Natural Gas in the reservoir required for that purpose.

ARTICLE 15

DOMESTIC SUPPLY REQUIREMENT (CRUDE OIL)

- 15.1 Crude Oil for consumption in Ghana (in this Article called the "Domestic Supply Requirement") shall be supplied, to the extent possible, by the State and GNPC from their respective entitlements under this Agreement and under any other contract for the production of Crude Oil in Ghana.
- 5.2 In the event that Crude Oil available to the State pursuant to Article 15.1 is insufficient to fulfill the Domestic Supply Requirement, Contractor shall upon three (3) Month's notice from the State, be obliged together with any third parties which produce Crude Oil in Ghana, to supply a volume of Crude Oil to be used for such Domestic Supply Requirement, calculated on the basis of the ratio of Contractor's entitlement to Crude Oil under Article 10.1 (d) to the entitlements of all such third parties producing Crude Oil in Ghana and provided that Contractor's obligation to supply Crude Oil for purposes of meeting the Domestic Supply Requirement shall not exceed the total of Contractor's entitlement of Gross Production of Crude Oil after deduction of the State's Royalty under this Agreement.
- 15.3 The Contractor shall ensure that any contract for the supply of the Contractor's share of Crude Oil under this Agreement shall be made subject to the requirement in this Article 15 to meet the Domestic Supply Requirement.
- 15.4 The State shall purchase any Crude Oil supplied by Contractor pursuant to this Article at a price which matches the Market Price determined under Article 11.7 for the Month of delivery. The State shall pay such prices in accordance with Article 13.7 within thirty (30) days after receipt of Contractor's invoice, failing which Contractor's obligations in respect of the Domestic Supply Requirement under this Article 15 shall be suspended until payment is made good, at which time deliveries shall be resumed subject to any alternative commitments that may have been reasonably entered into by Contractor to dispose of the Domestic Supply Requirement Crude Oil during the period of default in payment. Contractor shall recover any amount due and unpaid by State, plus interest at the interest rate defined in Article 26.7, from GNPC's share of Crude Oil as provided in Article 10.1 (e).

ARTICLE 16**INFORMATION AND REPORTS : CONFIDENTIALITY**

- 16.1 Contractor shall keep GNPC regularly and fully informed of operations being carried out by Contractor and provide GNPC with all information, data, (film, paper and digital forms), samples, interpretations and reports, (including progress and completion reports) including but not limited to the following:
- a) processed seismic data and interpretations thereof;
 - b) well data, including but not limited to electric logs and other wireline surveys, and mud logging reports and logs, samples of cuttings and cores and analyses made therefrom;
 - c) any reports prepared from drilling data or geological or geophysical data, including maps or illustrations derived therefrom;
 - d) well testing and well completion reports;
 - e) reports dealing with location surveys, seabed conditions and seafloor hazards and any other reports dealing with well, platform or pipeline locations;
 - f) reservoir investigations and estimates regarding reserves, field limits and economic evaluations relating to future operations;
 - g) daily, weekly, monthly and other regular reports on Petroleum Operations;
 - h) comprehensive final reports upon the completion of each specific project or operation;
 - i) contingency programmes and reports on safety and accidents;
 - j) procurement plans, Subcontractors and contracts for the provision of services to Contractor.

Where appropriate, data shall be provided on film, paper and in digital format. In respect of the reports, including text and graphics, paper and digital copies shall be submitted.

- 16.2 Contractor shall have the right to retain for its own use in connection with the conduct of Petroleum Operations under this Agreement copies of data, well logs,

maps, magnetic tapes, other geological and geophysical information, portions of core samples and copies of reports, studies and analyses, referred to in Article 16.1.

- 16.3 Not later than ninety (90) days following the end of each Calendar Year, Contractor shall submit to GNPC a report covering Petroleum Operations performed in the Contract Area during such Calendar Year. Such report shall include, but not be limited to:
- a) a statement of the number of Exploration Wells, Appraisal Wells and Development Wells drilled, the depth of each such well, and a map on which drilling locations are indicated;
 - b) a statement of any Petroleum encountered during Petroleum Operations, as well as a statement of any fresh water layers encountered and of any other minerals discovered;
 - c) a statement of the quantity of Petroleum produced and of all other minerals produced therewith from the same reservoir or deposit;
 - d) a summary of the nature and extent of all exploration activities in the Contract Area;
 - e) a general summary of all Petroleum Operations in the Contract Area; and
 - f) a statement of the number of employees engaged in Petroleum Operations in Ghana, identified as Ghanaian or non-Ghanaian. Contractor will inform the latter that details as to nationality are required by GNPC and that Contractor is available to assist them to supply that information.
- 16.4 All data, information and reports including interpretation and analysis supplied by Contractor pursuant to this Agreement, including without limitation, that described in Articles 16.1, 16.2 and 16.3 shall be treated as confidential and shall not be disclosed by any Party to any other person without the express written consent of the other Parties.
- 16.5 The provisions of Article 16.4 shall not prevent disclosure:
- a) **by GNPC or the State:**
 - i) to any agency of the State or to any adviser or consultant to GNPC or the State; or

- ii) for the purpose of obtaining a Petroleum Agreement in respect of any acreage adjacent to the Contract Area.
- b) **by Contractor:**
- i) to its Affiliates, advisers or consultants;
 - ii) to a bona fide potential assignee of all or part of Contractor's Interest hereunder provided GNPC is given prior notice of such potential assignee;
 - iii) to banks or other lending institutions for the purpose of seeking external financing of costs of the Petroleum Operations;
 - iv) to non-Affiliates who shall provide services for the Petroleum Operations, including Subcontractors, vendors and other service contractors, where this is essential for their provision of such services, and provided GNPC is notified about such disclosure;
 - v) to governmental agencies for obtaining necessary rulings, permits, licenses and approvals, or as may be required by applicable law or financial stock exchange, accounting or reporting practices, and provided GNPC is notified about such disclosure; or
 - vi) to such persons and for such purposes as the Joint Management Committee may permit from time to time.
- c) **by any Party:**
- i) to the extent necessary in any arbitration proceedings or proceedings before a Sole Expert or in proceedings before any court;
 - ii) with respect to data, etc., which already through, no fault of the disclosing Party is in the public domain.

16.6 Any Party disclosing information or providing data to any third party under this Article shall require such persons to observe the confidentiality of such data. Promptly after the Effective Date, the Parties shall agree upon a mutually acceptable international petroleum industry standard form of confidentiality agreement. Contractor shall require the execution of an agreement substantially on the terms contained in such agreed form of agreement by a potential assignee prior to disclosure of such data; and shall provide copies of all such signed agreements to GNPC.

ARTICLE 17**INSPECTION, SAFETY AND ENVIRONMENTAL PROTECTION**

- 17.1 GNPC shall have the right of access to all sites and offices of Contractor and the right to inspect all buildings and installations used by Contractor relating to Petroleum Operations. Such inspections and audits shall take place in consultation with Contractor and at such times and in such manner as not unduly to interfere with the normal operations of Contractor.
- 17.2 Contractor shall take all necessary steps, in accordance with accepted Petroleum industry practice, to perform activities pursuant to the Agreement in a safe manner and shall comply with all requirements of the Law of Ghana, including labour, health safety and environmental laws and regulations issued by the Environmental Protection Agency.
- 17.3 Contractor shall provide an effective and safe system for disposal of water and waste oil, oil base mud and cuttings in accordance with accepted Petroleum industry practice, and shall provide for the safe completion or abandonment of all boreholes and wells.
- 17.4 Contractor shall exercise its rights and carry out its responsibilities under this Contract in accordance with accepted Petroleum industry practice, and shall take steps in such manner as to:
- a) result in minimum ecological damage or destruction;
 - b) control the flow and prevent the escape or the avoidable waste of Petroleum discovered in or produced from the Contract Area;
 - c) prevent damage to Petroleum-bearing strata;
 - d) prevent the entrance of water through boreholes and wells to Petroleum-bearing strata, except for the purpose of secondary recovery;
 - e) prevent damage to onshore lands and to trees, crops, buildings or other structures; and
 - f) avoid any actions which would endanger the health or safety of persons.
- 17.5 If Contractor's failure to comply with the requirements of Article 17.4 results in the release of Petroleum or other materials on the seabed, in the sea, on land or in fresh water, or if Contractor's operations result in any other form of pollution or otherwise

cause harm to fresh water, marine, plant or animal life, Contractor shall, in accordance with accepted Petroleum industry practice, promptly take all necessary measures to control the pollution, to clean up Petroleum or other released material, or to repair, to the maximum extent feasible, damage resulting from any such circumstances. If such release or pollution results directly from the Gross Negligence of Contractor, the cost of subcontract clean-up and repair activities shall be borne by Contractor and shall not be included as a Petroleum Cost under this Agreement.

- 17.6 Contractor shall notify GNPC immediately in the event of any emergency or major accident and shall take such action as may be prescribed by GNPC's emergency procedures and by accepted international petroleum industry practices in the same or similar circumstances.
- 17.7 If Contractor does not act promptly so as to control, clean up or repair any pollution or damage, GNPC may, after giving Contractor reasonable notice in the circumstances, take any actions which are necessary, in accordance with accepted international petroleum industry practice in the same or similar circumstances and the reasonable costs and expenses of such actions shall be borne by Contractor and shall, subject to Article 17.5 be included as Petroleum Costs.

