

**THE AMU DARYA BASIN OIL TENDER OF 2011**

**MINISTRY OF MINES**

**ISLAMIC REPUBLIC OF AFGHANISTAN**



**EXPLORATION AND  
PRODUCTION SHARING CONTRACT**

**FOR**

**HYDROCARBONS EXPLORATION,  
DEVELOPMENT AND PRODUCTION**

26 December, 2011

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## **EXPLORATION AND PRODUCTION SHARING CONTRACT**

**THIS CONTRACT**, made and entered into this 26th day of December, 2011, by and between **THE MINISTRY OF MINES OF THE GOVERNMENT OF THE ISLAMIC REPUBLIC OF AFGHANISTAN** (hereinafter referred to as the "Ministry"), acting on behalf of the Government of the Islamic Republic of Afghanistan, and CNPCI Watan Oil and Gas Afghanistan Ltd. (CNPCIW) (hereinafter referred to as the "Contractor"), a limited liability company duly organized and existing under the laws of the Islamic Republic of Afghanistan (hereinafter referred to as "Afghanistan").

### **RECITALS**

1. **WHEREAS**, the entire property in, and control of, all Hydrocarbon resources in or under the territory of Afghanistan is exclusively vested in the State under Article 3 of the Hydrocarbons Law 2009;
2. **WHEREAS**, the Ministry wishes to promote the initiation of production and processing of the known Hydrocarbon resources to meet current and future demands for energy and related products, services and activities and prioritize the early production of Hydrocarbons and, in parallel with the aforementioned activities, wishes that the Contractor use sufficient resources to thoroughly assess the Hydrocarbon potential in the Contract Area, and the Contractor desires to join and assist the Ministry in achieving these objectives and goals for the exploration for, and production of, the Hydrocarbon resources within the Contract Area;
3. **WHEREAS**, the Contractor represents that it has the financial resources, technical competence and professional skills necessary to carry out the Hydrocarbons Operations hereinafter described;
4. **WHEREAS**, the Contractor acknowledges that it is fully familiar with the laws and regulations of Afghanistan and that it has the means to maintain such familiarity during the term of this Contract; and
5. **WHEREAS**, in accordance with the Hydrocarbons Law 2009 of Afghanistan, Exploration and Production Sharing Contracts for Hydrocarbons may be entered into between the Ministry and foreign or domestic contractors.

### **CONTRACT**

**NOW, THEREFORE**, the Parties hereto hereby agree as follows:



## ARTICLE I

### DEFINITIONS & INTERPRETATION

1.1 **Definitions.** In this Contract, the following terms shall have the following meanings:

**"Accounting Procedures"** shall mean the accounting procedures set forth in Exhibit C.

**"Affiliated Entity"** shall mean any entity directly or indirectly controlling, controlled by or under common control with, a specified entity. For the purposes of this definition, "control", when used with respect to any specified entity, means the power to direct, administer and dictate the policies of such entity (it being understood and agreed that it is not necessary to own directly or indirectly fifty percent (50%) or more of such entity's voting securities to have control over such entity, but ownership, direct or indirect, of fifty percent (50%) or more of such entity's voting securities shall be deemed to constitute control).

**"Appraisal Programme"** shall mean the programme for appraising a Discovery established pursuant Section 7.1.

**"Appraisal Programme Budget"** shall mean the estimate of the costs of all items included in the corresponding Appraisal Programme, including both capital and operating budgets, all in a form acceptable to the Ministry.

**"Appraisal Well"** shall mean a Well drilled following a Discovery for the purpose of delineating the Hydrocarbons reservoir(s) to which the Discovery relates in terms of thickness and lateral extent and estimating the quantity of recoverable Hydrocarbons therein.

**"Arm's-Length Sales"** shall mean sales made at arm's length between willing and unrelated buyers and sellers in exchange for cash, excluding sales involving barter, sales from government to government and other transactions motivated in whole or in part by considerations other than the usual economic incentives involved in sales of Hydrocarbons in the international market.

**"Associated Gas"** shall mean Natural Gas that is produced in association with Liquid Hydrocarbons.

**"Barrel"** shall mean a quantity or unit of Liquid Hydrocarbons equal to 158.9874 litres (forty-two (42) United States gallons) at a temperature of sixty (60) degrees Fahrenheit (15.56 degrees Centigrade) under one atmosphere of pressure.

**"Baseline Environmental Assessment"** shall mean a report containing a description of the environment in the subject area prior to the commencement of Hydrocarbons Operations, including the then existing flora and fauna, soil, air quality, underground and surface water, landscape aesthetics, farming conditions, and socio-economic conditions in local communities.

**"Bazarkhami Block"** shall mean the geographical area delineated as such in Exhibit B.

**"Block"** shall mean any of the Kashkari Block, the Bazarkhami Block and the Zamarudsay Block, and each such block shall mean the aggregate, whether continuous or non-continuous, of its geological formations.

**"CNPCI"** shall mean CNPC International, Ltd., a company organized and existing under the laws of the Cayman Islands.

**"Commercial Discovery"** shall mean a discovery of Hydrocarbons which, as determined in accordance with the provisions of Section 7.1, can be produced commercially, based on consideration of all pertinent operating and financial data, such as Hydrocarbons volumes, recoverable reserves, sustainable production levels and other relevant technical and economic factors, according to International Best Practices.

**"Contract"** shall mean this Exploration and Production Sharing Contract, including all Exhibits hereto, as the same may be amended from time to time.

**"Contract Area"** shall mean the area described as such in Exhibit A and delineated as such in Exhibit B, including all three Blocks, as the same may be reduced by relinquishments made in accordance with the terms of this Contract.

**"Contractor"** shall mean the limited liability company designated as such in the preamble or any of its permitted successors or assigns.

**"Cost Recovery Hydrocarbons"** shall mean the Hydrocarbons received by the Contractor in recovery of Hydrocarbons Operations Expenditures in accordance with the provisions of Section 10.1(b).

**"Customs Duties"** shall mean all duties, taxes or imposts (except charges paid to the Government for actual services rendered, such as normal handling and storage charges) which are payable as a result of the importation or exportation of the item or items under consideration in accordance with the classification and rates stated in the Customs Tariff.

**"Customs Tariff"** shall mean the customs tariff enacted in accordance with the Customs Law of Afghanistan, as amended or replaced and in effect from time to time, specifying the tariff classification of goods in accordance with the Harmonized System of the World Customs Organization and the rates to be used in assessing any corresponding import or export duties thereon.

**"Day"** shall mean a calendar day.

**"Delivery Point"** shall mean the point or points at which Hydrocarbons reach the outlet flange of the Hydrocarbon delivery facility as specified in the Development Programme, or such other point or points as may be agreed by the Ministry and the Contractor.

**"Designated Fields"** shall mean the Kashkari Field, the Angot Field, the Aq Darya Field, the Bazarkhami Field and the Zamarudsay Field, each as described in Exhibits A and B



and as may be further delineated in accordance with the provisions of Section 7.1(k), as to which a Commercial Discovery shall be deemed to exist as of the Effective Date.

**“Development and Production Operations”** shall mean all Hydrocarbons Operations in and relating to a Field, including those conducted to facilitate the extraction of Hydrocarbons.

**“Development and Production Phase”** shall mean the period referred to in Section 3.1(b).

**“Development Programme”** shall mean the programme for developing a Field established pursuant to Section 7.1.

**“Development Programme Budget”** shall mean the estimate of the costs of all items included in the corresponding Development Programme, including both capital investment requirements and operating budgets, operating costs and sales revenues, and the anticipated type and source of financing, all in a form acceptable to the Ministry.

**“Discovery”** shall mean a structure or accumulation or group of structures or accumulations proved by drilling to be bearing Hydrocarbons, whether deemed to be subject of commercial development or not, including any extension of a previous Discovery.

**“Effective Date”** shall mean December 26, 2011.

**“Environmental Impact Assessment”** shall mean a report containing a description of the ecosystem in the subject area prior to the commencement of Hydrocarbons Operations, including the flora and fauna, soil, air quality, underground and surface water, landscape aesthetics, and the aspects of the ecosystem which may be affected qualitatively and quantitatively by the Hydrocarbons Operations, the effect of said operations on local populations, if any, and the socio-economic conditions of those individuals.

**“Exploration Operations”** shall mean geological studies, geochemical studies, geophysical studies, aerial mapping, seismic surveys, investigations relating to the subsurface geology including structure test drilling, stratigraphic test drilling, drilling of Exploration Wells, and other related activities such as surveying, drill site preparation and all work necessarily connected therewith, that is conducted in connection with Hydrocarbons exploration.

**“Exploration Phase”** shall mean the period referred to in Section 3.1(a).

**“Exploration Well”** shall mean a Well drilled in the course of Exploration Operations, where the target or objective of such well is outside or at a different depth of horizon of the known accumulations.

**“Field”** shall mean a Designated Field or other area, as designated by agreement between the Ministry and the Contractor, relating to the same geological structures or



accumulations, where a Commercial Discovery of Liquid Hydrocarbons or Natural Gas has been declared.

**“Financial Guarantee”** shall mean a standby letter of guarantee in the amount determined in accordance with Exhibit H.I, in the form attached hereto as Exhibit D or in a reasonably similar form acceptable to the Ministry, issued by a first class international bank acceptable to the Ministry.

**“First Extension Period”** shall have the meaning set forth in Section 3.1(a).

**“Force Majeure”** shall have the meaning set forth in Article XXX.

**“Formula Price”** shall mean, in the case of Liquid Hydrocarbons, the price determined in accordance with the formula set forth in Section 11.1, and in the case of Natural Gas, the price determined in accordance with Section 11.5.

**“General Performance Guarantee”** shall mean the guarantee by CNPCI of the Contractor's obligations hereunder, in the form attached hereto as Exhibit E, to be executed and delivered to the Ministry simultaneously with the execution of this Contract.

**“Government”** shall mean the Government of the Islamic Republic of Afghanistan.

**“Gross Contractor Revenues”** shall mean, as of any date, the aggregate value of Cost Recovery Hydrocarbons (such value determined pursuant to Section 10.1(b)) and Net Hydrocarbons (such value determined in accordance with the applicable Formula Price) allocated to the Contractor up to such date in accordance with Section 10.1 and any other proceeds derived from Hydrocarbons Operations as set forth in the Accounting Procedures.

**“Hydrocarbons”** shall mean Liquid Hydrocarbons and Natural Gas.

**“Hydrocarbons Law”** shall mean the Hydrocarbons Law 2009 of Afghanistan, as amended or replaced and in effect from time to time.

**“Hydrocarbons Operations”** shall have the meaning given to it in the Hydrocarbons Law, but shall not include transportation of Hydrocarbons beyond the Delivery Point.

**“Hydrocarbons Operations Expenditures”** shall mean expenditures made in conducting Hydrocarbons Operations hereunder, as determined in accordance with the Accounting Procedures.

**“Hydrocarbons Register”** shall mean the registration of documents, reports and records of Hydrocarbons established in accordance with Article 6 of the Hydrocarbons Law.

**“Income Tax”** shall mean the tax imposed on net income pursuant to the Income Tax Law 2009 of Afghanistan, as amended or replaced and in effect from time to time.

**"Initial Commercial Production"** shall mean, with respect to any Field, the date on which the first regular shipment of Liquid Hydrocarbons or Natural Gas, or both, is made from such Field under a programme of regular production hereunder.

**"Initial Exploration Period"** shall have the meaning set forth in Section 3.1(a).

**"International Best Practices"** shall mean such practices, methods, standards (such as API, GB, BSI, etc.) and procedures generally accepted and followed internationally by prudent, diligent, skilled and experienced operators in Hydrocarbons Operations, including practices, methods, standards and procedures intended to (a) conserve Hydrocarbons by maximizing the recovery of Hydrocarbons in a technically and economically sustainable manner, with a corresponding control of reserves decline and minimization of losses at the surface; (b) promote operational safety and prevention of accidents; and (c) protect the environment by minimizing the impact of Hydrocarbons Operations thereon.

**"Kashkari Block"** shall mean the geographical area delineated as such in Exhibit B.

**"Licence"** shall mean the licence certifying that the Contractor holds this Exploration and Production Sharing Contract and is therefore entitled to conduct Hydrocarbons Operations within the Contract Area.

**"Liquid Hydrocarbons"** shall mean crude mineral oil, asphalt and all other kinds of hydrocarbons and bitumen, regardless of gravity, which are produced at the wellhead in a liquid or solid state at ambient conditions of temperature and atmospheric pressure, or which are extracted from Natural Gas by condensation.

**"Maximum Efficient Rate"** shall mean the maximum rate of production of Liquid Hydrocarbons in a Field, without excessive rate of decline of production or excessive loss of reservoir pressure, and in accordance with International Best Practices and the provisions of Section 7.2(b).