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ARTICLE 18

ACCOUNTING AND AUDITING

- 18.1 Contractor shall maintain, at its offices in Ghana, books of account and supporting records in the manner required by applicable law and accepted accounting principles generally used in the international petroleum industry and shall file reports, tax returns and any other documents and any other financial returns which are required by applicable law.
- 18.2 In addition to the books and reports required by Article 18.1 Contractor shall maintain, at its office in Ghana, a set of accounts and records relating to Petroleum Operations under this Agreement. Such accounts shall be kept in accordance with the requirements of the applicable law and accepted accounting principles generally used in the international petroleum industry.
- 18.3 The accounts required by Articles 18.1 and 18.2 shall be kept in United States Dollars.
- 18.4 Contractor will provide GNPC with quarterly summaries of the Petroleum Costs incurred under this Agreement.
- 18.5 GNPC shall review all financial statements submitted by the Contractor as required by this Agreement, and shall signify its provisional approval or disapproval of such statements in writing within ninety (90) days of receipt failing which the financial statements as submitted by Contractor shall be deemed approved by GNPC; in the event that GNPC indicates its disapproval of any such statement, the parties shall meet within fifteen (15) days of Contractor's receipt of the notice of disapproval to review the matter.
- 18.6 Notwithstanding any provisional approval pursuant to Article 18.5 GNPC shall have the right at its sole expense and upon giving reasonable notice in writing to Contractor to audit the books and accounts of Contractor relating to Petroleum Operations within two (2) years from the submission by Contractor of any report of financial statement. GNPC shall not, in carrying out such audit, interfere unreasonably with the conduct of Petroleum Operations. Any such audit shall be undertaken by an independent international auditing firm and shall be completed within nine (9) months after commencement. An extension of time to complete an audit shall be allowed upon receipt by Contractor from GNPC's auditing firm of a written statement representing that the auditors have used reasonable efforts to complete the subject audit and they require additional time not to exceed three (3) months to complete such audit. If after a period of one (1) year the subject audit has

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not been completed by GNPC the books and accounts covering such period shall be deemed approved. Contractor shall provide all necessary facilities for auditors appointed hereunder by GNPC including working space and access to all relevant personnel, records, files and other materials.

If GNPC desires verification of charges from an Affiliate, Contractor shall at GNPC's sole expense obtain for GNPC or its representatives an audit certificate to this purpose from the statutory auditors of the Affiliate concerned. Copies of audit reports shall be provided to the Contractor and GNPC. Any unresolved audit claim resulting from such audit, upon which Contractor and GNPC are unable to agree shall be submitted to the JMC for decision which must be unanimous. In the event that a unanimous decision is not reached in respect of any audit claim, then such unresolved audit claim shall be submitted for resolution in accordance with Article 24. Subject to any adjustments resulting from such audits, Contractor's accounts and financial statements shall be considered to be correct on expiry of a period of two (2) years from the date of their submission unless before the expiry of such two year period GNPC has notified Contractor of any exceptions to such accounts and statements.

- 18.7 Nothing in this Article shall be read or construed as placing a limit on GNPC's access to Contractor's books and accounts in respect of matters arising under Article 23.4 (a).

ARTICLE 19**TITLE TO AND CONTROL OF GOODS AND EQUIPMENT**

- 19.1 GNPC shall be the sole and unconditional owner of:
- a) Petroleum produced and recovered as a result of Petroleum Operations, except for such Petroleum as is distributed to the State and to Contractor pursuant to Article 10 or 14 hereof;
 - b) all physical assets other than those to which Article 19.3 or 19.4 apply, which are purchased, installed, constructed or used by Contractor in Petroleum Operations as from the time that:
 - i) the full cost thereof has been recovered by Contractor in accordance with the provisions of the Accounting Guide from its proportionate share of Petroleum revenues and any other revenues it receives in respect of Petroleum Operations; or
 - ii) this Agreement is terminated pursuant to Articles 23.3 and 23.4 and Contractor has not disposed of such assets prior to such termination, whichever occurs first.
- 19.2 Contractor shall have the use of the assets referred to in Article 19.1(b) for purposes of its operations under this Agreement without payment provided that Contractor shall remain liable for maintenance, insurance and other costs associated with such use in accordance with international petroleum industry practices in the same or similar circumstances. Where Contractor has failed to keep any such asset in good working condition (normal wear and tear excepted), GNPC shall have the right to recover the cost of repair or replacement of such assets from Contractor. Contractor shall indemnify GNPC against all losses, damages, claims or legal action resulting from Contractor's use of such assets, if and in as far as such losses, damages, claims or legal actions were directly caused by Contractor's Gross Negligence.
- 19.3 Equipment or any other assets rented or leased by Contractor which is imported into Ghana for use in Petroleum Operations and subsequently re-exported therefrom, which is of the type customarily leased for such use in accordance with international petroleum industry practice or which is otherwise not owned by Contractor shall not be transferred to GNPC. No equipment or assets owned or leased by a Subcontractor shall by reason of the provisions of this Article 19 be deemed to be transferred to GNPC.

- 19.4 All assets owned by Contractor which are not affected by the provisions of Article 19.1 (b) above may, where required for further Petroleum Operations, be retained by GNPC for such operations provided that GNPC shall thereby be liable to pay a reasonable and mutually agreed fee for such use, and shall bear the cost of repair or replacement upon failure to keep such assets in good working condition (normal wear and tear excepted), and further provided that Contractor does not require such assets for its Petroleum Operations.
- 19.5 Upon the termination of Petroleum Operations in any Area, Contractor shall give GNPC the option to acquire any movable and immovable assets used for such Petroleum Operations and not affected by the provisions of Article 19.1 (b) at a reasonable and mutually agreed price, always provided that Contractor does not require such assets for Contractor's Petroleum Operations in the Contract Area.
- 19.6 All assets which are not affected by Article 19.1 (b) nor subject to Article 19.3 above, and all subcontractor equipment, may be freely exported by Contractor or its Subcontractor, respectively, at its discretion.

ARTICLE 20**PURCHASING AND PROCUREMENT**

- 20.1 In the acquisition of plant, equipment, services and supplies for Petroleum Operations, Contractor shall give preference to materials, services and products produced in Ghana including shipping services provided by vessels owned or controlled by Ghanaian shipping companies if such materials, services and products meet standards generally acceptable to international oil and gas companies and supplied at prices, grades, quantities, delivery dates and on other commercial terms equivalent to or more favourable than those at which such materials, services and products can be supplied from outside Ghana.
- 20.2 For the purposes of Article 20.1, price comparisons shall be made on a c.i.f. Accra delivered basis.

ARTICLE 21

EMPLOYMENT AND TRAINING

- 21.1 In order to establish programmes to train Ghanaian personnel for work in Petroleum Operations and for the transfer of management and technical skills required for the efficient conduct of Petroleum Operations, Contractor shall pay to GNPC the sum of two hundred and fifty thousand US dollars (US\$250,000) per year from the Effective Date to maintain and implement such programmes. Such expenditure shall qualify for deduction against income tax under the Income Tax law and shall be considered as Petroleum Costs.

The above amounts shall be payable within thirty (30) days after the beginning of each Calendar Year, provided that the sum payable shall be pro rata for any period of less than a full Calendar Year (e.g. from the Effective Date to the end of the Calendar Year). GNPC shall prepare and present to JMC its intentions for such programmes on an annual basis and shall consider any suggestions made by Contractor's JMC representatives.

- 21.2 In addition to the annual sums payable pursuant to Article 21.1 above, Contractor shall pay to GNPC on a once-off basis a single further sum of four hundred thousand US dollars (U.S.\$400,000) in respect of technical support for GNPC. Such expenditure shall also qualify for deduction against income tax under the Income Tax law and shall be considered as a Petroleum Cost.
- 21.3 Where qualified Ghanaian personnel are available for employment in the conduct of Petroleum Operations, Contractor shall ensure that in the engagement of personnel it shall as far as reasonably possible provide opportunities for the employment of such personnel. For this purpose, Contractor shall submit to GNPC an employment plan with number of persons and the required professions and technical capabilities prior to the performance of Petroleum Operations. GNPC shall provide the qualified personnel according to the said plan.
- 21.4 Contractor shall, if so requested by GNPC, provide opportunities for a mutually agreed number of GNPC personnel nominated by GNPC to be seconded for on-the-job training or attachment in all phases of its Petroleum Operations under a mutually agreed secondment contract. Expenses of secondment shall not be credited against the training obligation under Article 21.1. Such secondment contract shall include continuing education and short industry courses mutually identified as beneficial to the secondee. Costs and other expenses connected with such assignment of GNPC personnel on secondment shall be borne by the Contractor and

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shall qualify for deduction against income under the Petroleum Income Tax Law and shall be considered as Petroleum Costs.

- 21.5 Contractor shall regularly provide to GNPC information and data relating to worldwide Petroleum science and technology, Petroleum economics and engineering available to Contractor, and shall assist GNPC personnel in every way to acquire knowledge and skills in all aspects of the Petroleum industry.
- 21.6 It is agreed that there will be no disclosure or transfer of any documents, data, know-how, technology or other information owned or supplied by Contractor, its Affiliates, or non-Affiliates, to third parties without Contractor's prior written consent, and then only upon agreement by the recipients to retain such information in strict confidence.

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ARTICLE 22**FORCE MAJEURE**

- 22.1 The failure of a Party to fulfil any term or condition of this Agreement, except for the payment of monies, shall be excused if and to the extent that such failure arises from Force Majeure, provided that, if the event is reasonably foreseeable such party shall have prior thereto taken all appropriate precautions and all reasonable alternative measures with the objective of carrying out the terms and conditions of this Agreement. A Party affected by an event of Force Majeure shall promptly give the other Parties notice of such event and also of the restoration of normal conditions.
- 22.2 A Party unable by an event of Force Majeure to perform any obligation hereunder shall take all reasonable measures to remove its inability to fulfil the terms and conditions of this Agreement with a minimum of delay, and the Parties shall take all reasonable measures to minimise the consequences of any event of Force Majeure.
- 22.3 Any period set herein for the completion by a Party of any act required or permitted to be done hereunder, shall be extended for a period of time equal to that during which such Party was unable to perform such actions as a result of Force Majeure, together with such time as may be required for the resumption of Petroleum Operations.
- 22.4 Except in the case of:
- a) a law of general application;
 - b) an action taken in consequence of an emergency arising from a condition of Force Majeure;
- GNPC may not claim Force Majeure in respect of any action or provision of the State or any agency of the State.

ARTICLE 23**TERM AND TERMINATION**

- 23.1 Subject to this Article 23 and to the Petroleum (Exploration and Production) Law PNDCL 84 (Section 12) the term of this Agreement shall be thirty (30) years commencing from the Effective Date.
- 23.2 At the end of the term provided for in Article 23.1, provided that this Agreement has not earlier been terminated, the Parties may negotiate concerning the terms and conditions of a further agreement with respect to the Contract Area or any part thereof, but no failure to enter any such further agreement shall give rise to arbitration pursuant to Article 24 hereof.
- 23.3 Subject to Article 22, Termination of this Agreement shall result upon the occurrence of any of the following:
- a) the relinquishment or surrender of the entire Contract Area;
 - b) the termination of the Exploration Period including extensions pursuant to Article 3 without notification by Contractor of commerciality pursuant to Article 8 in respect of a Discovery of Petroleum in the Contract Area; provided, however, Termination shall not occur while Contractor has the right to evaluate a Discovery for appraisal or commerciality and/or propose a Development Plan pursuant to Articles 8 or 14, or once a Development Plan has been approved, nor when the provisions of Articles 8.13 through 8.19 are applicable;
 - c) if, following a notice that a Discovery is a Commercial Discovery the Exploration Period terminates under Article 3 without a Development Plan being approved, provided however that Termination shall not occur when the provisions of Articles 8.13 through 8.19 are applicable; or
 - d) the failure of Contractor through any cause other than Force Majeure, to commence preparations with respect to Development Operations pursuant to Article 8.11.
- 23.4 Subject to Article 22 and pursuant to procedures described in Article 23.5 below GNPC and/or the State may terminate this Agreement upon the uncorrected occurrence of any of the events (or failures to act listed) below:
- a) the submission by Contractor to GNPC of a written statement which Contractor knows or should have known to be false, in a material particular; provided that

in the event of intent on the part of Contractor to cause serious damage to GNPC or the State, a period for remedy of such false statement shall not be given;

- b) the assignment or purported assignment by Contractor of this Agreement contrary to the provisions of Article 25 hereof;
- c) the insolvency or bankruptcy of Contractor, the entry by Contractor into any agreements or composition with its creditors, taking advantage of any law for the benefit of debtors or Contractor's entry into liquidation, or receivership, whether compulsory or voluntary, and there is thereby justifiable anticipation that the obligations of Contractor hereunder will not be performed; provided, however, if the Contractor is comprised of more than one non-Affiliated entity, then the insolvency or bankruptcy of one Contractor Party shall not lead to a termination of the Agreement if the other Contractor Parties will assume the rights and obligations of the defaulting Contractor Party under the Petroleum Agreement;
- d) the intentional extraction by Contractor of any material of potential economic value other than as authorised under this Agreement, or any applicable law except for such extraction as may be unavoidable as a result of Petroleum Operations conducted in accordance with accepted international petroleum industry practice, in the same or similar circumstances;
- e) failure by Contractor
 - i) to fulfil its minimum work obligations pursuant to Article 4.3, save where the Minister has waived the default; or
 - ii) to carry out an approved Appraisal Programme undertaken by Contractor pursuant to Article 8, unless Contractor notifies GNPC and the Minister that the Appraisal Programme should be amended and submits said amendment to the JMC for its review;
- f) substantial and material failure by Contractor to comply with any of its obligations pursuant to Article 7.1 hereof;
- g) failure by Contractor to make any payment of any sum due to GNPC or the State pursuant to this Agreement within thirty (30) days after receiving notice that such payment is due, except where liability for payment of such sum is disputed in good faith by Contractor in which case the matter shall, if agreement in relation to it cannot be reached after thirty (30) days, be referred to arbitration under Article 24;

- h) failure by Contractor to comply with any decisions reached as a result of any arbitration proceedings conducted pursuant to Article 24 hereof.
- 23.5 If GNPC and/or the State believe an event or failure to act as described in Article 23.4 above has occurred, a written notice shall be given to Contractor describing the event or failure. Contractor shall have thirty (30) days from receipt of said notice to commence and pursue remedy of the event or failure cited in the notice. If after said thirty (30) days Contractor has failed to commence appropriate remedial action, GNPC and/or the State may then issue a written Notice of Termination to Contractor which shall become effective thirty (30) days from receipt of said Notice by Contractor unless Contractor has referred the matter to arbitration. In the event that Contractor disputes whether an event specified in Article 23.3 or Article 23.4 has occurred or been remedied, Contractor may, any time up to the effective date of any Notice of Termination refer the dispute to arbitration pursuant to Article 24 hereof. If so referred, GNPC and/or the State may not terminate this Agreement in respect of such event except in accordance with the terms of any resulting arbitration award.
- 23.6 Upon termination of this Agreement, all rights of Contractor hereunder shall cease, except for such rights as may at such time have accrued, and without prejudice to any obligation or liability imposed or incurred under this Agreement prior to Termination and to such rights and obligations as the Parties may have under applicable law.
- 23.7 Upon termination of this Agreement or in the event of an assignment of all the rights of Contractor, all wells and associated facilities shall be left in a state of good repair in accordance with accepted international petroleum industry practice.

ARTICLE 24

CONSULTATION, ARBITRATION AND INDEPENDENT EXPERT

- 24.1 Except in the cases specified in Article 26.4 any dispute arising between the State and GNPC or either of them on one hand and Contractor on the other hand in relation to or in connection with or arising out of any terms and conditions of this Agreement shall be resolved by consultation and negotiation among senior personnel authorized by each Party. In the event that no agreement is reached within thirty (30) days after the date when either Party notifies the other that a dispute or difference exists within the meaning of this Article or such longer period specifically agreed to by the Parties or provided elsewhere in this Agreement, any Party shall have the right subject to Article 24.7 to have such dispute or difference finally settled through international arbitration under the auspices of the International Chamber of Commerce (the "ICC") and adopting the Rules of Arbitration of the International Chamber of Commerce (the "ICC Rules"), which ICC Rules are deemed incorporated by reference into this Article 24, save as otherwise provided herein.
- 24.2 The tribunal shall consist of three (3) arbitrators. Each Party to the dispute shall appoint one (1) arbitrator and those so appointed shall designate a chairman arbitrator. If a Party's arbitrator and/or the chairman arbitrator is not appointed within the periods provided in the rules referred to in Article 24.1 above, such Party's arbitrator and/or the chairman arbitrator shall at the request of any Party to the dispute be appointed by the ICC International Court of Arbitration in accordance with the ICC Rules.
- 24.3 No arbitrator or Sole Expert shall be a citizen of the home country of any Party hereto, and no arbitrator or Sole Expert shall have any economic interest or relationship with any such Party.
- 24.4 The arbitration proceedings shall be conducted in London, England or at such other location as selected by the arbitrators unanimously, but which must be located in a State which is a party to the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards and located within any one of the States specified in the Schedule to the Arbitration (Foreign Awards) Instrument, 1963 (LI 261), as may be amended from time to time. The proceedings shall be conducted in the English language.
- 24.5 The award of the tribunal shall be final and binding upon the Parties and enforceable by the Parties in whose favour the award is made. Each of the Republic of Ghana and GNPC hereby irrevocably agree that to the extent that such party, has any right of immunity from any legal proceedings whether in Ghana, England or elsewhere

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in connection with or arising from terms and conditions of this Agreement, including immunity from service of process, immunity from jurisdiction or judgement or any arbitration tribunal, immunity from execution of judgement or tribunal award, such party hereby expressly and irrevocably waives any such immunity and agrees not to assert or invoke any such rights or claim in any such proceedings whether in Ghana, England or elsewhere.

- 24.6 The right to arbitrate disputes arising out of this Agreement shall survive the termination of this Agreement.
- 24.7 Unless where a matter is specifically required to be referred to a Sole Expert under this Agreement, the Parties to a dispute arising under this Agreement may, in lieu of resorting to arbitration, mutually agree to refer such matter for determination by a Sole Expert to be appointed by agreement of the Parties. The Sole Expert proceedings shall be administered in accordance with the Rules for Expertise of the International Chamber of Commerce and any hearings or meetings shall take place in Accra, Ghana. Where, however, the Parties fail to agree upon the appointment of a Sole Expert within forty-five (45) days of the notice by one Party to the other Parties of a dispute pursuant to this Agreement, the Sole Expert shall be appointed by the International Centre for Expertise established by the International Chamber of Commerce (ICC). The decision of the Sole Expert shall be given in writing with full reasoning and shall be final and binding upon the Parties and shall be treated as if it was an award by a sole arbitrator. The Sole Expert shall have ninety (90) days after his appointment to decide the case, subject to any extensions mutually agreed to by the Parties to the dispute. Upon failure of the Sole Expert to decide the matter in a prompt and timely manner, any Party may call for arbitration under Article 24.1 above.
- 24.8 Each Party to a dispute shall pay its own counsel and other costs; however, costs of the arbitration tribunal shall be allocated in accordance with the decision of the tribunal. The costs and fees of the Sole Expert shall be borne equally by the Parties to the dispute.

- 24.9 Any arbitration or Sole Expert proceeding pursuant to this Agreement shall be conducted in accordance with the ICC Rules or the ICC Rules for Expertise (as applicable) in effect on the date on which the proceeding is instituted.
- 24.10 In the event of a matter being referred for resolution under this Article 24; any obligations of the Parties relating to such matter shall (unless otherwise provided by this Agreement) be suspended, without liability to any Party, until said matter has been resolved pursuant to this Article 24.

24.11 Neither the State and/or GNPC, on the one hand, and the Contractor, on the other hand, shall be held liable to the other for any consequential, special, indirect or punitive damages (including loss of profit or loss of production) arising directly or indirectly out of or in relation or in connection to this Agreement, regardless of cause or fault.