**"Minimum Exploration Programme"** shall mean the minimum work commitment for Exploration Operations undertaken by the Contractor during the Exploration Phase as set forth in Part I of Exhibit H.

**"Minimum Production Requirements"** shall mean the minimum cumulative production requirements from each of the Designated Fields as set forth in Part II of Exhibit H, as may be amended by written agreement of the Parties.

**"Month"** shall mean a calendar month.

**"Natural Gas"** shall mean any Hydrocarbons which at specified atmospheric conditions of temperature and pressure are found in a gaseous state, and includes dry mineral gas, including coal-based methane, wet gas and residue gas remaining after the extraction, processing or separation of Liquid Hydrocarbons from wet gas, as well as non-Hydrocarbon gas or gases produced in association with liquid or gaseous Hydrocarbons;



including the residue gas remaining after the condensation of Liquid Hydrocarbons, but excluding condensed or extracted Liquid Hydrocarbons.

**"Net Hydrocarbons"** shall mean, for any Month, the total quantity of Hydrocarbons produced and saved in such Month and not used in Hydrocarbons Operations or flared or re-injected into the Contract Area, after deduction of the Royalty and the Cost Recovery Hydrocarbons.

**"Net Taxable Income"** shall mean net taxable income as determined in accordance with the provisions of the Income Tax Law 2009 of Afghanistan, as amended and in effect from time to time.

**"Non-Associated Gas"** shall mean Natural Gas that is produced without association with Liquid Hydrocarbons or in association with Liquid Hydrocarbons that cannot be produced commercially.

**"Parties"** shall mean the Ministry and the Contractor and their permitted successors and assigns.

**"Person-in-Charge"** shall mean a competent person appointed by the Contractor to be in charge of all Hydrocarbons Operations hereunder.

**"Quadrant"** shall mean the area demarcated by five (5) minutes of longitude and five (5) minutes of latitude. Quadrants containing known hydrocarbon accumulations are identified in Exhibits A and B.

**"Quarter"** shall mean a period of three (3) consecutive Months commencing with the first day of January, April, July or October of any Year.

**"RGIIP"** means Natural Gas initially in place and having a reasonable certainty of being recoverable under existing economic and political conditions, using existing technology.

**"ROIIP"** means Liquid Hydrocarbons initially in place and having a reasonable certainty of being recoverable under existing economic and political conditions, using existing technology.

**"Royalty"** shall mean, with respect to any Month, fifteen percent (15%) of the Hydrocarbons produced and saved in such Month from the Contract Area and not used in Hydrocarbons Operations or flared or re-injected into the Contract Area, which is allocated to the Ministry before allocation to the Contractor of the Cost Recovery Hydrocarbons, all as set forth in Article X.

**"Second Extension Period"** shall have the meaning set forth in Section 3.1(a).

**"State"** shall mean the Islamic Republic of Afghanistan.

**"U.S. Dollars"** or **"US\$"** shall mean the lawful currency of the United States of America.





**“Watan”** shall mean Watan Oil and Gas Limited, a company organized and existing under the laws of Afghanistan.

**“Well”** shall mean any opening in the ground made or being made by drilling or boring, or in any other manner, for the purpose of exploring for and/or producing Hydrocarbons, or for the injection of any gas or fluid into an underground deposit, other than a seismic hole or a stratigraphic test hole.

**“Work Programme”** shall mean the quarterly or annual work programme prepared by the Contractor pursuant to Section 5.3, as applicable, itemizing the Hydrocarbons Operations to be carried out in the Contract Area during the specified period.

**“Work Programme Budget”** shall mean the estimate of the cost of all items included in the corresponding Work Programme, including both capital and operating budgets, all in a form acceptable to the Ministry.

**“Year”** shall mean a period of twelve (12) consecutive Months, commencing January 1st and ending December 31st, except that the first Year shall begin on the Effective Date and end on December 31, 2012.

**“Zamarudsay Block”** shall mean the geographical area delineated as such in Exhibit B.

1.2 **Interpretation.** Unless the context otherwise requires:

- (a) the word “including” means including, without limitation; words in the singular include the plural and words in the plural include the singular; and the words “hereof”, “herein” and “hereunder” refer to this Contract as a whole;
- (b) references herein to Articles, Sections and Exhibits are to the Articles, Sections and Exhibits of this Contract;
- (c) the headings of this Contract are included for purposes of convenience only and are not to be used in the interpretation of this Contract; and
- (d) any agreement, instrument or statute defined or referred to herein or in any instrument or certificate delivered in connection herewith means such agreement, instrument or statute as from time to time amended, modified, supplemented or replaced.

## ARTICLE II

### **GRANT OF RIGHTS TO THE CONTRACTOR**

- 2.1 **Exclusive Rights.** Subject to the terms and conditions set forth in this Contract, the Ministry grants to the Contractor the exclusive right to conduct Hydrocarbons Operations within the Contract Area for the duration of this Contract. The Contractor shall acquire a share of extracted Hydrocarbons as set out herein and shall, except as



provided in Sections 12.1, 12.3 and 12.5, have the right, during the term of this Contract, to freely take, sell and export such share.

- 2.2 **Sole Risk, Cost and Expense.** Except as otherwise expressly provided in this Contract, the Contractor shall conduct all Hydrocarbons Operations hereunder at its sole risk, cost and expense. The Contractor shall look only to the Hydrocarbons to which it is entitled under this Contract to recover such costs and expenses, and such Hydrocarbons shall be the Contractor's sole source of compensation for Hydrocarbons Operations hereunder.
- 2.3 **Independent Contractor.** The Contractor shall be responsible to the Ministry for the execution of all Hydrocarbons Operations in accordance with the provisions of this Contract. Without prejudice to the Contractor's position as an independent contractor hereunder, the extent and character of such work to be done by the Contractor shall be subject to the general supervision, review and approval of the Ministry, to which the Contractor shall report and be responsible as set forth herein and in the applicable legislation and regulations.

### ARTICLE III

#### TERM

- 3.1 **Parts of Contract Area Outside of Designated Fields.** The following provisions shall apply to all parts of the Contract Area outside of the Designated Fields:
- (a) The Contractor is authorised to conduct Exploration Operations during an Exploration Phase, which shall be comprised of (i) an initial exploration period of four (4) Years and six (6) Months ("Initial Exploration Period") commencing on the Effective Date, and (ii) subject to the conditions hereinafter provided, two (2) successive extension periods ("First Extension Period" and "Second Extension Period") of two (2) Years each. Such extension periods shall be granted to the Contractor upon the Contractor's request delivered to the Ministry not later than ninety (90) Days prior to the expiration of the then current period, subject to the Contractor having fulfilled its obligations under this Contract for the then current period, including the relinquishment provisions of Article IV, and having submitted with such application a Work Programme and Work Programme Budget, as well as a Financial Guarantee for an amount equal to the estimated expenditures associated with the Minimum Exploration Programme for the period of extension, all of which is to be consistent with the undertakings set forth in Article VI.
- (b) If a Commercial Discovery is made, the Contractor shall commence Development and Production Operations (the "Development and Production Phase") in respect of the Field where such Commercial Discovery has occurred, subject to the Ministry's approval of a Development Programme and Development Programme Budget in accordance with Section 7.1(h)(ii).



- (c) If at the end of the Exploration Phase, no Commercial Discovery has been made in any part of the Contract Area outside of the Designated Fields, this Contract shall automatically terminate for all parts of the Contract Area other than the Designated Fields, provided that the Ministry undertakes to grant an extension for such period, and for such area as may be necessary (i) for the Contractor to complete the drilling, testing, appraisal or plugging of any Well actually being drilled, tested, appraised or plugged at the end of the Exploration Phase and (ii) for the Ministry and the Contractor to determine that a Discovery resulting from such a Well is a Commercial Discovery pursuant to Section 7.1.
- (d) In the event of a Commercial Discovery, the extent of the area capable of production of Hydrocarbons from the formation or formations so identified shall be determined in accordance with the provisions of Section 7.1 or Article XV. The area so determined shall thereupon be converted automatically into a Field, with effect from the date of the declaration of the Commercial Discovery. The term of the Development and Production Phase for each Field shall extend for a maximum of twenty-five (25) years from the date the Discovery was made.
- (e) In the event that the Contractor has fulfilled all its obligations for the specified term of the Contract, the Contractor may request an extension of the Development and Production Phase for a further period not exceeding ten (10) years. The Ministry shall consider any such request in accordance with the provisions of the Hydrocarbons Law.

3.2 **Designated Fields.** In the case of the Designated Fields, the duration of this Contract shall not exceed twenty-five (25) years from the Effective Date.

## ARTICLE IV

### **RELINQUISHMENT**

4.1 **Exploration Phase.** During the Exploration Phase, the Contractor shall relinquish to the Ministry parts of the original Contract Area as follows:

- (a) subject to Section 4.1(d), on or before the end of the Initial Exploration Period, the Contractor shall relinquish at least twenty percent (20%) of the original area of each Block that has not been converted into a Field; provided, however, that for each Block in which the Contractor has not drilled at least one (1) Exploration Well, the Contractor shall relinquish at least fifty percent (50%) of the original area of such Block that has not been converted into a Field;
- (b) subject to Section 4.1(d), on or before the end of the First Extension Period, the Contractor shall relinquish at least an additional area equal to twenty percent (20%) of the remaining area of each Block that has not been converted into a Field; provided, however, that for each Block in which the Contractor has not drilled at least one (1) Exploration Well during the First Extension Period or at



least two (2) Exploration Wells during the Initial Exploration Period, the Contractor shall relinquish at least fifty (50%) of the remaining area of such Block that has not been converted into a Field;

- (c) subject to Section 4.1(d), at the end of the Exploration Phase, the Contractor shall relinquish the remainder of each Block that has not been converted into a Field or has not had a Discovery which is under evaluation for development; and
- (d) the provisions of this Section 4.1 shall not be read or construed as requiring the Contractor to relinquish any portion of the Contract Area corresponding to a Discovery that has been converted to a Field or is under evaluation for development.

4.2 **Size and Shape of Relinquished Areas.** The size and shape of the part or parts of the Contract Area to be relinquished shall be determined by the Contractor; provided, however, that:

- (a) the Contractor shall advise the Ministry at least ninety (90) Days prior to the date of relinquishment which parts of the Contract Area the Contractor wishes to relinquish;
- (b) the Contractor shall consult with the Ministry regarding the shape and size of each individual portion of the areas being relinquished; and
- (c) unless the Ministry expressly allows otherwise, the area being relinquished shall not be divided into more than two portions per Block, each of which shall comprise, and be defined by reference to, graticular sections as described in Exhibit B, save where no such area or areas can be identified for relinquishment in accordance with this Section without including in such area or areas in whole or in part a Field or area in which a Discovery has been made which the Contractor is not otherwise required to relinquish hereunder. Each such relinquished individual portion shall be not less than twenty percent (20%) of the area in the Block in question being relinquished at such time with sides parallel to the boundaries of such Block, to the extent that the boundaries of such Block permit, and with the longest side not more than three times as long as the shortest side, and shall in any event be of sufficient size and convenient shape to enable Hydrocarbons Operations to be conducted thereon.

4.3 **Voluntary Relinquishment.** The Contractor shall have the right to relinquish all or any part of the Contract Area upon at least ninety (90) Days written notice to the Ministry. In the event of partial relinquishment pursuant to this Section 4.3, the area relinquished shall be credited against that portion of the Contract Area which the Contractor is next required to relinquish pursuant to Section 4.1.

4.4 **Compliance with Obligations.** No relinquishment made in accordance with this Article IV shall relieve the Contractor of: (a) its obligation to make payments due as a result of surface rental fees incurred prior to the date of any such relinquishment; (b) its obligation to comply with the Minimum Exploration Programme and Minimum

Production Requirements; or (c) any other obligation which may have accrued prior to the date of relinquishment.

- 4.5 **Clean-up and Restoration.** Upon relinquishment of any area, the Contractor shall perform all necessary clean-up activities and undertake all necessary restoration measures in accordance with International Best Practices and the prevailing legislation, and shall take all other action necessary to prevent hazards to the environment, flora and fauna, the local community, human health and life or third-party property.

## ARTICLE V

### **GENERAL OBLIGATIONS OF THE CONTRACTOR**

- 5.1 **Conduct of Hydrocarbons Operations.** The Contractor shall be responsible for conducting all Hydrocarbons Operations within the Contract Area diligently, expeditiously and efficiently in accordance with International Best Practices and the prevailing legislation and pursuant to Work Programmes and Work Programme Budgets approved in accordance with Section 5.3. Without limiting the generality of the foregoing, the Contractor shall:
- (a) advance all necessary funds and purchase or lease all technology, equipment, machinery, materials and supplies required to be purchased or leased in connection with Hydrocarbons Operations and furnish all other funds for the performance of Hydrocarbons Operations as may be required, including payment to third parties that perform services as contractors or subcontractors to the Contractor;
  - (b) furnish all technical expertise and assistance, including foreign personnel, required for the conduct of Hydrocarbons Operations;
  - (c) ensure that all equipment, materials, supplies, plant and installations used by the Contractor, its contractors and subcontractors comply with International Best Practices and are of proper construction and kept in good working order;
  - (d) ensure that all Exploration Wells with significant shows of Hydrocarbons are properly tested;
  - (e) engage one or more internationally recognized, unaffiliated third parties through a competitive bidding process to provide at least sixty percent (60%) of the Well tests and at least sixty percent (60%) of the wireline logs within the Designated Fields for the first two (2) Years. (The Parties agree that the Contractor may amend its procurement program to accomplish the above commitment);
  - (f) use the resources in the Contract Area as productively as practicable, prevent damage to producing formations, and ensure that Hydrocarbons discovered, drilling fluids, mud or any other waste (solid or fluid) do not escape and are not wasted;



- (g) use its best efforts to prevent damage to Hydrocarbon and water-bearing strata that are adjacent to a producing formation, and prevent water from entering any strata-bearing Hydrocarbons, except where water injection methods are used for enhanced recovery operations or are intended otherwise in accordance with International Best Practices;
- (h) take all measures in accordance with International Best Practices to (i) protect the environment such as to minimise any damage to flora and fauna and any other pollution of the environment in accordance with applicable law, (ii) avoid flaring of Natural Gas unless expressly authorised by the Ministry and (iii) secure the safety, health and welfare of persons engaged in Hydrocarbons Operations and the public;
- (i) to the extent possible, prevent or mitigate any risks arising from Hydrocarbons Operations;
- (j) comply with laws relating to employment when employing domestic or foreign staff, provide acceptable working conditions and living accommodations, and access to medical attention and nursing care, for all personnel employed by it, its contractors and its subcontractors in Hydrocarbons Operations, and otherwise ensure that international norms related to labour, social protection and human rights are respected and that no child labour or forced labour is used in connection with Hydrocarbons Operations;
- (k) comply with the applicable environmental laws and regulations of Afghanistan; and
- (l) have no less than four (4) drilling rigs (or drilling/service rigs) or three (3) drilling rigs (or drilling/service rigs) and one set of 2D (or 3D) seismic equipment in the Contract Area no later than December 31, 2012, and if the Contractor complies with this Section 5.1(l), its taxable income shall be subject to the then prevailing Income Tax rate for the term of the Contract, without stabilization.

5.2 **The Contractor Representatives.** The Contractor shall appoint and notify the Ministry of the name of a Person-in-Charge, who shall ensure to the best of his ability that he and all workers in his charge know and comply with all relevant laws and regulations, and with any safety manual that is applicable to the operations under his control. Appointment of the Person-in-Charge shall be done prior to commencement of the Hydrocarbons Operations and the Ministry shall be notified of the name and address of that person as soon as possible thereafter. Furthermore, the Contractor shall appoint and notify the Ministry of the names of a legal representative and an alternate legal representative. The representative and the alternate legal representative shall have an office in an adequate location in Afghanistan for exercising the tasks of such representatives, be residents in Afghanistan with legal address and have full authority to represent the Contractor for all purposes of this Contract. Notification of representatives and the Person-in-Charge is to be made within thirty (30) Days after the Effective Date. In the event of replacement of such representatives and/or Person-in-



Charge, such replacement shall be similarly notified to the Ministry upon the effective date of the replacement.

5.3 **Work Programmes and Budgets.**

- (a) The Contractor shall prepare and submit to the Ministry for approval the following Work Programmes and Work Programme Budgets for Hydrocarbons Operations and Hydrocarbons Operations Expenditures within the time periods specified:
  - (i) no later than one (1) month after the Effective Date, a quarterly Work Programme and Work Programme Budget for the period beginning on the Effective Date and ending on March 31, 2012;
  - (ii) no later than February 29, 2012, a quarterly Work Programme and Work Programme Budget for the period beginning on April 1, 2012 and ending on June 30, 2012;
  - (iii) no later than May 31, 2012, a quarterly Work Programme and Work Programme Budget for the period beginning on July 1, 2012 and ending on September 30, 2012;
  - (iv) no later than August 31, 2012, a quarterly Work Programme and Work Programme Budget for the period beginning on October 1, 2012 and ending on December 31, 2012; and
  - (v) at least ninety (90) Days prior to the beginning of each Year commencing on or after January 1, 2013, an annual Work Programme and Work Programme Budget for Hydrocarbons Operations and Hydrocarbons Operations Expenditures by Quarter, setting forth the Hydrocarbons Operations the Contractor proposes to carry out during the ensuing Year.
- (b) Notwithstanding any other provision of this Contract, each respective Work Programme and Work Programme Budget prepared and submitted pursuant to Section 5.3(a) shall include the quarterly forecast statement described in Section 7.2(c), the quarterly estimates described in Section 10.3, and the portion of the annual training programmes described in Sections 20.1 and 20.2 to be carried out during the period covered by the Work Programme and Work Programme Budget. The Ministry and the Contractor shall promptly agree on each Work Programme and Work Programme Budget submitted pursuant to Section 5.3(a).
- (c) To the maximum extent practicable, the Contractor shall involve representatives of the Ministry in the preparation of the Work Programmes and Work Programme Budgets.

- (d) Each Work Programme and Work Programme Budget shall comply with the Minimum Exploration Programme and the Minimum Production Requirements, as well as with International Best Practices and the prevailing legislation and regulations.
- (e) Approval by the Ministry of the proposed Work Programmes and Work Programme Budgets will not be unreasonably withheld or delayed.
- (f) Should the Ministry wish to propose revisions to the annual Work Programme or Work Programme Budget, it shall within thirty (30) Days after receipt thereof so notify the Contractor, specifying in reasonable detail its reasons therefor. Promptly thereafter, the Parties shall meet and endeavour to agree on the revisions proposed by the Ministry.
- (g) If the Contractor and the Ministry fail to agree upon any revisions proposed by the Ministry within sixty (60) Days of the receipt of the Contractor's proposals, the points of disagreement shall be resolved as follows:
  - (i) with respect to annual Work Programmes and Work Programme Budgets that relate to Exploration Operations, the Contractor's proposals, revised in accordance with any agreed amendments or additions thereto, shall be deemed adopted, provided that they are in compliance with Section 5.3(d); and
  - (ii) with respect to annual Work Programmes and Work Programme Budgets that relate to Development and Production Operations, the Contractor's proposals, revised in accordance with any agreed amendments or additions thereto, shall be deemed adopted provided that they are consistent with the Development Programme and Development Programme Budget adopted pursuant to Section 7.1(h)(ii) or Section 7.1(k), as applicable, and are in compliance with Section 5.3(d).
- (h) The Parties recognize that the details of a Work Programme may require changes in light of the then prevailing circumstances. In such event, the Contractor may introduce such changes as may be necessary, following consultation with the Ministry, but subject to the following:
  - (i) in the case of changes to a Work Programme and Work Programme Budget relating to Exploration Operations, such changes may be implemented provided that compliance with Section 5.3(d) is maintained;
  - (ii) in the case of changes to a Work Programme and Work Programme Budget relating to Development and Production Operations, such changes may be implemented to the extent that they are not inconsistent with the applicable Development Programme and Development Programme Budget adopted pursuant to Section 7.1(h)(ii) or Section 7.1(k), as applicable, and compliance with Section 5.3(d) is maintained.



5.4 **Drilling Operations.**

- (a) The Contractor is required to design Wells and conduct drilling operations, including the casing, cementing and plugging of Wells, in accordance with International Best Practices.
- (b) Every Well in the Contract Area shall be identified by name, number and geographic co-ordinates, which shall be shown on maps, plans and similar records that the Contractor shall keep and submit to the Hydrocarbon Data Bank.
- (c) Prior to commencing the drilling of any Well or re-entering any Well on which work has been discontinued for more than ninety (90) Days, the Contractor shall give the Ministry written notice no later than seven (7) Days before such work shall commence and submit a proposed Well programme. The proposal shall include the following information:
  - (i) the official name and number of the Well and a description of its precise location by reference to geographical coordinates;
  - (ii) a detailed work programme describing the drilling technique to be employed and all ancillary operations (including casing, cementing, mud, coring, logging, Well control and testing), an estimate of the time to be taken and depth objective, the estimated costs of the Well programme, and the safety measures to be employed in the drilling of the Well;
  - (iii) a summary of the geological and geophysical data, and any interpretations thereof, upon which the Contractor made the decision to drill or commence work on the respective Well (accompanied by appropriate maps and cross-sections);
  - (iv) the name of the drilling contractor, if applicable, and designation of the drilling rig; and
  - (v) the name of other service companies to be employed, together with a brief description of the equipment and services, if applicable, to be provided.
- (d) In case any work related to any Well is suspended for a period exceeding thirty (30) Days, the Contractor shall notify the Ministry in writing to that effect.
- (e) The Contractor shall give forty-eight (48) hours notice in writing before recommencing work on any Well on which work has been suspended for more than thirty (30) Days but for less than ninety (90) Days.
- (f) The Contractor shall not, without the prior written approval of the Ministry, drill any Well from any surface area within the Contract Area which is less than five hundred (500) meters from a boundary of the Contract Area, or from within the Contract Area through any vertical boundary of the Contract Area.

- (g) The Contractor shall securely plug and clearly mark any Well that it abandons, in accordance with International Best Practices, to prevent pollution and damage to the deposit and underground strata through the entry of water or otherwise. The Contractor shall, except when the Ministry otherwise directs or this Contract otherwise provides, remove all equipment, materials and facilities relating thereto and provide that cemented strings or other forms of casing shall not be withdrawn without the written approval of the Ministry.
- (h) In relation to every Well being drilled, completed, tested or abandoned, the Contractor shall submit to the Ministry daily well reports during the conduct of drilling operations describing the progress and results of the operations. In addition, the Contractor shall submit a Well completion report accompanied by copies of all logs obtained from the Well within two (2) Months from the date of rig release of a Well.
- (i) The Contractor shall, within one hundred and eighty (180) Days of the completion of any survey, test or drilling operations, or, in the case of data that cannot reasonably be obtained or compiled in that period, as soon as possible thereafter, submit to the Ministry copies of all geological and geophysical data obtained by the Contractor in the course of conducting Hydrocarbons Operations, including any interpretations thereof and logs and records of Wells.
- (j) The Contractor shall drill each Exploration Well to the depth set forth in the Well programme, unless:
  - (i) formation is encountered at a lesser depth than originally anticipated;
  - (ii) basement is encountered at a lesser depth than originally anticipated;
  - (iii) in the Contractor's reasonable opinion, continued drilling of the Exploration Well is too hazardous because of abnormal or unforeseen conditions;
  - (iv) it is impractical to continue drilling because insurmountable technical problems have been encountered;
  - (v) Hydrocarbons formations have been encountered, penetration of which will require laying protective casing as a consequence of which the Exploration Well cannot be drilled to the depth required by the Well programme; or
  - (vi) the Ministry and the Contractor agree in writing to terminate the drilling operation in respect of the Exploration Well.
- (k) If the Contractor determines it is reasonable to stop drilling pursuant to Section 5.4(j), it will notify the Ministry immediately and a determination will be made jointly as to whether to amend the Work Programme, the Minimum Exploration Programme and Well programme accordingly to:



- (i) enable successful completion of the Exploration Well;
- (ii) substitute another Exploration Well; or
- (iii) determine an alternative solution acceptable to the Parties.

In the event the Parties elect to substitute another Exploration Well pursuant to Section 5.4(k)(ii), the amount guaranteed under the Financial Guarantee shall be reduced by the cost of the abandoned Exploration Well.

5.5 **Reports on Hydrocarbons Operations.** The Contractor shall keep the Ministry regularly and fully informed of the progress and results of all Hydrocarbons Operations and shall provide the Ministry with all geologic information, data, samples, interpretations and reports, including progress and completion reports, and keep such original data, records and full particulars at its registered office in Afghanistan, which are required under this Contract, the Hydrocarbons Law or applicable regulations.

5.6 **Other Minerals.**

- (a) If, in the course of Hydrocarbons Operations, the Contractor discovers minerals other than Hydrocarbons in the Contract Area that are of economic value and are capable of being developed, it shall within thirty (30) Days inform the Ministry of the minerals discovered, their location and such other information as the Ministry may reasonably request and in addition submit a sample of the discovered minerals to the Ministry.
- (b) If, after the Effective Date, others are granted licences within the Contract Area authorizing prospecting for, exploration for or mining of any minerals or other substances other than Hydrocarbons, or the Ministry proceeds with such prospecting, exploration or mining directly in its own behalf, the Contractor shall afford proper passage for the licensee of mineral rights to the relevant parts of the Contract Area, and use its best efforts to avoid obstruction or interference with such licensees' or Ministry operations within the Contract Area. The Ministry shall use its best efforts to ensure that operations of third parties do not obstruct or interfere with the Hydrocarbons Operations within the Contract Area.