ARTICLE 25**ASSIGNMENT**

- 25.1 This Agreement shall not be assigned by any or all of the companies comprising Contractor directly or indirectly in whole or in part, without the prior written consent of GNPC, and the Minister, which consent shall not be unreasonably withheld or delayed.
- 25.2 Any assignment of this Agreement shall bind the assignee as a Party to this Agreement to all the terms and conditions hereof unless otherwise agreed and as a condition to any assignment Contractor shall provide an unconditional undertaking by the assignee to assume all obligations assigned by Contractor under this Agreement.
- 25.3 Where in consequence of an assignment hereunder Contractor is more than one person:
- a) any operating or other agreement made between the persons who constitute contractor and relating to the Petroleum Operations hereunder shall be disclosed to GNPC and the Minister and shall not be inconsistent with the provisions of this Agreement;
 - b) no change in the scope of the Petroleum Operations may take place without the prior approval in writing of GNPC, which approval shall not be unreasonably delayed or withheld; and
 - c) the duties and obligations of Contractor hereunder shall be joint and several except those relating to the payment of income tax pursuant to Article 12 which shall be the several obligation of each such person.
- 25.4 GNPC's acquisition of Additional Interest under Article 2 or a Sole Risk Interest pursuant to Article 9 shall not be deemed to be an assignment within the meaning of this Article.

ARTICLE 26**MISCELLANEOUS**

- 26.1 This Agreement and the relationship between the State and GNPC on one hand and Contractor on the other shall be governed by and construed in accordance with the laws of the Republic of Ghana consistent with such rules of international law as may be applicable, including rules and principles as have been applied by international tribunals.
- 26.2 The State, its departments and agencies, shall support this Agreement and shall take no action which prevents or impedes the due exercise and performance of rights and obligations of the Parties hereunder. As of the Effective Date of this Agreement and throughout its Term, the State guarantees Contractor the stability of the terms and conditions of this Agreement as well as the fiscal and contractual framework hereof specifically including those terms and conditions and that framework that are based upon or subject to the provisions of the laws and regulations of Ghana (and any interpretations thereof) including, without limitation, the Petroleum Income Tax Law, the Petroleum Law, the GNPC Law and those other laws, regulations and decrees that are applicable hereto.
- 26.3 This Agreement and the rights and obligations specified herein may not be modified, amended, altered or supplemented except upon the execution and delivery of a written agreement executed by the Parties. Any legislative or administrative act of the State or any of its agencies or subdivisions which purports to vary any such right or obligation shall, to the extent sought to be applied to this Agreement, constitute a breach of this Agreement by the State provided, however, where a new income tax rate comes into force as a result of the promulgation of the new Petroleum Income Tax Law currently before Cabinet, Contractor shall have the option of either applying the new income tax rate to this Agreement or remaining under the Petroleum Income Tax Law, 1987, PNDC Law 188.
- 26.4 Where a Party considers that a significant change in the circumstances prevailing at the time the Agreement was entered into, has occurred affecting the economic balance of the Agreement, the Party affected hereby shall notify the other Parties in writing of the claimed change with a statement of how the claimed change has affected the relations between the Parties.
- 26.5 The other Parties shall indicate in writing their reaction to such representation within a period of three (3) Months of receipt of such notification and if such significant changes are established by the Parties to have occurred, the Parties shall meet to engage in negotiations and shall effect such changes in, or rectification of, these

provisions as they may agree are necessary to restore the relative economic position of the Parties at the date of this Agreement.

- 26.6 No waiver by any Party of any of its rights hereunder shall be construed or implied, but shall be binding on such Party only if made specifically, expressly and in writing.
- 26.7 Except for payment obligations arising under the Petroleum Income Tax Law, any Party failing to pay any amounts payable by it under this Agreement (including the provisions of Annex 2) on the respective dates on which such amounts are payable by such Party hereunder shall be obligated to pay interest on such unpaid amounts to the Party to which such amounts are payable. The rate of such interest with respect to each day of delay during the period of such nonpayment shall be the Specified Rate. Such interest shall accrue from the respective dates such amounts are payable until the amounts are duly paid. The Party to whom any such amount is payable may give notice of nonpayment to the Party in default and if such amount is not paid within fifteen (15) days after such notice, the Party to which the amount is owed may, in addition to the interest referred to above, and without prejudice to Article 10.1 (e) seek remedies available pursuant to Article 24.
- 26.8 A) The rights and obligations under this Agreement of the State and GNPC on the one hand and Contractor on the other shall be separate and proportional and not joint. This Agreement shall not be construed as creating a partnership or joint venture, nor an association or trust (under any law other than the Petroleum Law), or as authorising any Party to act as agent, servant or employee for any other Party for any purpose whatsoever except as provided in Article 10.4.
- B) The duties and obligations of each Party constituting Contractor hereunder shall be joint and several and it is recognised that each such Party shall own and be responsible for its undivided Interest in the rights and obligations of Contractor hereunder; provided, however, that the following payments shall be the separate obligation of and shall be made by each Party which constitutes the Contractor:
- i) Payments under the Petroleum Income Tax Law;
 - ii) Payments of royalty taken in cash under the provisions of Article 10.1 (a); and
 - iii) AOE share under the provisions of Article 10.1 (b).
- 26.9 Each Party warrants that it and its Affiliates have not made, offered, or authorized and will not make, offer, or authorize with respect to the matters which are the subject of this Agreement, any payment, gift, promise or other advantage, whether

directly or through any other person or entity, to or for the use or benefit of any public official (i.e., any person holding a legislative, administrative or judicial office, including any person employed by or acting on behalf of a public agency, a public enterprise or a public international organization) or any political party or political party official or candidate for office, where such payment, gift, promise or advantage would violate (i) the applicable laws of Ghana; (ii) the laws of the country of incorporation of such Party or such Party's ultimate parent company and of the principal place of business of such ultimate parent company; or (iii) the principles described in the Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, signed in Paris on December 17, 1997, which entered into force on February 15, 1999, and the Convention's Commentaries. Each Party shall defend, indemnify and hold the other Parties harmless from and against any and all claims, damages, losses, penalties, costs and expenses arising from or related to, any breach by such first Party of such warranty. Such indemnity obligation shall survive termination or expiration of this Agreement. Each Party shall in good time (i) respond in reasonable detail to any notice from any other Party reasonably connected with the above-stated warranty; and (ii) furnish applicable documentary support for such response upon request from such other Party.

- 26.10 This Agreement shall not take effect unless and until it is ratified by the Parliament of Ghana and this Agreement has been executed by the parties which ever occurs later (the "Effective Date").

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ARTICLE 27

NOTICE

- 27 Any Notice, Application, Requests, Agreements, Consent, Approval, Instruction, Delegation, Waiver or other communication required or permitted to be given hereunder shall be in writing and shall be deemed to have been properly given when delivered in person to an authorised representative of the Party to whom such notice is directed or when actually received by such Party through registered mail, facsimile or telegram at the following address or at such other address as the Party shall specify in writing fifteen (15) days in advance:

FOR THE STATE:

*MINISTER FOR ENERGY
MINISTRY OF ENERGY
PRIVATE MAIL BAG
MINISTRY POST OFFICE
ACCRA, GHANA*

Telephone: 233 21 667151 - 3

Telefax: 233 21 668262

FOR GHANA NATIONAL PETROLEUM CORPORATION:

*THE MANAGING DIRECTOR
GHANA NATIONAL PETROLEUM CORPORATION
PETROLEUM HOUSE
HARBOUR ROAD
PRIVATE MAIL BAG
TEMA, GHANA*

Telephone: 233-22-204726

Telefax: 233-22-205449

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FOR CONTRACTOR:

EXPLORATION MANAGER
TULLOW GHANA LIMITED
P. O. BOX 532
CHANNEL HOUSE
7 ESPLANADE
ST. HELIER, JERSEY
CHANNEL ISLANDS
JE4 5UW

Telephone: + 3531 737 700
Telefax: + 3531 239 0400

MANAGING DIRECTOR
SABRE OIL AND GAS LIMITED
4 RUBISLAW PLACE
ABERDEEN
AB10 1XN

Telephone: + 44 1244 649 400
Telefax: + 44 1244 649 700

KOSMOS ENERGY GHANA HC
C/O KOSMOS ENERGY, LLC
8401 N. CENTRAL EXPRESSWAY
SUITE 280
DALLAS, TEXAS 75225
U.S.A
ATTN: MR CRAIG CLICK

Telephone: + 1 214 363 0700
Telefax: + 1 214 363 9024

IN WITNESS WHEREOF the parties have caused this agreement to be executed by their duly authorized representatives as of the date first written above.

FOR THE STATE

Witnessed:

By /s/ AUTHORIZED SIGNATORY

By: _____

HON MINISTER
Its MINISTRY OF ENERGY

Its _____

FOR GHANA NATIONAL PETROLEUM CORPORATION

Witnessed:

/s/ GHANA NATIONAL PETROLEUM CORPORATION
By CORPORATION

By: _____

Its _____

Its _____

FOR TULLOW GHANA LIMITED

Witnessed:

By /s/ TULLOW GHANA LIMITED

By: _____

Its _____

Its _____

FOR SABRE OIL GAS LIMITED

Witnessed:

By /s/ SABRE OIL GAS LIMITED _____

By: _____

Its _____

Its _____

FOR KOSMOS ENERGY GHANA HC

Witnessed:

By /s/ KOSMOS ENERGY GHANA HC _____

By: _____

Its _____

Its _____

ANNEXES

ANNEX 1 - CONTRACT AREA

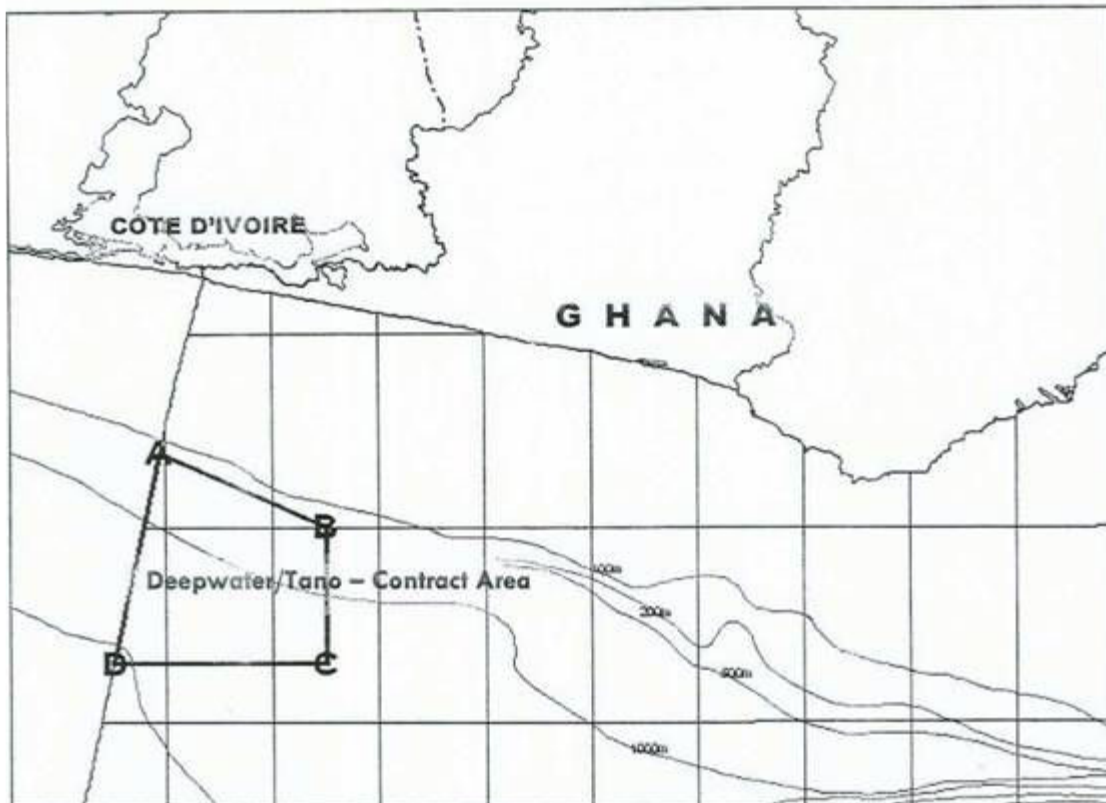
The Contract Area is bounded to the North, starting at point 'A' along the Ghana Ivory Coast boarder at Latitude $4^{\circ} 47' 34.874''$ N and Longitude $3^{\circ} 10' 35.296''$ W; thence proceed Southeast to point 'B' at Latitude $4^{\circ} 40' 00.000''$ N and Longitude $2^{\circ} 55' 00.00''$ W; thence proceed South to point 'C' at Latitude $4^{\circ} 25' 54.00''$ N and Longitude $2^{\circ} 55' 00.00''$ W; thence proceed West to point 'D' at Latitude $4^{\circ} 25' 54.00''$ N and Longitude $3^{\circ} 14' 53.00''$ W; thence proceed North along the Ghana-Ivory Coast border to the beginning of point 'A' resulting in an area comprising of approximately one thousand and one hundred and eight (1,108) square kilometers.

The Contract Area is designated by the coordinates of the following points as shown in Table 1 and the area covered by the points A, B, C and D as indicated on the map on the following page.

Table 1

Point	Latitude	Longitude
A	$4^{\circ} 47' 34.874''$ N	$3^{\circ} 10' 35.296''$ W
B	$4^{\circ} 40' 00.000''$ N	$2^{\circ} 55' 00.000''$ W
C	$4^{\circ} 25' 54.000''$ N	$2^{\circ} 55'' 00.000''$ W
D	$4^{\circ} 25' 54.000''$ N	$3^{\circ} 14' 53.000''$ W

Contract Area Plat



ANNEX 2 - ACCOUNTING GUIDE

The purpose of this Accounting Guide is to establish equitable methods as between the Parties for determining charges and credits applicable to operations under the Agreement. Principles established by this Accounting Guide shall truly reflect the Contractor's actual cost.

SECTION 1**1.1 GENERAL PROVISIONS**

- 1.1.1 Words and terms appearing in this Annex shall have the same meaning as in the Agreement and to that end shall be defined in accordance with Article 1 of the Agreement. A reference to an Article in this Annex shall, unless otherwise indicated, refer to an Article in the Agreement.
- 1.1.2 This Annex may be amended by written agreement upon a unanimous decision of the JMC.
- 1.1.3 In the event of a conflict between the provisions of the Accounting Guide and the provisions of the Agreement, the provisions of the Agreement shall prevail.

1.2 STATEMENTS REQUIRED TO BE SUBMITTED BY CONTRACTOR

- 1.2.1 Within sixty (60) days from the Effective Date, Contractor shall propose to GNPC an outline of the chart of accounts, operating records and reports to be prepared and maintained, which shall describe the basis of the accounting principles and procedures to be used during the term of the Agreement, and shall be consistent with normal practice of the international petroleum industry and Article 18.2.
- 1.2.2 Within ninety (90) days of the receipt of such proposal GNPC shall either accept it or request such revisions as GNPC deems necessary. Failure to notify Contractor of any requested revisions within a ninety (90) day period shall be deemed acceptance of such proposal.
- 1.2.3 Within one hundred and eighty (180) days from the Effective Date, the parties shall either agree on such outline or submit any outstanding issue for determination by a Sole Expert pursuant to the provisions of Article 24.
- 1.2.4 Following agreement over the outline Contractor shall prepare and submit to GNPC formal copies of the chart of accounts

relating to the accounting, recording and reporting functions listed in such outline. Contractor shall also permit GNPC to inspect its manuals and to review all procedures which are to be followed under the Agreement.

- 1.2.5 Without prejudice to the generality of the foregoing, Contractor shall make separate statements relating to Petroleum Operations for each Development and Production Area as follows:
- a) Cash Call Statement (see Section 5)
 - b) Production Statement (see Section 6)
 - c) Value of Production Statement (see Section 7)
 - d) Cost Statement (see Section 8)
 - e) Statement of Expenditures and Receipts (see Section 9)
 - f) Final End-of-Year Statement (see Section 10)
 - g) Budget Statement (see Section 11)
 - h) Long Range Plan and Forecast (see Section 12)

1.3 LANGUAGE, MEASUREMENT, AND UNITS OF ACCOUNTS

- 1.3.1 The U.S. Dollar being the currency unit for investments and compensation hereunder shall therefore be the unit of currency for all bookkeeping and reporting under the Agreement. When transactions for an asset, capital item or liability are in Ghana Cedis or currency other than the U.S. Dollar, amounts in such other currency shall be immediately converted to U.S. Dollars at the rate actually incurred and accounts required for the purposes of this Agreement shall be maintained only in U.S. Dollars.
- 1.3.2 Measurement required under this Annex shall be in the metric system and Barrels.
- 1.3.3 The English language shall be employed.
- 1.3.4 Where necessary for purposes of clarification, Contractor may also prepare financial reports in other languages, units of measurement and currencies.
- 1.3.5 It is the intent of the Parties that no Party shall experience any gain or loss at the expense of or to the benefit of the other as a result of exchange of currency. Where any such currency exchange gain or loss arises it shall be charged or credited to the accounts under the Agreement.

SECTION 2**2.0 CLASSIFICATION AND ALLOTMENT OF COSTS AND EXPENDITURE****2.1 ALL EXPENDITURE RELATING TO PETROLEUM OPERATIONS SHALL BE CLASSIFIED, AS FOLLOWS:**

- a) Exploration Expenditure;
- b) Development Expenditure;
- c) Production Expenditure;
- d) Service Costs; and
- e) General and Administrative expenses

and shall be defined and allotted as herein below provided.

2.2 EXPLORATION EXPENDITURE

Exploration Expenditure shall consist of all direct, indirect and allotted costs incurred in Exploration Operations, in the search for Petroleum in the Contract Area, including but not limited to expenditure on:

- a) aerial, geographical, geochemical, paleontological, geological, bathymetrical, topographical and seismic surveys, and all relevant studies and their interpretation;
- b) borehole drilling and water well drilling;
- c) labour, consumables, materials and services used in drilling wells with the objective of finding new Petroleum reservoirs or for the purpose of appraising of Petroleum reservoirs already discovered, provided such wells are not completed as producing wells save such wells temporarily abandoned for future use as producing wells;
- d) facilities used solely for Exploration Operations, including access roads, where applicable, and purchased geological and geophysical information;

- e) all service costs allotted to the Exploration Operations on an equitable basis;
- f) all General and Administrative Expenses allotted to Exploration Operations based on the percentage share of projected budget expenditure which will be adjusted to actual expenditure at the end of each year.
- g) all of the above costs in connection with or related to an Appraisal Programme.

2.3 DEVELOPMENT EXPENDITURE

Development Expenditure shall consist of all expenditure incurred in Development Operations, including but not limited to expenditure on:

- a) drilling wells which are completed as producing wells and drilling wells for purposes of producing a Petroleum reservoir already discovered, whether these wells are dry or producing;
- b) tangible drilling costs for completing wells such as installation of casing or equipment or otherwise equipping a well after it has been drilled for the purpose of bringing such well into use as a producing well;
- c) intangible drilling costs such as labour, consumable material and services having no salvage value which are incurred in drilling and deepening of wells for producing purposes;
- d) field facilities such as pipelines, flow lines, production and treatment units, wellhead equipment, subsurface equipment, enhanced recovery systems, offshore platforms and production facilities, Petroleum storage facilities (whether offshore or onshore) and access roads for Production Operations;
- e) engineering and design studies for field facilities;
- f) all service costs allotted to Development Operations on an equitable basis;
- g) all General and Administrative Expenses (incurred within or outside Ghana) allocated to Development Operations based on the

percentage share of projected budget expenditure which will be adjusted to actual expenditure as the end of the year.