5.7 **Historic and Cultural Items.**

- (a) If, in the course of Hydrocarbons Operations, the Contractor finds signs or marks or discovers items of any historical or cultural significance, including fossils and other items included on the Archaeological and Cultural Heritage list, it shall immediately inform the Ministry of the find or discovery.
- (b) The Contractor undertakes not to remove any such items as mentioned above. The Contractor undertakes to keep any such items safe on its own account on behalf of the State until they are transported by the relevant State authorities. However, in case such transportation is not provided by the State within sixty (60)

Days of reporting, the subsequent expenses shall be borne by the relevant State authority.

## ARTICLE VI

### **COMMENCEMENT OF HYDROCARBONS OPERATIONS**

- 6.1 **Commencement of Hydrocarbons Operations.** The Contractor shall commence Hydrocarbons Operations hereunder not later than thirty (30) Days after the date that the Ministry approves the first Work Programme and Work Programme Budget.
- 6.2 **Baseline Environmental Assessment.** Prior to commencing Hydrocarbons Operations in any Designated Field or other area of a Block outside a Designated Field, the Contractor shall carry out a Baseline Environmental Assessment to determine the then prevailing situation relating to the environment, social conditions, local communities, farming and wildlife (flora and fauna) in such Designated Field or other area.
- 6.3 **Minimum Exploration Programme.** The Contractor undertakes to carry out and comply with the work commitments established by the Minimum Exploration Programme. The amount estimated to be expended by the Contractor in conducting the Minimum Exploration Programme is set forth in Part I of Exhibit H.
- 6.4 **Minimum Production Requirements.** The Contractor undertakes to meet the Minimum Production Requirements set forth in either Option 1 or Option 2 of Part II of Exhibit H. The Contractor shall notify the Ministry in writing of its election of either Option 1 or Option 2 not later than six (6) Months following the Effective Date. The Contractor's election, once made, shall be irrevocable. The Ministry shall on the Effective Date or as soon as practicable thereafter provide to the Contractor all geological, geophysical, geographical, drilling, Well, production and other information, including Well location maps relating to the Contract Area in its possession on the Effective Date. If after performing reasonable investigation in a Designated Field, including the services listed in Section 5.1(e), and conducting reservoir evaluations, the Contractor considers that it would not be possible to meet the Minimum Production Requirements, the Contractor shall notify the Ministry within ten (10) Days following such evaluation and the Parties shall meet as soon as reasonably practicable to agree on revised Minimum Production Requirements. In the event that no agreement is reached between the Ministry and the Contractor within thirty (30) Days following their initial meeting, the Ministry or the Contractor may refer the matter for expert determination pursuant to Section 24.3. In the event the Parties fail to resolve the matter by expert determination, the matter shall proceed to arbitration in accordance with Section 24.1. The determination in accordance with Section 24.1 shall be final. Notwithstanding any such evaluation by the Contractor, the Contractor shall continue with Hydrocarbons Operations in accordance with the applicable Work Programme and Work Programme Budget as expeditiously as possible. In the event that the Contractor fails to meet the Minimum Production Requirements by twenty percent (20%) or less in any Field, the Contractor shall have the option to make a financial settlement with the Ministry.



## ARTICLE VII

### **DISCOVERY; DEVELOPMENT AND PRODUCTION**

#### **7.1 Discovery; Development.**

- (a) The Contractor shall immediately notify the Ministry in writing of any Discovery, specifying all pertinent information concerning the Discovery and submitting a sample of the Hydrocarbons discovered to the Ministry.
- (b) If the Contractor determines to conduct a drill-stem or production test, in open hole or through perforated casing, with regard to the Discovery, it shall notify the Ministry of the time of such test at least forty-eight (48) hours prior to the proposed test, and the Ministry shall have the right to have a representative present during such test. Not later than one hundred and twenty (120) Days after completion of such test, the Contractor shall complete its analysis and interpretation of the resulting data and submit a report to the Ministry, which shall contain copies of such data and its analysis and interpretation thereof, and which shall also contain a written notification of whether or not, in the Contractor's opinion, such Discovery is of commercial interest. If the Contractor plugs and abandons the Well which encountered such Discovery without conducting a drill-stem or production test, or fails to conduct a drill-stem or production test within one hundred and eighty (180) Days from the date on which such Discovery was made, it shall be deemed to have notified the Ministry that, in the Contractor's opinion, such Discovery is not of commercial interest.
- (c) If, pursuant to Section 7.1(b), the Contractor notifies, or is deemed to have notified, the Ministry that such Discovery is not of commercial interest, the Ministry shall have the option, exercisable by notice in writing to the Contractor, to require the Contractor to relinquish the area corresponding to such Discovery and forfeit any rights relating to such Discovery and any production therefrom; provided, however, that for any Discovery made during the Initial Exploration Period or any extension thereof, the Ministry shall not exercise such option until the end of such period and shall not require the Contractor to relinquish the area corresponding to any Discovery that has been converted to a Field during such period or is under evaluation for development. The area subject to relinquishment shall not exceed the vertical projection to the surface of the prospective producing area determined by taking into account the area of the structural closure of the prospective horizon and other relevant technical factors.
- (d) If, pursuant to Section 7.1(b), the Contractor notifies the Ministry that the Discovery is of commercial interest, the Contractor shall within ninety (90) Days prepare and submit to the Ministry for approval an Appraisal Programme and an Appraisal Programme Budget for the appraisal of such Discovery. Such Appraisal Programme and Appraisal Programme Budget shall include a complete programme of appraisal operations necessary to determine whether such Discovery is a Commercial Discovery.

- (e) Within thirty (30) Days after the submission of the Appraisal Programme and Appraisal Programme Budget pursuant to Section 7.1(d), the Contractor and the Ministry shall meet with a view to adopting such Appraisal Programme and Appraisal Programme Budget or mutually agreeing upon amendments or additions thereto. Failing agreement between the Contractor and the Ministry as to such Appraisal Programme and Appraisal Programme Budget at such meeting, or within twenty (20) Days thereafter, the original Appraisal Programme and Appraisal Programme Budget submitted by the Contractor, revised in accordance with any agreed amendments or additions thereto, shall be deemed adopted, provided that it conforms to International Best Practices and the applicable legislation and regulations, and the Contractor shall immediately commence implementation thereof. On adoption of the Appraisal Programme and Appraisal Programme Budget, the Work Programme and Work Programme Budget adopted pursuant to Section 5.3 shall be revised accordingly.
- (f) If, pursuant to Section 7.1(b), the Contractor has notified the Ministry that the Discovery is of commercial interest, it shall, unless otherwise agreed:
  - (i) in respect of a Discovery of Liquid Hydrocarbons, advise the Ministry by notice in writing whether or not in its opinion the Discovery is a Commercial Discovery within a period of twelve (12) Months from the date on which the Contractor notified the Ministry that the Discovery was of commercial interest; and
  - (ii) in respect of a Discovery of Non-Associated Gas, advise the Ministry by notice in writing whether or not in its opinion the Discovery is a Commercial Discovery within such period as may be stipulated in an agreement made pursuant to Article XV with respect to such Discovery or, in the absence of such agreement, within twenty-four (24) Months from the date on which the Contractor notified the Ministry that the Discovery was of commercial interest.
- (g) If the Contractor notifies the Ministry that the Discovery is not a Commercial Discovery, or fails to notify the Ministry that the Discovery is a Commercial Discovery, within the periods prescribed in Sections 7.1(f)(i) and (f)(ii), the Ministry shall have the option, exercisable by notice in writing to the Contractor, to require the Contractor to relinquish the area corresponding to such Discovery and forfeit any rights relating to such Discovery and any production therefrom; provided, however, that for any Discovery made during the Initial Exploration Period or any extension thereof, the Ministry shall not exercise such option until the end of such period and shall not require the Contractor to relinquish the area corresponding to any Discovery that has been converted to a Field during such period or is under evaluation for development. The area subject to relinquishment shall not exceed the vertical projection to the surface of the prospective producing area determined by taking into account the area of structural closure of the prospective horizon and other relevant technical factors.



(h)

- (i) The notice submitted to the Ministry by the Contractor pursuant to Sections 7.1(f)(i) and (f)(ii) shall be accompanied by a report on the Discovery setting forth all relevant technical and economic data, including geological and geophysical information, areas, thicknesses and extent of the productive strata, petrophysical properties of the reservoir formations, the reservoir's productivity indices for the Wells tested at various rates of flow, permeability and porosity of the reservoir formations, the relevant characteristics and qualities of the Hydrocarbons discovered, additional geological data and evaluations of the reservoir, Liquid Hydrocarbons and Natural Gas reserves estimates and any other relevant characteristics and properties of the reservoirs and fluids contained therein, as well as all evaluations, interpretations and analyses of such data and feasibility studies relating to the Discovery prepared by the Contractor, its contractors, subcontractors and their respective Affiliated Entities.
- (ii) In addition, if the Contractor believes that the Discovery is commercial, a proposed Development Programme and a Development Programme Budget for the development of such Discovery shall be submitted to the Ministry for approval together with the report described in Section 7.1(h)(i). The Development Programme and the Development Programme Budget shall include the following information:
  - a. a description and map of the area that contains such Discovery and that the Contractor proposes to delineate as a Field. The map should be defined by reference to graticular sections and geological formations;
  - b. a detailed report, accompanied by supporting data and all analyses and interpretations thereof, which demonstrates that the area described in item (a) above contains, alone or in conjunction with other areas, as the case may be, a Commercial Discovery;
  - c. detailed proposals for commencement and a working plan for the operation of the Hydrocarbons Operations, including drilling schedules, number of Wells and Well spacing, production forecasts and a timing schedule in accordance with generally accepted engineering practices and economics of the international petroleum industry;
  - d. detailed proposals for the construction, establishment and operation of all facilities and services for and incidental to the development, extraction, production, storage, transportation, sale and other disposal of Hydrocarbons and a proposed timetable for the commencement of Hydrocarbons production, all of which shall

ensure that the area does not suffer an excessive rate of decline of production or an excessive loss of reservoir pressure;

- e. a detailed forecast of cost estimates, capital investment requirements, operating costs and sales revenues, and the anticipated type and source of financing;
  - f. a risk management plan prepared in accordance with the requirements of the Hydrocarbons Law and applicable regulations, including the measures and directions established by the Ministry to prevent any damage and remove any hazards that the Hydrocarbons Operations may cause to affected communities, the Contractor's personnel and the environment;
  - g. an Environmental Impact Assessment;
  - h. an environmental management plan, including a socio-economic management plan, prepared in accordance with the requirements of the Hydrocarbons Law, including the measures planned for the protection of the environment, the elimination or the reduction of pollution and the protection and compensation of affected populations if applicable, and the verification of the effectiveness of such measures;
  - i. an emergency response plan prepared in accordance with the requirements of the Hydrocarbons Law and applicable regulations, including measures to respond to any accident that may occur at the site of the Hydrocarbons Operations, medical treatment and evacuation of employees and surrounding populations and the protection of the environment; and
  - j. the Development Programme and Development Programme Budget shall also contain particulars of feasible alternatives, if any, considered by the Contractor for the development and exploitation of the Discovery and economic feasibility studies carried out by or for the Contractor with respect to the Discovery, taking into account the location, meteorological conditions, cost estimates, the price of Hydrocarbons and any other relevant data and evaluations thereof.
- (i) The Ministry shall examine the report and any documents submitted pursuant to Section 7.1(h)(ii), and may require the Contractor to provide, within a specified period of time, such additional information and data as it may reasonably require in order to evaluate such documents. As soon as possible after the submission of such documents pursuant to Section 7.1(h)(ii) or receipt of such additional information and data, the Ministry and the Contractor shall meet to determine the boundaries of the area to be delineated as a Field and adopt a Development



Programme and Development Programme Budget for the development of the Discovery and an environmental management plan in connection therewith.