2.4 **PRODUCTION EXPENDITURE**

Production Expenditure shall consist of but not be limited to all expenditure incurred in Petroleum Operations, including appropriate abandonment charges, after the Date of Commencement of Commercial Production, such expenditure being other than Exploration Expenditure, Development Expenditure, General and Administrative Expenses and Service Costs. The balance of General and Administrative Expenses and Service Costs not allocated to Exploration Operations or to Development Operations under Section 2.2 and 2.3 shall be allocated to Production Expenditure.

2.5 **SERVICE COSTS**

2.5.1 Service Costs shall consist of but not be limited to all direct and indirect expenditure incurred in support of Petroleum Operations (within and/or outside the Republic of Ghana), including (but not limited to) the construction, installation, purchase, hire or charter (as applicable) of the following: of warehouses, piers, marine vessels, vehicles, motorised rolling equipment, aircraft, fire security stations, workshops, water and sewerage plants, power plants, offices, housing, community and recreational facilities and furniture, fixtures, tools, land and equipment used in such construction or installation.

Service Costs in any Calendar Year shall include the total costs incurred in such year to purchase and construct or install such facilities as well as the annual costs of maintaining and operating such facilities.

2.5.2 All Service Costs will be regularly allotted on an equitable basis to Exploration Expenditure, Development Expenditure and Production Expenditure.

2.6 GENERAL AND ADMINISTRATIVE EXPENSES

General and Administrative Expenses shall consist of:

- 2.6.1 All main office, field and general administrative costs, benefiting Petroleum Operations the Republic of Ghana), including but not limited to supervisory, technical, accounting, financial, legal and employee relations services;
- 2.6.2 An overhead charge for the actual unallocated cost of services rendered outside the Republic of Ghana by Contractor or its Affiliates for managing Petroleum Operations and for staff advice and assistance, including but not limited to financial, legal, accounting and employee relations services. Such overhead charges shall be allocated at a rate equivalent to the following percentages of the total costs attributable to Petroleum Operations as follows:
- For the Exploration Phase:
- U.S. Dollars 0 – 20 million –One point two five percent (1.25%)
 U.S. Dollars 20 – 25 million –One percent (1%)
 U.S. Dollars 25 million and above–Zero point five percent (0.5%)
- For the Development Phase:
- U.S. Dollars 0 – 50 million –One point two five percent (1.25%)
 U.S. Dollars 50 – 100 million –One percent (1.0%)
 U.S. Dollars 100 – 500 million–Zero point five percent (0.5%)
 U.S. Dollars 500 million and above–A lump sum of not less than U.S. Dollars two point five million (U.S. Dollars 2.5 million)
- 2.6.3 All General and Administrative Expenses will be regularly allocated as specified in subsections 2.2(f), 2.3 (g) and 2.4 to Exploration Expenditure, Development Expenditure and Production Expenditure.

SECTION 3

3.0 COSTS, EXPENSES, EXPENDITURES AND CREDITS OF CONTRACTOR

3.1 CONTRACTOR FOR THE PURPOSE OF THIS AGREEMENT SHALL CHARGE THE FOLLOWING ALLOWABLE COSTS TO THE ACCOUNTS:

- a) costs of acquiring surface rights;
- b) labour and associated costs;
- c) transportation costs;
- d) charges for services;
- e) material costs;
- f) rentals, duties and other assessments;
- g) insurance and losses;
- h) legal expenses;
- i) training expenses;
- j) general and administrative expenses;
- k) utility costs;
- l) office facility charges;
- m) communication charges;
- n) ecological and environmental charges;
- o) abandonment cost; and
- p) such other costs necessary for the Petroleum Operations

3.2 COST OF ACQUIRING SURFACE RIGHTS AND RELINQUISHMENT

Cost of acquiring surface rights shall consist of all direct costs attributable to the acquisition, renewal or

relinquishment of surface rights acquired and maintained in force over the Contract Area.

3.3 LABOUR AND ASSOCIATED LABOUR COSTS

Labour and associated labour costs shall include but not be limited to:

- a) gross salaries and wages including bonuses of those employees of Contractor and of its Affiliates engaged in Petroleum Operations who are permanently or temporarily assigned to Ghana;
- b) costs regarding holidays, vacation, sickness and disability payments applicable to the salaries and wages chargeable under (a);
- c) expenses or contributions made pursuant to assessments or obligations imposed under the laws of the Republic of Ghana which are applicable to cost of salaries and wages chargeable under (a);
- d) cost of established plans for employees' life insurance, hospitalisation, pensions and other benefits of a like nature customarily granted to employees; and
- e) reasonable travel and personal expenses of employees and families, including those made for travel and relocation of the personnel, all of which shall be in accordance with usual practice of the Contractor.

3.4 TRANSPORTATION COSTS

Transportation costs and other related costs of transportation of employees, equipment, materials and supplies necessary for the conduct of Petroleum Operations.

3.5 CHARGES FOR SERVICES

3.5.1 Charges for services shall include:

- a) actual costs under third party contracts for technical and all other services entered into by Contractor for Petroleum Operations made with third parties other than Affiliates of Contractor, provided that the prices paid by Contractor are no higher than the prevailing rates for such services in the regional (Gulf of Guinea) market;
- b) cost of technical and other services of personnel assigned by the Contractor and its Affiliates when performing management, engineering, geological, geophysical, operations, technical, administrative, legal, accounting,

treasury, tax, employee relations, computer services, purchasing, and all other functions for the direct benefit of Petroleum Operations;

- c) cost of general services, including, but not without limitation, professional consultants and others who perform services for the direct benefit of Petroleum Operations.

3.5.2 Services furnished by Contractor and its Affiliates shall be charged at rates commensurate with those currently prevailing for such services in the regional (Gulf of Guinea) market.

3.6 RENTALS, DUTIES AND OTHER ASSESSMENTS

All rentals, taxes, duties, levies, charges, fees, contributions and any other assessments and charges levied by the Government in connection with Petroleum Operations or paid for the benefit of Petroleum Operations, with the exception of the income tax specified in the Article 12.2 (ii).

3.7 INSURANCE AND LOSSES

- a) Insurance premia and costs incurred for insurance, provided that if such insurance is wholly or partly placed with an Affiliate of Contractor, such premia and costs shall be recoverable only to the extent not in excess of those generally charged by competitive insurance companies other than Affiliate;
- b) costs and losses incurred as a consequence of events, which are, insofar as not made good by insurance, allowable under 17 of the Agreement; and
- c) Costs or expenses necessary for the repair or replacement of property resulting from damage or losses incurred.

3.8 LEGAL EXPENSES

All costs and expenses of litigation, arbitration, mediation and legal or related services necessary or expedient for the procuring, perfecting, retaining and protecting the rights hereunder and in defending or prosecuting lawsuits involving the Contract Area or any third party claim arising out of activities under the Agreement, or sums paid in respect of legal services necessary or expedient for the protection of the joint interest of GNPC and Contractor, provided that where legal services are rendered in such matters by salaried or regularly retained lawyers of Contractor or an Affiliate of Contractor, such compensation will be included instead under either Section 3.3 or 3.5, as applicable.

3.9 TRAINING COSTS

All costs and expenses incurred by Contractor in training of its employees and nominees of GNPC to the extent that such training is attributable to Petroleum Operations under the Agreement, including, without limitation, the amounts referred to in Article 21.1.

3.10 GENERAL AND ADMINISTRATIVE EXPENSES

General and Administrative Expenses shall consist of the costs described in Subsection 2.6.1 and the charge described in Subsection 2.6.2.

3.11 UTILITY COSTS

Any water, electricity, heating, fuel or other energy and utility costs used and consumed for the Petroleum Operations.

3.12 OFFICE FACILITY CHARGES

The cost and expenses of constructing, establishing, maintaining and operating offices, camps, housing and any other facilities necessary to the conduct of Petroleum Operations. The cost of constructing or otherwise establishing any operating facility which may be used at any time in operations of more than one Development and Production Area shall be charged initially to the Development and Production Area for which the facility is first used. Costs incurred thereafter shall be allocated in a reasonable manner, consistent with generally accepted international petroleum industry accounting practice, to the Development and Production Area for which the facility is used.

3.13 COMMUNICATION CHARGES

The costs of acquiring, leading, installing, operating, repairing and maintaining communication systems, including radio and microwave facilities.

3.14 ECOLOGICAL AND ENVIRONMENTAL CHARGES

All charges for environmental protection and safety measures conducted in the Contract Area including, without limitation, those incurred in accordance with Article 17 of the Agreement.

3.15 ABANDONMENT COST

Cost relating to the decommissioning and abandonment of Petroleum Operations and facilities, site restoration and other associated operations pursuant to Article 12.10.

3.16 OTHER COSTS

Any other costs not covered or dealt with in the foregoing provisions which are incurred and not mentioned in Section 3.17 for the necessary and proper conduct of Petroleum Operations.

3.17 COSTS NOT ALLOWABLE UNDER THE AGREEMENT

The following costs shall not be allowable under the Agreement:

- a) commission paid to intermediaries by Contractor;
- b) charitable donations and contributions, except where prior approval has been obtained from GNPC;
- c) interest incurred on loans raised by the Contractor, provided that it shall be deductible for income tax purposes pursuant to the Petroleum Income Tax Law;
- d) petroleum marketing costs or costs of transporting petroleum beyond the Delivery Point;
- e) the costs of any Bank Guarantee under the Agreement and any other amounts spent on indemnities with regard to nonfulfilment of contractual obligations;
- f) premium paid as a result of GNPC exercising a Sole Risk option under Article 9 of this Agreement;
- g) cost of arbitration under Article 24 of the Agreement or dispute settlement by any independent expert under the terms of the Agreement;
- h) final and unappealable fines and penalties imposed by a competent Court of Law;

- i) cost incurred as a result of Contractor's Gross Negligence chargeable to Contractor or the Operator under the terms of the Agreement.

3.18 ALLOWABLE AND DEDUCTIBILITY

The costs and expenses set forth herein shall be for the purpose of determining allowable or non-allowable costs and expenses only and shall have no bearing on Contractor's eligibility or otherwise for deductions in computing Contractor's net income from Petroleum Operations for income tax purposes under Article 10 of the Agreement.