(j)

- (i) At the meeting described in Section 7.1(i), the Contractor shall carefully consider and take into account any proposals of the Ministry and the reasons therefor and shall attempt in good faith to reach agreement with the Ministry on the points at issue, paying particular consideration to the objective of achieving Initial Commercial Production expeditiously from the Field in question, taking into account generally accepted engineering practices and economics of the international petroleum industry.
- (ii) If the Ministry and the Contractor agree upon the boundaries of the area to be delineated as a Field and upon the adoption of a Development Programme and Development Programme Budget for the development of the Discovery, the date upon which such agreement is reached, as reflected in writing signed by both parties, shall be the date of the declaration of the Commercial Discovery for all purposes of this Contract. The area so determined shall, on such date, be automatically converted into a Field. The Ministry shall provide the Contractor with a permit to conduct Development and Production Operations in the Field within fifteen (15) Days after the later of (A) the adoption of the Development Programme and Development Programme Budget and (B) approval by the National Environmental Protection Agency of the Contractor's Environmental Impact Assessment and environmental management plan. The Contractor shall, as soon as is practicable after receipt of such permit, commence and continuously carry out Development and Production Operations in the Field according to the adopted Development Programme and the Development Programme Budget. Upon adoption of the Development Programme and the Development Programme Budget, the Work Programme and Work Programme Budget adopted pursuant to Section 5.3 shall be revised accordingly.
- (iii) In the event that no agreement is reached between the Ministry and the Contractor within one hundred and eighty (180) Days from the date of submission of the report and proposed Development Programme and Development Programme Budget pursuant to Section 7.1(h) as to (i) matters relating to the adoption of the Development Programme and Development Programme Budget for the development of the Discovery, (ii) the boundaries of the area to be delineated as a Field, or (iii) the environmental management plan, the Ministry or the Contractor may refer the matter for expert determination pursuant to Section 24.3. In the event the Parties fail to resolve the matter by expert determination, the matter shall proceed to arbitration in accordance with Section 24.1. The determination in accordance with Section 24.1 shall be final and the Development Programme and Development Programme Budget for the

development of the Discovery and the boundaries of the area to be delineated as a Field, as the case may be, shall be deemed to have been adopted and agreed as determined, except that the Contractor may, within sixty (60) Days of receipt of such determination, notify the Ministry that the Discovery to which such Development Programme and Development Programme Budget and area so determined relate is no longer considered to be commercial. If the Contractor so notifies the Ministry, the provisions of Section 7.1(g) shall apply. Failing such notification, the date sixty (60) Days after the receipt of such determination shall be deemed to be the date of the declaration of the Commercial Discovery for all purposes of this Contract. The area so determined shall, on such date, be automatically converted into a Field. The Ministry shall provide the Contractor with a permit to conduct Development and Production Operations in the Field within fifteen (15) Days after the later of (A) the date a Commercial Discovery is deemed declared and (B) approval by the National Environmental Protection Agency of the Contractor's Environmental Impact Assessment and environmental management plan. The Contractor shall, as soon as is practicable after receipt of such permit, commence and continuously carry out Development and Production Operations in the Field according to the adopted Development Programme and the Development Programme Budget. Upon adoption of the Development Programme and Development Programme Budget as aforesaid, the Work Programme and Work Programme Budget adopted pursuant to Section 5.3 shall be revised accordingly.

- (k) In the case of each Designated Field, the Contractor shall prepare and submit to the Ministry for approval a Development Programme and Development Programme Budget for such Field containing the information referred to in Section 7.1(h)(ii) and complying with the Minimum Production Requirements for such Field no later than twelve (12) Months prior to Initial Commercial Production from such Field, except that:
- (i) the submission for the Angot Field shall be made as soon as practicable after the Effective Date;
  - (ii) where the Contractor has elected the Minimum Production Requirements of Option 1, the submission for the Kashkari Field shall be made as soon as practicable after the date of such election; and
  - (iii) where the Contractor has elected the Minimum Production Requirements of Option 2, the submission for the Aq Darya Field shall be made as soon as practicable after the date of such election.

The Ministry shall provide the Contractor with a temporary permit to conduct Development and Production Operations for six (6) months in the Angot Field and the Designated Field elected under Option 1 or 2 upon approval by the National Environmental Protection Agency of the Contractor's Environmental



Impact Assessments and environmental management plans for those Fields. The Ministry shall provide the Contractor with a permit to conduct Development and Production Operations for the duration of the Contract in the Angot Field and the Designated Field elected under Option 1 or 2, respectively, within fifteen (15) days after the adoption of a Development Programme and Development Programme Budget for such Field. The Contractor shall, as soon as is practicable after receipt of such permit, commence and continuously carry out Development and Production Operations in the Field according to the adopted Development Programme and the Development Programme Budget. Upon adoption of the Development Programme and the Development Programme Budget, the Work Programme and Work Programme Budget adopted pursuant to Section 5.3 shall be revised accordingly.

(l) Notwithstanding any other provision of this Contract:

- (i) with respect to any Field other than the Designated Fields, in the event that Initial Commercial Production from such Field has not occurred within eighteen (18) Months, in the case of a Liquid Hydrocarbons Discovery, or sixty (60) Months, in the case of a Non-Associated Gas Discovery, from the date of declaration of Commercial Discovery, then the Contractor shall relinquish the area comprising such Field and shall forfeit any rights relating to such Field and any production therefrom;
- (ii) with respect to either of the Bazarkhami Field or the Zamarudsay Field, in the event that Initial Commercial Production from such Field has not occurred within thirty-six (36) Months after the Effective Date, then the Contractor shall relinquish the area comprising such Field and shall forfeit any rights relating to such Field and any production therefrom;
- (iii) with respect to the Aq Darya Field, in the event that (A) the Contractor has elected the Minimum Production Requirements of Option 1 and Initial Commercial Production from such Field has not occurred within twenty-four (24) Months after the Effective Date or (B) the Contractor has elected the Minimum Production Requirements of Option 2 and Initial Commercial Production from such Field has not occurred within twelve (12) Months after the Effective Date, then the Contractor shall relinquish the area comprising such Field and shall forfeit any rights relating to such Field and any production therefrom;
- (iv) with respect to the Kashkari Field, in the event that (A) the Contractor has elected the Minimum Production Requirements of Option 1 and Initial Commercial Production from such Field has not occurred within twelve (12) Months after the Effective Date or (B) the Contractor has elected the Minimum Production Requirements of Option 2 and Initial Commercial Production from such Field has not occurred within twenty-four (24) Months after the Effective Date, then the Contractor shall relinquish the

area comprising such Field and shall forfeit any rights relating to such Field and any production therefrom;

- (v) with respect to the Angot Field, in the event that Initial Commercial Production from such Field has not occurred within twelve (12) Months after the Effective Date, then the Contractor shall relinquish the area comprising such Field and shall forfeit any rights relating to such Field and any production therefrom; and
- (vi) subject to Section 6.4 and without prejudice to Sections 7.1(l)(i) – 7.1(l)(v) above, in the event the Contractor has not met the Minimum Production Requirements applicable to such Designated Field in any Year, then the Contractor shall relinquish the area comprising such Designated Field and shall forfeit any rights relating to such Designated Field and any production therefrom; provided that if the Contractor is able to demonstrate to the reasonable satisfaction of the Ministry that the Contractor has performed the activities contemplated in the Work Programmes in each case relating to such Designated Field, the deadline by which the Contractor must satisfy the Minimum Production Requirements for such Designated Field for such Year shall be extended by the Ministry, it being understood that such extension shall not (x) reduce the Minimum Production Requirements for such Designated Field as may apply in respect of such Year or subsequent Years or (y) limit the application of this Section 7.1(l)(vi) if the Minimum Production Requirements for such Designated Field are not satisfied by the Contractor by the extended deadline or in respect of any subsequent Years. If the Contractor wishes that the Ministry consider granting an extension in respect of any Year as provided in this Section 7.1(l)(vi), the Contractor shall make such request to the Ministry, together with all supporting materials, within thirty (30) Days after the end of such Year.
- (m) If the Contractor is required to relinquish an area pursuant to the provisions of this Section 7.1, ownership of all fixtures, including but not limited to pipes, pipelines, installations, facilities, downhole well equipment, and wellhead equipment shall be transferred to the Ministry. Leased equipment and other Contractor equipment may be removed if such removal may be accomplished without damage to the area.

## 7.2 **Production.**

- (a) Not less than three (3) Months prior to Initial Commercial Production in any Field, the Contractor shall submit to the Ministry for approval proposed procedures and related operating regulations and financial terms covering the scheduling, storage and lifting of Liquid Hydrocarbons from such Field. The procedures, regulations and terms shall comprehend the subjects necessary to efficient and equitable operations, including rights of parties, notification time, maximum and minimum quantities, duration of storage, scheduling, conservation,



spillage, liabilities of the parties, through-put fees, and safety and emergency procedures.

- (b) The Contractor shall produce Liquid Hydrocarbons from the Contract Area at the Maximum Efficient Rate. For the first Year, the Contractor and the Ministry shall establish the Maximum Efficient Rate of production of Liquid Hydrocarbons and the production rate for Non-Associated Gas in conjunction with the adoption of each Development Programme submitted during such Year. Thereafter, the Contractor and the Ministry shall establish the Maximum Efficient Rate of production for Liquid Hydrocarbons and the production rate for Non-Associated Gas in conjunction with the adoption of each annual Work Programme. In the case of Non-Associated Gas, the production rate shall not be required by the Ministry to be less than that required to satisfy any contracts then in existence for the sale of such Natural Gas.
- (c) No later than September 30 of each Year, the Contractor shall, in accordance with International Best Practices, prepare and furnish to the Ministry for approval a forecast statement setting forth by Quarter the total quantity of Liquid Hydrocarbons (by quality, grade and gravity) and Natural Gas that the Contractor estimates can be produced, saved and transported hereunder during the ensuing Year, together with estimates, if available, of recoverable reserves of Hydrocarbons, broken down into proven and proven plus probable. The Contractor shall endeavour to produce in each Year the forecast quantity. The Liquid Hydrocarbons shall be run to storage tanks, constructed, maintained and operated by the Contractor in accordance with applicable regulations, in which such Liquid Hydrocarbons shall be metered or otherwise measured for all purposes of this Contract. Natural Gas shall be stored, transported and metered or otherwise measured in accordance with the provisions of the Natural Gas Development Programme adopted pursuant to the provisions of Article XV.

### 7.3 Cessation of Production.

- (a) The Contractor shall submit to the Ministry for approval a proposed Field decommissioning and abandonment plan (the "**Decommissioning and Abandonment Plan**") after exhaustion of fifty percent (50%) of Recoverable Gas Initially in Place (RGIIP) / Recoverable Oil Initially in Place (ROIIP), or seven (7) Years before the likely termination of production from the development area, whichever is later, which shall include a detailed technical and engineering description of the decommissioning, removal and disposal of the facilities and installations, and of the site clean-up and restoration measures, consistent with International Best Practices and with the obligations of the Contractor under Sections 4.5, 23.2 and 25.6, together with a detailed and itemized budget of the Hydrocarbons Operations Expenditures to be incurred in connection therewith (the "**Decommissioning and Abandonment Budget**"). The Contractor and the Ministry shall set up a joint escrow account (the "**Escrow Account**") with a bank of good international reputation (the "**Bank**") to finance the Hydrocarbons Operations Expenditures specified in the Decommissioning and Abandonment

Budget in accordance with Section 7.3(d). The Bank shall be located outside of Afghanistan and shall not be an Affiliated Entity of the Contractor.

- (b) No later than twelve (12) Months prior to the expiration of the Development and Production Phase of any Field, the Contractor shall notify the Ministry of its intention to terminate Hydrocarbons Operations. Within thirty (30) Days from the date of the Contractor's notice under this Section 7.3(b), the Ministry shall notify the Contractor in writing whether it will require the Contractor to carry out all or part of the decommissioning measures set out in the Decommissioning and Abandonment Plan. Following receipt of the Ministry's notice, the Ministry and the Contractor shall meet to agree upon a final Decommissioning and Abandonment Plan and a final Decommissioning and Abandonment Budget.
- (c) The Escrow Account shall be funded by monthly contributions made by the Contractor on a unit-of-production basis until the target value of the Decommissioning and Abandonment Budget is reached. The monthly contribution will be calculated as follows: The amount in the Escrow Account shall be subtracted from the Decommissioning and Abandonment Budget to establish a net shortfall. In accordance with the methodology illustrated in Appendix 1 to the Accounting Procedures, the net shortfall shall be divided by the remaining RGIP/ROIIP as of the beginning of the Month, then multiplied by that Month's production.
- (d) The amount of the Decommissioning and Abandonment Budget, pro-rated on a unit of production basis over the period from the date of opening of the Escrow Account to the estimated date of cessation of production, shall be included in the Hydrocarbons Operations Expenditures and shall be recovered by the Contractor in accordance with Section 10.1(b). At the end of each Month in which the Contractor shall have recovered any part of the Decommissioning and Abandonment Budget, the Contractor shall deposit the amount so recovered in the Escrow Account. Upon cessation of production, the Contractor shall diligently carry out the Decommissioning and Abandonment Plan and the Hydrocarbons Operations Expenditures due in connection therewith shall be paid by the Bank upon receipt of a written joint instruction from the Ministry and the Bank. Any un-spent monies remaining in the Escrow Account upon settlement of all Decommissioning and Abandonment Expenditures shall be remitted by the Bank to the Ministry. In the event the Ministry elects to continue Hydrocarbons Operations in any Field following the Contractor's termination of Hydrocarbons Operations in relation thereto, the Contractor's liability for decommissioning measures shall be limited to the balance of the Escrow Account.





## ARTICLE VIII

### **FINANCIAL AND PERFORMANCE GUARANTEES**

- 8.1 **Financial Guarantee.** Not later than thirty (30) Days after the Effective Date, the Contractor shall submit a Financial Guarantee in an amount equal to the estimated expenditures necessary to perform the Minimum Exploration Programme for the Initial Exploration Period. If the Contractor wishes to proceed to the First Extension Period or the Second Extension Period, as the case may be, it shall submit the corresponding Financial Guarantee as provided in Section 3.1(a).
- 8.2 **Reduction of Financial Guarantee.** During the Exploration Phase, the amount of the Financial Guarantee shall be reduced as of the end of each Month by the amount actually expended on the Minimum Exploration Programme during that Month.
- 8.3 **Drawdown.** If, at the end of the Initial Exploration Period or any extension thereof, the Contractor has not performed the Minimum Exploration Programme required for such period, an amount corresponding to the then current balance of the Financial Guarantee for such period shall be paid to the Ministry in accordance with Article XIII. The Ministry shall have the right to draw down on the Financial Guarantee to collect such amount.
- 8.4 **Drawdown Upon Termination or Relinquishment.** If, upon the date of termination of this Contract, or upon relinquishment of the entire Contract Area by the Contractor pursuant to Article IV, whichever first occurs, the Contractor has not completed the Minimum Exploration Programme, an amount corresponding to the then current balance of the Financial Guarantee shall be paid to the Ministry in accordance with Article XIII. The Ministry shall have the right to draw down on the Financial Guarantee to collect such amount.
- 8.5 **General Performance Guarantee.** Simultaneously with the execution of this Contract, CNPCI is executing and delivering the General Performance Guarantee to the Ministry.

## ARTICLE IX

### **OBLIGATIONS OF THE MINISTRY**

- 9.1 **Data.** The Ministry shall supply or otherwise make available to the Contractor:
- (a) all geological, geophysical, geographical, drilling, Well, production and other information, including Well location maps, relating to the Contract Area in the possession of the Ministry or coming into its possession and which it has the right to disclose to the Contractor;
  - (b) a list of the sites of national parks and/or ecological reserves, as well as sites identified as having Archaeological and Cultural Heritage significance, such list

to be provided prior to commencement of Hydrocarbons Operations and to contain available details of the sites, including maps and other pertinent information; and

- (c) information reasonably available to the Ministry related to private land ownership in the Contract Area.

9.2 **Assistance.** In accordance with the provisions of the Hydrocarbons Law, the Ministry shall for the duration of this Contract:

- (a) provide for the right of way and passage over State-owned land and facilitate the right of way and passage over privately owned land in order to conduct Hydrocarbons Operations (including nationalization to the extent permissible under applicable law), provided that the Contractor shall bear any compensation to the owner or occupier. Such costs and any compensation shall be considered a Hydrocarbons Operations Expenditure recoverable by the Contractor in accordance with Exhibit C;
- (b) in respect of occupation and use of privately owned land for Hydrocarbons Operations, and upon notice submitted by the Contractor no later than ninety (90) Days prior to a proposed operation, obtain consent for such use from the owner or occupier of the land in question to enable the Contractor to conduct the proposed operations thereon, and provide the Contractor with evidence of such consent, provided that the Contractor shall pay market prices for the use or occupation of such land, and in the event the owner or occupier has suffered a disturbance to activities or damage to land or assets caused by surface or sub-surface oil and gas exploration operations, and the Contractor and the owner or occupier fail to agree on the amount of compensation, review the matter and determine the amount of damages in the first instance;
- (c) provide reasonable access to and use of existing infrastructure and facilities in the Contract Area, at no cost to the Contractor in the case that such infrastructure and facilities are owned by the State;
- (d) provide reasonable access to surface areas relinquished by the Contractor pursuant to this Contract and reasonable access to and use of existing infrastructure and facilities on such relinquished areas at no cost to the Contractor in the case that such infrastructure and facilities are owned by the State;
- (e) subject to the terms and conditions of an agreement between the Parties and the National Environmental Protection Agency to be executed concurrently with this Contract, assume responsibility for the rehabilitation of environmental contamination on State owned and private land identified in Baseline Environmental Assessments completed by the Contractor and approved by the National Environmental Protection Agency;



- (f) on the Effective Date, or no later than fifteen (15) Days thereafter, issue to the Contractor the appurtenant exclusive Licence for Hydrocarbons Operations certifying that the Contractor holds this Contract; and
- (g) upon application in the prescribed manner and pursuant to applicable legislation, provide or facilitate all necessary visas, work permits, import licences, export permits (including but not limited to licences for Hydrocarbons), rights of way and easements which (i) may be required by the Contractor and its subcontractors in connection with the Hydrocarbons Operations and (ii) may be available from resources within the Government's control.

9.3 **Security.** The Ministry shall endeavor to provide adequate security within the Contract Area and any other areas in Afghanistan in which Hydrocarbons Operations or operations related thereto are conducted, including during travel to and from such areas. However, in the event that the Contractor, in its reasonable opinion, considers the security provided for its personnel is inconsistent with its health, safety and environmental policies, International Best Practices or inadequate to allow Hydrocarbons Operations to be conducted safely and without threat to life, both Ministry and the Contractor hereby agree supplementary security measures shall be implemented by the Contractor, as the case may be, including, but not limited to, the engagement of competent private security providers licensed to operate in Afghanistan, such costs to be considered Hydrocarbons Operations Expenditures if included in an approved Work Programme and Work Programme Budget. Such arrangements shall be revised from time to time in response to changes in security conditions, subject to an international independent third party conducting a security review.

9.4 **Responsiveness.** If the Ministry's approval is required by the Contractor in accordance with this Contract, the Ministry shall endeavour to respond to such request as soon as reasonably practicable. Without prejudice to any time period otherwise specified herein or under applicable law, the Ministry's approval for any action or item (including Work Programmes and Work Programme Budgets) shall be deemed to have been given if the Ministry has not notified the Contractor of its disapproval or required clarification of such request within thirty (30) Days following the Contractor's request for such approval. If the Contractor requires the approval of the State or a licence or permit from an agency of the State in relation to Hydrocarbons Operations, the Ministry shall procure that the State or agency of the State (as the case may be) responds to such request as soon as reasonably practicable. The Ministry acknowledges and agrees that to the extent the Contractor is unable to carry out certain Hydrocarbons Operations as a result of a failure by the State or agency of the State to respond to or issue any approval, permit or license relating to Hydrocarbons Operations that any time periods applicable to the performance of the Contractor's obligations hereunder shall be suspended for the period during which the Contractor is prevented from performing and that the Parties shall meet and seek to agree to further extensions of time with regard to such delay.

## ARTICLE X

### ALLOCATION OF PRODUCTION

10.1 **Royalty; Production Share.** The Hydrocarbons produced and saved from the Contract Area in any Month and not used in Hydrocarbons Operations or flared or re-injected into the Contract Area shall be allocated as follows:

- (a) The first fifteen percent (15%) of such Hydrocarbons shall be allocated to the Ministry as the Royalty payable under the Hydrocarbons Law.
- (b) After payment of the Royalty, the Contractor shall be entitled to recover Hydrocarbons Operations Expenditures incurred by retaining and disposing of that amount of such Hydrocarbons equal in value to the unrecovered Hydrocarbons Operations Expenditures for that Month plus all unrecovered Hydrocarbons Operations Expenditures from prior Months; provided, however, that for Hydrocarbons Operations relating to areas other than the Designated Fields, the Contractor shall only be entitled to recover Hydrocarbons Operations Expenditures from Hydrocarbons produced from Fields other than the Designated Fields. All such Hydrocarbons Operations Expenditures shall be recovered without a ceiling in the manner and to the extent provided for in, and subject to, the Accounting Procedures. For the purpose of determining the quantity of such Hydrocarbons to which the Contractor is entitled in any Month pursuant to this Section 10.1(b), each type and grade of Hydrocarbons shall be valued at the weighted average net price per applicable unit, (i) in the case of Arm's-Length Sales made by the Contractor, actually received by the Contractor in respect of sales of such Hydrocarbons produced in such Month and (ii) in the case of other sales made by the Contractor, equal to the Formula Price for such Hydrocarbons; provided that this clause (ii) shall apply only if the sales referred to in this clause (ii) represent more than fifty percent (50%) of the total volume of sales made by the Contractor of such Hydrocarbons produced and saved in such Month.
- (c) The provisions and calculations of this Section 10.1(c) shall apply and be made separately in respect of (i) the Designated Fields taken as a whole and the Hydrocarbons Operations Expenditures, Net Hydrocarbons and Gross Contractor Revenues therein and (ii) the remainder of the Contract Area taken as a whole and the Hydrocarbons Operations Expenditures, Net Hydrocarbons and Gross Contractor Revenues therein. After deduction of the Royalty and recovery of the Hydrocarbons Operations Expenditures, the Ministry shall be allocated a portion of the Net Hydrocarbons produced and saved in any Month determined in accordance with the formula set forth below, and the remaining Net Hydrocarbons after such allocation shall be allocated to the Contractor:

If $R \leq 1$	then	$P = 0\%$
If $1 < R \leq 1.3$	then	$P = 50\%$
If $1.3 < R \leq 2.5$	then	$P = 70\% - [(2.5 - R) / (2.5 - 1.3)] \times 20\%$
If $R > 2.5$	then	$P = 70\%$



In the above formula:

“P” shall mean the Ministry’s percentage share of Net Hydrocarbons, valued at the applicable Formula Price; and

“R” shall mean the cumulative Gross Contractor Revenues up to the end of the Month immediately preceding the Month in question, divided by the cumulative Hydrocarbons Operations Expenditures incurred up to the end of the Month immediately preceding the Month in question.

- 10.2 **Calculations and Adjustments.** The calculations required by this Article X shall be made for each Month on a cumulative basis. To the extent that actual quantities, prices and expenses are not known, calculations shall be made on the basis of the estimate, and quarterly updates thereto, provided to the Ministry pursuant to Section 10.3. Within thirty (30) Days after the end of each Quarter, adjustments shall be made based on actual Hydrocarbons quantities, prices and expenses in relation to such Quarter to the extent then available. Within ninety (90) Days after the end of each Year, final calculations shall be prepared and submitted to the Ministry for approval, and any necessary adjustments shall be made based upon the detailed accounts submitted for such Year pursuant to Section 26.2.
- 10.3 **Estimates and Approvals.** Not less than ninety (90) Days prior to the beginning of each Year, the Contractor shall prepare and furnish to the Ministry for approval an estimate by Quarter for the forthcoming Year of all Gross Contractor Revenues and Hydrocarbons Operations Expenditures, and of the value of the Royalty and of the Ministry’s and the Contractor’s respective shares of Net Hydrocarbons, Net Taxable Income and Income Tax for such Year. Such estimate shall be consistent with the forecast statement furnished pursuant to Section 7.2(c) and the Work Programme Budget approved pursuant to Section 5.3, and shall set forth the other assumptions and projections upon which it is based. Upon approval by the Ministry, such estimate shall serve as the basis for the quarterly calculations required pursuant to Section 10.2 and for the Income Tax pursuant to Article XVI. Quarterly updates of such estimate shall be submitted by the Contractor to the Ministry within thirty (30) Days after the end of each Quarter.
- 10.4 **Deemed Sales.** The Hydrocarbons allocated to the Ministry under this Article X in any Month shall, unless the Ministry otherwise elects in accordance with Section 10.5, be deemed sold by the Ministry to the Contractor upon production at the wellhead. The purchase price for each type of Hydrocarbons produced shall be the applicable Formula Price for such Hydrocarbons, and shall be payable to the Ministry no later than the end of the Month following the Month in which such Hydrocarbons are produced. Payment shall be accompanied by a certificate from the Contractor setting forth in detail the basis for computation of the purchase price, in a form acceptable to the Ministry. The provisions of this Section 10.4 shall not apply to Hydrocarbons produced during production testing and sold by the Contractor, the proceeds of which shall be applied to reduce the amount of the Contractor’s capital expenditures in accordance with the Accounting Procedures.

- 10.5 **Notice and Election.** The Ministry may, in respect of any Year, elect to retain title to all or any part of the Hydrocarbons allocated to it under this Article X, rather than sell such Hydrocarbons to the Contractor. In such event, the Ministry shall provide the Contractor with notice of its election at least six (6) Months prior to the commencement of the Year in question.