3.19 CREDITS UNDER THE AGREEMENT

The net proceeds of the following transactions will be credited to the accounts under the Agreement:

- a) the net proceeds of any insurance or claim in connection with Petroleum Operations or any assets charged to the accounts under the Agreements when such operations or assets were insured and the premia charged to the accounts under the Agreement;
- b) revenue received from third parties for the use of property or assets charged to the accounts under this Agreement;
- c) any adjustment from the suppliers or manufacturers or their agents in connection with a defective equipment or material the cost of which was previously charged to the account under the Agreement;
- d) the proceeds received for inventory materials previously charged to the account under the Agreement and subsequently exported from the Republic of Ghana or transferred or sold to third parties without being used in the Petroleum Operations;
- e) rentals, refunds or other credits received which apply to any charge which has been made to the account under the Agreement, but excluding any award granted under arbitration or sole expert proceedings;
- f) the proceeds from the sale or exchange of plant or facilities from the Development and Production Area or plant or facilities the acquisition costs of which have been deducted in the AOE computation under Article 10 for the relevant Development and Production Area;

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- g) the proceeds derived from the sale or issue of any intellectual property the development costs of which were incurred pursuant to this Agreement; and
- h) the proceeds from the sale of any petroleum information derived from Petroleum Operations under this Agreement.

3.20 DUPLICATION OF CHARGES AND CREDITS

Notwithstanding any provision to the contrary in this Annex, it is the intention that there shall be no duplication of charges or credits in the accounts under the Agreement.

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SECTION 4**4.0 MATERIAL****4.1 VALUE OF MATERIAL CHARGED TO THE ACCOUNTS UNDER THE AGREEMENT**

Material purchased, leased or rented by Contractor for use in Petroleum Operations shall be valued at the actual net cost incurred by Contractor. The net cost shall include invoice price less trade and cash discounts, if any, purchase and procurement fees plus freight and forwarding charges between point of supply and point of shipment, freight to port of destination and to point of usage or installation, including but not limited to, insurance, taxes, customs duties, consular fees, other costs incurred on such material, and any other related costs actually paid.

4.2 VALUE OF MATERIAL PURCHASED FROM AN AFFILIATE

Contractor shall notify GNPC of any goods supplied by an Affiliate of Contractor. Materials purchased from Affiliate of Contractor shall be charged at the prices specified in Sections 4.2.1, 4.2.2 and 4.2.3.

4.2.1 New Material (Condition "A")

New material shall be classified as Condition "A". Such material shall be valued at the prevailing market price, plus expenses incurred in procuring such new materials, and in moving such materials to the locations where the material shall be used.

4.2.2 Used Material (Condition "B")

Used material shall be classified as Condition "B" provided that it is in sound and serviceable condition and is suitable for reuse without reconditioning. Such material shall be valued at not more than seventy five percent (75%) of the current price of new material valued according to Section 4.2.1 above.

4.2.3 Used Material (Condition "C")

Used material which is serviceable for original function as good second hand material after reconditioning and cannot be classified as Condition "B" shall be classified as Condition "C". Such material shall be valued at not more than fifty percent (50%) of the current price of new material valued according to Section 4.2.1 above. The cost of reconditioning shall be charged to the reconditioned material provided that that the value of such Condition "C" material plus the cost of reconditioning does not exceed the value of Condition "B" material.

4.3 CLASSIFICATION OF MATERIALS

Material costs shall be charged to the respective Exploration Expenditure, Development Expenditure, Operating Expenditure accounts at the time the material is acquired and on the basis of the intended use of the material. Should such material subsequently be used other than as intended, the relevant charge will be transferred to the appropriate account.

4.4 DISPOSAL OF MATERIALS

Sales of property shall be recorded at the net amount collected by the Contractor from the purchaser.

4.5 WARRANTY OF MATERIALS

In the case of defective material or equipment, any adjustment received by Contractor from the suppliers or manufacturers of such materials or their agents will be credited to the accounts under the Agreement. Contractor does not warrant any material.

4.6 CONTROLLABLE MATERIALS

4.6.1 The Contractor shall control the acquisition, location, storage and disposition of materials which are subject to accounting record control, physical inventory and adjustment for overages and shortages (hereinafter referred to as Controllable Material).

- 4.6.2 Unless additional inventories are scheduled by the JMC, Contractor shall conduct one physical inventory of the Controllable Material each Calendar Year which shall be completed prior to the end of each such year. The Contractor shall conduct said inventory on a date to be approved by the JMC. Failure on the part of GNPC to participate in a JMC schedule or approved physical inventory shall be regarded as approval of the results of the physical inventory as conducted by the Contractor.
- 4.6.3 The gain or loss resulting from the physical inventory shall be reflected in the stock records of Controllable Materials. The Contractor shall compile a reconciliation of the inventory with a reasonable explanation for such gains or losses. Failure on the part of GNPC to object to Contractor's reconciliation within thirty (30) days of compilation of said reconciliation shall be regarded as approval by GNPC.

SECTION 5**5.0 CASH CALL STATEMENT**

- 5.1 In respect of any Petroleum Costs to which GNPC is contributing as provided in Article 2 and in any case where Contractor conducts Sole Risk Operations for GNPC's account, Contractor shall at least fifteen (15) days prior to the commencement of any Month submit a Cash Call Statement to GNPC for its share of Petroleum Costs. Such Cash Call Statement shall include the following information:
- a) Due Date;
 - b) Payment Instructions;
 - c) The balance prior to the Cash Call being issued;
 - d) Amount of US Dollars due; and
 - e) An estimation of the amounts of US Dollars required from GNPC for the following Month.
- 5.2 Not later than the twenty-fifth (25th) day of each Month, Contractor will furnish GNPC a statement reflecting for the previous Month:
- a) Payments;
 - b) The nature of such payments by appropriate classifications; and
 - c) The balance due to or from GNPC.
- 5.3 Contractor may in the case where a large unforeseen expenditure becomes necessary issue a special Cash Call Statement requiring GNPC to meet such Cash Call within ten (10) days of receipt of such Statement.

SECTION 6**6.0 PRODUCTION STATEMENT**

- 6.1 Subsequent to the Date of Commencement of Commercial Production from the Contract Area, Contractor shall submit a monthly Production Statement to GNPC showing the following information for each Development and Production Area as appropriate:
- a) the quantity of Crude Oil produced and saved;
 - b) the quantity of Natural Gas produced and saved;
 - c) the quantities of Petroleum used for the purpose of conducting drilling and Production Operations, pumping to field storage and reinjections;
 - d) the quantities of Natural Gas flared;
 - e) the size of Petroleum stocks held at the beginning of the Month;
 - f) the size of Petroleum stocks held at the end of the Month.
- 6.2 The Production Statement of each Calendar Month shall be submitted to GNPC not later than ten (10) days after the end of such Month.

SECTION 7**7.0 VALUE OF PRODUCTION STATEMENT**

7. Contractor shall prepare a statement providing calculations of the value of Crude Oil produced and saved during each Quarter based on the Market Price established under Article 11 of the Agreement as well as the amounts of Crude Oil allocated to each of the Parties during that Quarter. Such Statement shall be submitted to the Minister and to GNPC not later than thirty (30) days following the determination, notification and acceptance of the Market Price to GNPC according to Article 11 of the Agreement.

SECTION 8**8.0 COST STATEMENT**

- 8.1 Contractor shall prepare with respect to each Quarter, a Cost Statement containing the following information:
- a) Total Petroleum Costs in previous Quarters, if any;
 - b) Petroleum Costs for the Quarter in question;
 - c) Total Petroleum Costs as of the end of the Quarter in question (subsection 8.1(a) plus subsection 8.1(b));
 - d) Petroleum Costs for Development Operations advanced in the Quarter in respect of GNPC's Participating Interest pursuant to Article 2 of the Agreement;
 - e) Costs as specified in (d) above which have been recovered during the Quarter pursuant to Article 10.1(e) of the Agreement and the balance, if any, of such costs unrecovered and carried forward for recovery in a later period.

Petroleum Costs for Exploration, Development and Production Operations as detailed above shall be separately identified for each Development and Production Area. Petroleum Costs for Exploration Operations not directly attributable to a specific Development Area shall be shown separately.

- 8.2 The Cost Statement of each Quarter shall be submitted to GNPC no later than thirty (30) days after the end of such Quarter.

SECTION 9**9.0 STATEMENT OF EXPENDITURES AND RECEIPTS**

- 9.1 Subsequent to the Date of Commencement of Commercial Production from the Contract Area, Contractor shall prepare with respect to each Quarter a Statement of Expenditures and Receipts. The Statement will distinguish between Exploration Expenditure and Development Expenditure and Production Expenditure and will identify major items of expenditure within these categories. The statement will show the following:
- a) actual expenditures and receipts for the Quarter in question;
 - b) cumulative expenditure and receipts for the budget year in question;
 - c) latest forecast of cumulative expenditures at the year end; and
 - d) variations between budget forecast and latest forecast and explanations therefor.
- 9.2 The Statement of Expenditures and Receipts of each Quarter shall be submitted to GNPC not later than thirty (30) days after the end of such Quarter for provisional approval by GNPC.

SECTION 10**10.0 FINAL END-OF-YEAR STATEMENT**

- 10.1 The Contractor will prepare a Final End-of-Year Statement. The Statement will contain information as provided in the Production Statement, Value of Production Statements, Cost Statement and Statements of Expenditures and Receipts, as appropriate. The Final End-of-year Statement of each Calendar Year shall be submitted to GNPC within ninety (90) days of the end of such Calendar Year. Any necessary subsequent adjustments shall be reported promptly to GNPC.