## ARTICLE XI

### **FORMULA PRICE FOR HYDROCARBONS; MEASUREMENT OF HYDROCARBONS**

- 11.1 **Formula Price for Liquid Hydrocarbons.** The Formula Price for the Liquid Hydrocarbons produced and saved from any Field in the Contract Area in any Month shall be determined in accordance with the following formula:

$$P = U + (B - U) * (1 + 0.15139 * A_{P-B} - 0.1434 * S_{P-B}) - T - D$$

Where

- $P$  is the price of the Liquid Hydrocarbons produced and delivered to the Delivery Point (US\$ per Barrel);
- $U$  is the average of the Platt's Prices of Urals crude oil for the Month in question (US\$ per Barrel);
- $B$  is the average of the Platt's Prices of Dated Brent crude oil for the Month in question (US\$ per Barrel);
- $A_{P-B}$  is the difference between the API degrees of the Liquid Hydrocarbons produced and 38.3 degrees;
- $S_{P-B}$  is the difference between the percentage of sulphur content of the Liquid Hydrocarbons produced and 0.4 percent;
- $T$  is the deemed transport cost of the Liquid Hydrocarbons produced (US\$ per Barrel), determined in accordance with Section 11.3; and
- $D$  is the amount of the initial production discount (if any) on the price of the Liquid Hydrocarbons produced (US\$ per Barrel), determined in accordance with Section 11.4.



For purposes of calculating the average monthly Platt's Price, the Platt's Price for any Day of the Month means (i) in the case of Dated Brent crude oil, the average of the high and low spot prices for such crude oil as quoted for such Day in Platt's Crude Oil Marketwire (Spot Assessment Section, Dated Brent Assessment) and (ii) in the case of Urals crude oil, the average of the high and low spot prices for such crude oil as quoted for such Day in Platt's Crude Oil Marketwire (Spot Assessment Section, Urals MED Assessment). Transportation costs shall be reviewed every two (2) Years after the Initial Exploration Period according to Section 11.3, and the other coefficients and parameters in the Formula Price shall be reviewed by the Parties at the conclusion of the Initial Exploration Period and then every four (4) Years thereafter.

- 11.2 **Alternate Reference Prices.** If the Platt's Price is no longer available for either of the crude oils referenced in *U* and *B*, the Parties shall agree on similar published reference prices and adjust the parameters of the pricing formula accordingly.
- 11.3 **Transport Costs.** During the Initial Exploration Period, *T* in the formula set forth in Section 11.1 shall have a value of five U.S. Dollars (US\$ 5.00) per Barrel for Liquid Hydrocarbons produced from each Field in the Bazarkhami and Kashkari Blocks and seven U.S. Dollars (US\$ 7.00) per Barrel for Liquid Hydrocarbons produced from each Field in the Zamarudsay Block. Thereafter, the Parties shall meet at least once every two (2) Years to negotiate in good faith any adjustments to *T* that may be appropriate based upon then prevailing conditions regarding transportation costs for Liquid Hydrocarbons originating from each Field and the applicable Delivery Point for use in determining the Formula Price.
- 11.4 **Initial Production Discounts.** *D* in the formula set forth in Section 11.1 shall have a value of (i) twenty U.S. Dollars (US\$ 20.00) per Barrel for each Barrel of Liquid Hydrocarbons produced from the Contract Area during the first Year, (ii) ten U.S. Dollars (US\$ 10.00) per Barrel for each Barrel of Liquid Hydrocarbons produced from the Contract Area during the second Year, and (iii) zero U.S. Dollars (US\$ 0.00) per Barrel for each Barrel of Liquid Hydrocarbons produced thereafter.
- 11.5 **Formula Price for Natural Gas.** The Formula Price for Natural Gas shall be determined by agreement between the Ministry and the Contractor, provided, however, that such price or value shall reflect the following: (i) the quantity and quality of the Natural Gas; (ii) the price at which sales of Natural Gas from other sources in Afghanistan, if any, are then being made; (iii) the price at which sales, if any, of Natural Gas imported into Afghanistan for consumption in Afghanistan are being made; (iv) the purpose for which the Natural Gas is to be used; and (v) the international market price of competing or alternative fuels or feedstocks.
- 11.6 **Verification.** Within thirty (30) Days following the end of each Quarter, the Contractor shall submit to the Ministry for its verification the volumes, gravity in API and sulphur content of the Liquid Hydrocarbons produced and saved from the Contract Area during the Quarter in question. In the event that the Ministry raises objections to the Contractor's determinations, the Parties shall meet within fifteen (15) Days from the Ministry's notice of objection to mutually agree upon the appropriate determinations.

4.

- 11.7 **Segregation of Liquid Hydrocarbons.** In the event that Hydrocarbons Operations involve the segregation of Liquid Hydrocarbons of different quality, grade or gravity, and if the Parties do not otherwise mutually agree, (i) any and all provisions of this Contract concerning valuation of Liquid Hydrocarbons shall separately apply to each segregated Liquid Hydrocarbon and (ii) each segregated Liquid Hydrocarbon produced in a given Month shall contribute to (a) recovery by the Contractor of Hydrocarbons Operations Expenditures pursuant to Section 10.1 and (b) the Liquid Hydrocarbons entitlements of each Party in the same proportion as the quantity of such Liquid Hydrocarbon produced and segregated bears to the total quantity of Liquid Hydrocarbons produced and saved from the Contract Area.
- 11.8 **Measuring Equipment.** The Contractor shall supply, operate and maintain equipment for measuring the volume and quality of the Hydrocarbons produced and saved, or transported, stored or exported under this Contract, including gravity, density, temperature and pressure measuring devices and any other devices that may be required. All measurement equipment and devices shall, prior to their installation or usage, be approved in writing by the Ministry. Such equipment and devices shall at all reasonable times be available for inspection and testing by the Ministry or its authorised representatives. Any such inspection or testing shall not interfere with the normal operation of the facilities involved. The equipment and devices used or installed pursuant to this Section 11.8 shall not be replaced or altered without the prior written approval of the Ministry.
- 11.9 **Measurement Standards.** The Contractor shall undertake to measure the volume and quality of the Hydrocarbons produced, saved, transported, stored and exported hereunder, consistent with International Best Practices for fiscal metering, with such frequency and according to such procedures as are approved in writing by the Ministry.
- 11.10 **Notice.** The Contractor shall give the Ministry timely notice of its intention to conduct measuring operations and the Ministry shall have the right to be present at and supervise, either directly or through authorised representatives, such operations.
- 11.11 **Measurement Inaccuracies and Adjustment.** If it is determined, following an inspection or test carried out by the Ministry or its representatives, that the equipment, devices or procedures used for measurement are inaccurate and exceed the permissible tolerances which shall be established by agreement between the Ministry and the Contractor to be entered into prior to the installation and usage of such equipment, and such determination is verified by an independent surveyor acceptable to both parties, such inaccuracy shall be deemed to have existed for one half of the period since the last previous such inspection or test, unless it is proved that such inaccuracy has been in existence for a longer or shorter period. Appropriate adjustments covering such period shall be made within thirty (30) Days from the date of such determination.



## ARTICLE XII

### DOMESTIC REQUIREMENTS

- 12.1 **Local Preference.** In marketing any part of its share of the Liquid Hydrocarbons produced and saved from the Contract Area, the Contractor shall give preference to purchases by Afghan nationals and companies, provided that such purchases are at prices that are not less than the price for Arm's-Length Sales or not less than the Formula Price.
- 12.2 **Storage.** Liquid Hydrocarbons that the Ministry has elected to take in kind and not to sell to the Contractor shall be delivered by the Contractor at regularly spaced intervals at the Delivery Point or to the Ministry's storage facilities in the Field, or both, at the option of the Ministry. The Ministry shall provide at such Delivery Points, at its sole expense and risk, all storage, transportation and other facilities necessary to receive such Liquid Hydrocarbons.
- 12.3 **Internal Consumption of Liquid Hydrocarbons.** Out of the total quantity of Liquid Hydrocarbons production to which the Contractor is entitled in each Year, the Ministry may elect to take a quantity of Liquid Hydrocarbons, of the gravity, grade and quality of its choice, that the Ministry requires to satisfy the requirements of internal consumption in Afghanistan for such Year. The Ministry shall reimburse the Contractor for such quantity at the Formula Price. The maximum quantity of Liquid Hydrocarbons that the Ministry may take to satisfy the internal consumption requirements of the country shall be calculated as follows:

$$DMOc = APc \times (DMOt - GOV) / APt$$

Where:

"DMOc" is the maximum quantity of Liquid Hydrocarbons from the Contract Area that the Ministry may take to satisfy the internal consumption requirements of the country in the period of reference;

"APc" is the total quantity of Liquid Hydrocarbons produced from the Contract Area during the reference period, less (a) the amount of the Royalty, (b) the Ministry's share of Liquid Hydrocarbons production under Section 10.1(c), and (c) consumption of Liquid Hydrocarbons incidental to Hydrocarbons Operations;

"DMOt" is the internal consumption requirements of Afghanistan during the reference period;

"GOV" is (a) the quantity of Liquid Hydrocarbons rendered, in the reference period, to the Ministry by all contractors in the form of production payments, royalties and production shares plus (b) any quantity of Liquid Hydrocarbons produced directly by the Ministry or any State oil company within Afghanistan in the reference period; and

"APt" is the volume of Liquid Hydrocarbons produced in Afghanistan by all contractors in the reference period as to which the Ministry has a right similar to that contained in this Section 12.3.

The Ministry shall procure that each exploration and production sharing contract (or similar agreement) that it enters into shall provide for the right of the Ministry to elect to purchase a quantity of Liquid Hydrocarbons for internal consumption, at a price equal to the value attributed in such other contract to Liquid Hydrocarbons to which the Ministry is entitled. If it is conclusively determined that the Ministry entered into an exploration and production sharing contract without such right, then the Contractor is excused from performance of this Section 12.3. The Ministry shall provide the Contractor (and its auditors) with such reasonable access to its records as may be requested in order for the Contractor to evaluate the quantities used in calculation of DMOc.

- 12.4 **Notification and Election.** If the Ministry elects to exercise its rights under Section 12.3, it shall so notify the Contractor in accordance with the provisions of Section 10.5 relating to the Ministry's election to take its share of Liquid Hydrocarbons production or the Royalty in kind. The amounts to be taken shall be based upon estimates, including those contained in the forecast statement furnished pursuant to Section 7.2(c), and final adjustments shall be made within ninety (90) Days after the end of each Year on the basis of actual quantities.
- 12.5 **Internal Consumption of Natural Gas.** Out of the total quantity of Natural Gas to which the Contractor is entitled in each Year, the Ministry may elect to take a quantity of Natural Gas to meet its internal consumption requirements. The Contractor shall be obliged to provide and supply to the State such quantities on a prorated basis with all other producing contractors (according to the principles set forth in Section 12.3 for Liquid Hydrocarbons) at the price calculated pursuant to Section 11.5, provided that if the Contractor has committed volumes of Natural Gas to purchasers under long term sales contracts previously disclosed to the Ministry, such volumes shall be excluded from the amounts that might be available to the State for internal consumption and provided that the Contractor shall have no obligation to pay for any infrastructure necessary to transport, process or deliver Natural Gas to the Ministry.

## ARTICLE XIII

### **PAYMENT PROCEDURE**

- 13.1 **Payments to the Ministry.** All payments due to the Ministry hereunder shall be made in U.S. Dollars to the Treasury Single Account in Da Afghanistan Bank, details of which may be provided from time to time by the Ministry, and shall be made in accordance with the provisions of the Public Finance and Expenditure Management Law.
- 13.2 **Payments to the Contractor.** All payments due to the Contractor hereunder shall be made in U.S. Dollars at a domestic or an international bank with offshore banking



facilities to be designated by the Contractor or, at the Ministry's election, such other currency as is acceptable to the Contractor.

- 13.3 **Timing of Payments.** Except as otherwise expressly provided herein, all payments required to be made pursuant to this Contract shall be made within thirty (30) Days following the end of the Month in which the obligation to make such payment occurs.
- 13.4 **Late Payments.** If any payment is not made when due, such unpaid amount shall bear interest as from and after the due date until the date of payment at an interest rate, compounded monthly, of five percent (5%) above the London Interbank Offer Rate ("**LIBOR**") for one (1) month deposits of U.S. Dollars, as reported in the London Financial Times or any other agreed publication.

## ARTICLE XIV

### **SURFACE RENTAL FEES**

- 14.1 **State-owned Land.** The Contractor shall be liable for payment of the following annual surface rental fees to the Ministry in respect of all State-owned land:
- (a) during the Initial Exploration Period, one U.S. Dollar (US\$ 1.00) per hectare of all unsurrendered State-owned land forming part of the Contract Area, excluding Fields;
  - (b) during the First Extension Period, four U.S. Dollars (US\$ 4.00) per hectare of all unsurrendered State-owned land forming part of the Contract Area, excluding Fields;
  - (c) during the Second Extension Period and any extension granted pursuant to Section 3.1(a), eight U.S. Dollars (US\$ 8.00) per hectare of all unsurrendered State-owned land forming part of the Contract Area, excluding Fields;
  - (d) during the period from the first declaration of Commercial Discovery with respect to any Field other than a Designated Field, fifteen U.S. Dollars (US\$ 15.00) per hectare of all unsurrendered State-owned land forming part of such Commercial Discovery; and
  - (e) during the Development and Production Phase with respect to each Field (including the Designated Fields) in which production has started, the Contractor shall pay forty U.S. Dollars (US\$ 40.00) per hectare of State-owned land forming part of such Field.
- 14.2 **Timing of Payments.** The Contractor shall make surface rental fee payments to the Ministry annually in respect of the then current Year. The first annual surface rental fee payment under Section 14.1 shall be made within thirty (30) Days after the Effective Date. All subsequent annual surface rental fee payments shall be made within thirty (30) Days after each anniversary of the Effective Date. In the event the area of a Field

is further delineated or otherwise adjusted during a Year so as to increase or decrease the number of hectares of State-owned land forming part of such Field, no corresponding adjustment shall be made to the amount of any surface rental fee payment already paid in respect of such Year.