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SECTION 11**11.0 BUDGET STATEMENT**

- 11.1 The Contractor shall prepare an annual budget Statement. This will distinguish between Exploration Expenditure, Development Expenditure and Production Expenditure and will show the following:
- a) Forecast Expenditures and Receipts for the budget year under the Agreement;
 - b) cumulative Expenditures and Receipts to the end of said budget year; and
 - c) the most important individual items of Exploration, Development and Production Expenditures for said budget year.
- The budget may include a budget line or lines for unforeseen expenditures which, however, shall not exceed ten percent (10%) of the total budgetary expenditure.
- 11.2 The Budget Statement shall be submitted to GNPC and JMC with respect to each budget year no less than ninety (90) days before the start of such year except in the case of the first year of the Agreement when the Budget Statement shall be submitted within sixty (60) days of the Effective Date.
- 11.3 Where Contractor foresees that during the budget period expenditures have to be made in excess of the ten percent (10%) pursuant to Section 11.1.1 hereof, Contractor shall submit a revision of the budget to GNPC.

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SECTION 12**12.0 LONG RANGE PLAN AND FORECAST**

12.1 Contractor shall prepare and submit to GNPC the following:

- a) During Exploration Period, an Exploration Plan for each year commencing as of the Effective Date which shall contain the following information:
 - i) Estimated Exploration Costs showing outlays for each of the years or the number of years agreed and covered by the Plan;
 - ii) Details of seismic operations for each such year;
 - iii) Details of drilling activities planned for each such year;
 - iv) Details of infrastructure utilisation and requirements.

The Exploration Plan shall be revised on each anniversary of the Effective Date. Contractor shall prepare and submit to GNPC the first Exploration Plan for the First Subperiod of twelve months of the Initial Exploration Period within sixty (60) days after the Effective Date and thereafter shall prepare and submit to GNPC no later than forty five (45) days before each anniversary of the Effective Date a revised Exploration Plan.

- b) In the event of a Development Plan being approved, the Contractor shall prepare a Development Forecast for each Calendar Year of the Development Period, which shall contain the following information:
 - i) forecast of capital expenditure portions of Development and Production expenditures for each Calendar Year of the Development Period;
 - ii) forecast of operating costs for each Calendar Year;
 - iii) forecast of Petroleum production for each Calendar Year;
 - iv) forecast of number and types of personnel employed in the Petroleum Operations in the Republic of Ghana;

- v) description of proposed Petroleum marketing arrangements;
 - vi) description of main technologies employed; and
 - vii) description of the working relationship of Contractor to GNPC.
- c) The Development forecast shall be revised at the beginning of each Calendar Year commencing as of the second year of the first Development forecast Contractor shall prepare and submit to GNPC the first Development forecast within one hundred and twenty (120) days of the date when the first Development Plan is approved by the Minister and Contractor commences the implementation of such plan and thereafter shall prepare and submit a revised Development Forecast to GNPC no later than thirty (30) days before each Calendar Year commencing as of the second year of the first Development forecast.

12.2 CHANGES OF PLAN AND FORECAST

It is recognised by Contractor and GNPC that the details of the Exploration Plan and Development forecast may require changes in the light of existing circumstances and nothing herein contained shall limit the flexibility to make such changes. Consistent with the foregoing the said Plan and Forecast may be revised when appropriate. The Exploration Plan and Development Forecast are for planning purposes only.

ANNEX 3 - SAMPLE AOE CALCULATION**SAMPLE ADDITIONAL OIL ENTITLEMENT CALCULATION**

This sample calculation has been prepared to illustrate the Additional Oil Entitlement (AOE) provisions of Article 10 of the Petroleum Agreement to which this Annex 3 is attached and made a part thereof. The assumptions used, year-by-year cash flows, inflation rate, and resulting AOE payments are hypothetical only and are neither based upon nor do they represent an actual situation. They are designed to illustrate the mechanics of each of the hypothetical AOE calculations only.

Sample AOE Calculation:

Contractor's Revenues minus Income Taxes minus "Petroleum Costs"

Income Tax Rate: 35%

Petroleum Costs: Contractor's Petroleum Costs including costs advanced on GNPC's behalf

Additional Oil Entitlement (AOE):

Discounted Cash Flow

<u>Real Rate of Return (%*)</u>	<u>AOE Rate (%)</u>
19% or less	0%
Over 19%	5%
Over 20%	10%
Over 25%	15%
Over 30%	20%
Over 40%	25%

*Rate of Return exclusive of Inflation

SAMPLE AOE CALCULATION (MILLION US DOLLARS)

YEAR	NCF	FAn@19 % p.a.	AOE 1 @ 5%	SAn@10 % P.a.	AOE 2 @ 10% p.a.	TAn@25 % p.a.	AOE 3 @ 15%	YAn @ 30% p.a.	AOE 4 @ 20% p.a.	ZAn @ 40% p.a.	AOE 5 @ 25%	Total AOE Payments
1	\$ -2.0	\$ -2.0	\$	\$ -2.0	\$	\$ -2.0	\$	\$ -2.0	\$	\$ -2.0		
2	\$ -15.0	\$ -17.5	\$	\$ -17.5	\$	\$ -17.6	\$	\$ -17.7	\$	\$ -17.9		
3	\$ -150.0	\$ -171.7	\$	\$ -171.9	\$	\$ -172.9	\$	\$ -173.9	\$	\$ -176.0		
4	\$ -20.0	\$ -232.9	\$	\$ -234.8	\$	\$ -244.7	\$	\$ -254.8	\$	\$ -275.1		
5	\$ 10.0	\$ -278.8	\$	\$ -283.6	\$	\$ -308.2	\$	\$ -333.9	\$	\$ -388.9		
6	\$ 340.0	\$ -5.7	\$	\$ -14.4	\$	\$ -60.6	\$	\$ -110.8	\$	\$ -224.0		
7	\$ 220.0	\$ 213.0	\$ 10.6	\$ 191.3	\$ 19.1	\$ 111.4	\$ 16.7	\$ 23.9	\$ 4.8	\$ -156.0		\$ 51.3
8	\$ 200.0	\$ 200.0	\$ 10.0	\$ 190.0	\$ 19.0	\$ 171.0	\$ 25.7	\$ 145.4	\$ 29.1	\$ -110.0		\$ 83.7
9	\$ 150.0	\$ 150.0	\$ 7.5	\$ 142.5	\$ 14.3	\$ 128.3	\$ 19.2	\$ 109.0	\$ 21.8	\$ -72.2		\$ 62.8
10	\$ 100.0	\$ 100.0	\$ 5.0	\$ 95.0	\$ 9.5	\$ 85.5	\$ 12.2	\$ 72.7	\$ 14.5	\$ -46.6		\$ 41.9
11	\$ 65.0	\$ 65.0	\$ 3.3	\$ 61.8	\$ 6.2	\$ 55.6	\$ 8.3	\$ 47.2	\$ 9.4	\$ -29.8		\$ 27.2
12	\$ 45.0	\$ 45	\$ 2.3	\$ 42.8	\$ 4.3	\$ 38.5	\$ 5.8	\$ 32.7	\$ 6.5	\$ -17.1		\$ 18.8
13	\$ 35	\$ 35.0	\$ 1.8	\$ 33.3	\$ 3.3	\$ 29.9	\$ 4.5	\$ 25.4	\$ 5.1	\$ -4.4		\$ 14.7
14	\$ 25.0	\$ 25.0	\$ 1.3	\$ 23.8	\$ 2.4	\$ 21.4	\$ 3.2	\$ 18.2	\$ 3.6	\$ 8.2	\$ 2.0	\$ 12.5
15	\$ 10.0	\$ 10.0	\$ 0.5	\$ 0.5	\$ 1.0	\$ 8.6	\$ 1.3	\$ 7.3	\$ 1.5	\$ 5.8	\$ 1.3	\$ 5.6
Totals	\$ 1013.0		\$ 42.1		\$ 79.0		\$ 97.5		\$ 96.4		\$ 3.5	\$ 318.5

- Rates of return used above include annual inflation of 5%.
- Year 7: $AOE 1 = 0.05 * \$213.0 \text{ MM}$ (i.e. 0.05 times Cumulative Cash Flows compounded annually at 19% p.a. + 5% inflation) = \$10.6 MM.
- Years 8 through 15: $AGE 1 \text{ in } nth \text{ year} = nth \text{ Year FA} * 0.05$
- Year 7: $SA = -\$14.4 \text{ MM} * 1.25 + \$220.0 \text{ MM} - \$10.6 \text{ MM} = \191.3 MM
- Year 7: $AOE 2 = 0.10 * \$191.3 \text{ MM}$ (i.e. AOE Rate times Cumulative Cash Flow LESS AOE 1 compounded at 20% p.a. + 5% inflation) = \$19.1 MM
- Year 7: $TA = -\$60.6 \text{ MM} * 1.30 + \$220.0 \text{ MM} - \$10.6 \text{ MM} - \$19.1 \text{ MIV1} = \$111.4 \text{ MM}$
- Year 7: $AOE 3 = 0.15 * \$111.4 \text{ MM}$ (i.e. AOE Rate times Cumulative Cash Flow - AOE 1 - AOE 2 compounded at 25% p.a. + 5% inflation) = \$16.7 MM
- Year 7: $YA = -\$110.8 \text{ MM} * 1.35 + \$220.0 \text{ MM} - \$10.6 \text{ MM} - \$19.1 \text{ MM} - \$16.7 = \23.9 MM
- Year 7: $AOE 4 = 0.20 * \$23.9 \text{ MM}$ (i.e. AOE Rate times Cumulative Cash Flow - AOE 1 - AOE 2 - AOE 3 compounded at 30% p.a. + 5% inflation) = \$4.8 MM
- Year 14: $ZA = -\$4.4 \text{ MM} * 1.45 + \$25.0 \text{ MM} - \$1.3 \text{ MM} - \$2.4 \text{ MM} - \$3.2 - \$3.6 \text{ MM} = \$8.2 \text{ MM}$
- Year 14: $AOE 5 = 0.25 * \$8.2 \text{ MM}$ (i.e. AOE Rate times Cumulative Cash Flow - AOE 1 - AOE 2 - AOE 3 - AOE 4 compounded at 40% p.a. + 5% inflation) = \$2.0 MM