- 14.3 **Privately Owned Land.** For its use of privately owned land, the Contractor shall pay such rental fees as are agreed with the owner, or decided by the Ministry as stipulated in Article 12 of the Hydrocarbons Law, or as determined by a dispute resolution board which shall consist of representatives from the Ministries of Justice, Mines, Agriculture, and Finance and the National Environmental Protection Agency. If the Parties do not agree with the decision of the dispute resolution board, the dispute shall be settled through the courts. All such rental fee payments shall be considered Hydrocarbons Operations Expenditures recoverable by the Contractor in accordance with Section 10.1(b).
- 14.4 **Area Subject to Surface Rental Fees.** The area of State-owned land subject to surface rental fees under Section 14.1 shall be determined by a survey approved by the Ministry; provided, however, that in the absence of such a survey, such area shall be determined on the basis of a geographic projection approved by the Ministry. In the case of the Designated Fields, in the absence of a survey approved by the Ministry, the area of State-owned land subject to surface rental fees under Section 14.1(e) shall be equal to the area comprising the Quadrants containing the Designated Fields.

## ARTICLE XV

### NATURAL GAS

- 15.1 **Associated Gas.** Associated Gas that is not processed and sold or subject to off-take by the Ministry in accordance with this Section 15.1 may be used by the Contractor for Hydrocarbons Operations, including reinjection for pressure, free of charge. Associated Gas that is not used in Hydrocarbons Operations, and the processing and utilization of which, in the opinion of both the Contractor and the Ministry, is not economical, shall be returned to the subsurface structure, or shall be flared or otherwise disposed of, so long as such alternate disposition is in accordance with International Best Practices. In the event that the Contractor chooses to process and sell Associated Gas, the Contractor shall notify the Ministry of the same and upon such notification, the Ministry and the Contractor shall, as soon as practicable thereafter, meet together with a view to reaching an agreement on the production, processing and sale of such gas. In the event the Contractor chooses not to process and sell Associated Gas, the Ministry may elect to off-take at the outlet flange of the gas-oil separator and use such Associated Gas which is not required for Hydrocarbons Operations. There shall be no charge to the Ministry for such Associated Gas, provided that the cost to gather such Associated Gas in the Field and to process and utilize it shall be for the account of the Ministry.
- 15.2 **Non-Associated Gas.** Where Non-Associated Gas is discovered in the Contract Area and the Contractor has, pursuant to Section 7.1(b), informed the Ministry that the



Discovery is of commercial interest, a Natural Gas development committee composed of representatives of the Ministry and the Contractor shall be established upon approval of the Appraisal Programme relating to such Discovery for purposes of jointly evaluating the use of such Natural Gas in the domestic market and the chain of downstream activities required to bring the Natural Gas to the end consumers in such market. Simultaneously, the Contractor shall be free to evaluate the viability of exporting Natural Gas. Within one (1) year from the date of completion of the Appraisal Programme, the Ministry and the Contractor will meet with a view to assessing whether the outlets for such Natural Gas and other relevant factors warrant the development and production of the Natural Gas for sale to the domestic market and/or, if such market was found not to be capable of absorbing the Natural Gas production, for export. The Ministry and the Contractor will, upon completion of the Appraisal Programme or sooner if so agreed, or upon the Contractor notifying the Ministry that the Discovery is a Commercial Discovery, meet with a view to reaching an agreement on the development, production, processing, utilization, disposition, export duty status and such other terms as may be necessary to enhance the commerciality of any Non-Associated Gas development, or sale of such Non-Associated Gas in accordance with Sections 7.1(h), 7.1(i) and 7.1(j).

- 15.3 **Allocation of Revenues and Expenditures.** In the event that the development, production, processing, utilization, disposition or sale of Natural Gas from the Contract Area is determined by the Parties to be economically feasible in accordance with this Article XV, the costs of development and production of the same from the reservoir to the Delivery Point, and the revenues derived therefrom, shall, unless otherwise agreed pursuant to Sections 15.1 and 15.2, be included in Hydrocarbons Operations Expenditures and Gross Contractor Revenues, respectively, for all purposes of this Contract, subject to the Accounting Procedures.

## ARTICLE XVI

### INCOME TAX

- 16.1 **Income Taxes.** Income tax issues related to Hydrocarbons Operations are governed by the Income Tax Law of Afghanistan, as amended or replaced and in force from time to time. At the Effective Date, the prevailing Income Tax rate in Afghanistan is twenty percent (20%).
- 16.2 **Income Tax Stabilization.** The Contractor agrees that its taxable income shall be subject to an Income Tax rate of thirty percent (30%) stabilized for the remaining period of this Contract, subject to the provisions of Section 5.1(l).
- 16.3 **Business Receipt Tax.** The Contractor shall be exempted from Business Receipt Tax during the term of this Contract for all business conducted in connection with this Contract.

## ARTICLE XVII

### CUSTOMS DUTIES

- 17.1 Customs Duties related to Hydrocarbons Operations are governed by the Customs Law of Afghanistan, as amended or replaced from time to time. The Contractor shall be subject to the applicable Customs Duties provided in the Customs Tariff in effect from time to time in Afghanistan, provided, however, that:
- (a) for the duration of this Contract, the Contractor shall be entitled to import into Afghanistan the equipment and supplies listed in Exhibit I for use in the Contract Area free of Customs Duties; and
  - (b) for a period of two (2) Years from the Effective Date, the Contractor shall be entitled to export Liquid Hydrocarbons free of Customs Duties, which are currently set by Code 2709.0000 of the Customs Tariff at two and one half percent (2.5%). This temporary waiver of Customs Duties on Liquid Hydrocarbons exported by the Contractor may be extended for the duration of the Initial Exploration Period pursuant to the terms and conditions of a letter of cooperation between the Parties, to be entered into on or about the date hereof, leading toward the completion of a refinery contract by December 31, 2012.
  - (c) Customs Duties on Natural Gas shall be determined in accordance with the provisions of Section 15.2.
- 17.2 Exhibit I is a statement of the equipment that, as of the execution date of this Contract, the Parties consider will be required to be imported for Hydrocarbons Operations. The Parties acknowledge and agree that such list is not exhaustive and that further items shall be added to the list at the Contractor's request in writing, provided the Inter-ministerial Commission approves of such request (such approval not to be unreasonably withheld).

## ARTICLE XVIII

### EXCHANGE AND CURRENCY CONTROLS

The Contractor shall be subject to the applicable exchange control legislation and regulations in effect from time to time in Afghanistan, provided, however, that:

- (a) the Contractor shall be entitled to retain outside Afghanistan, and freely transfer, foreign currency received by it outside of Afghanistan, including the proceeds of sales of Hydrocarbons to which it is entitled hereunder;
- (b) the Contractor shall be entitled to export from Afghanistan, free of limitation or restriction, in the same currency as that in which the investment was made, the



funds held by it, provided, however, that this subsection (b) shall not impose any obligation upon the Ministry to provide foreign currency to the Contractor;

- (c) in the matter of purchase and sale of currency within Afghanistan, whether of Afghanistan or other countries, the rates of exchange shall not be less favourable to the Contractor than those granted to any investor that introduces or transfers foreign currency into Afghanistan. Any gain or loss resulting from the exchange of currency in connection with Hydrocarbons Operations shall result in a corresponding reduction or increase, as the case may be, in the Hydrocarbons Operations Expenditures recoverable by the Contractor in accordance with Section 10.1(b);
- (d) no restriction shall be placed on the importation by the Contractor of funds necessary for carrying out Hydrocarbons Operations under this Contract; and
- (e) the Contractor shall have the right to pay directly outside of Afghanistan from its offices abroad for purchases or services for Hydrocarbons Operations hereunder, provided that no such payments shall be made to Afghan citizens or to firms using Afghanistan as their main base of operations, whether natural or juridical, contrary to the laws of Afghanistan.

## ARTICLE XIX

### TREATMENT UNDER INTERNATIONAL LAW

The treatment accorded to the Contractor by Afghanistan shall not be less favourable than the treatment required to be accorded by Afghanistan to foreign investors under applicable law.

## ARTICLE XX

### TRAINING, EMPLOYMENT AND LOCAL CONTENT

- 20.1 **Training of Afghan Nationals.** The Contractor agrees to as far as possible train and employ qualified Afghan nationals in the Hydrocarbons Operations and after Initial Commercial Production will undertake the schooling and training of Afghan nationals for staff positions, including administrative and executive management positions. The Contractor will require its contractors and subcontractors to do the same. The Contractor undertakes to give priority to Afghan nationals with equivalent qualifications and experience and actively search for Afghan nationals in order to meet the training and employment obligations established in the prevailing legislation and to gradually replace its expatriate staff with qualified Afghan nationals as they become available. An annual programme for training and phasing-in of Afghan nationals shall be established by the Contractor and shall be submitted for approval to the Ministry. Such programme shall be included in the Work Programmes submitted by the Contractor pursuant to Section 5.3. Within thirty (30) Days after the end of each Year, the Contractor shall submit a written report to the Ministry describing the number of personnel employed,

their nationality, their positions and the status of training programmes for Afghan nationals.

- 20.2 **Training of Ministry Personnel.** The Contractor shall also be required to establish a programme, reasonably satisfactory to the Ministry, to train personnel of the Ministry to undertake skilled and technical jobs in Hydrocarbons Operations for the State. Such programme shall include provisions for involving representatives of the Ministry in the preparation of the Work Programmes and Work Programme Budgets as required by Section 5.3(c).
- 20.3 **Minimum Expenditures.** The Contractor shall expend a minimum of fifty thousand U.S. Dollars (US\$ 50,000.00) in the first Year for training pursuant to Sections 20.1 and 20.2. Thereafter the minimum expenditure for training pursuant to Sections 20.1 and 20.2 shall be increased by five thousand U.S. Dollars (US\$ 5,000.00) annually. All training costs pursuant to Sections 20.1 and 20.2 shall be recoverable by the Contractor in accordance with Exhibit C, Accounting Procedures.
- 20.4 **Long Range Plan and Budget.** A long range plan and budget for the training programmes described in Sections 20.1 and 20.2 is attached hereto as Exhibit F. All annual training programmes and budgets therefor shall be consistent with such long range plan and budget.

## ARTICLE XXI

### **PURCHASES IN AFGHANISTAN**

- 21.1 **Local Preference.** In procurement, the Contractor shall give preference to goods that are produced or available in Afghanistan and services that are rendered by Afghan nationals and companies, provided that such goods and services are similar in quality, quantity and price to imported foreign goods and services and available at the time. The Contractor shall, upon request of the Ministry, develop local preference targets and specific plans to meet such targets. Such plans shall be provided as part of the Contractor's Work Programmes to be approved by the Ministry and shall include, but not be limited to, timelines, key milestones and formal review dates, a description of potential areas of the Contractor's business in which to integrate local preferences, and a summary of the Contractor's local preference initiatives and results, including the then current percentage and sources of Afghan goods and services used in the Contractor's Hydrocarbons Operations.
- 21.2 **Equivalency.** Locally produced or available equipment, materials and supplies shall be deemed equal in price to imported items if the local cost of such locally produced or available items at the Contractor's operating base in Afghanistan is not more than fifteen percent (15%) higher than the cost of such imported items before Customs Duties but after transportation and insurance costs have been added.



## ARTICLE XXII

### **JOINT DEVELOPMENT / UNITIZATION**

- 22.1 **Joint Development in Other Awarded Areas.** If a Field is designated within the Contract Area and such Field extends beyond the Contract Area to other areas of Afghanistan over which other parties have the right to conduct exploration, development and production operations, the Ministry may require that the development of the Field and the production of Hydrocarbons therefrom be carried out in collaboration with the other contractors. The same rule shall be applicable if deposits of Hydrocarbons within the Contract Area, although not equivalent to a Commercial Discovery if developed alone, would be deemed to be a Commercial Discovery if developed with those parts of the deposits that extend to areas controlled by other contractors.
- 22.2 **Joint Development in Non-Awarded Areas.** If a Hydrocarbons deposit extends onto a non-awarded block or if deposits of Hydrocarbons within the Contract Area, although not equivalent to a Commercial Discovery if developed alone, would be deemed to be a Commercial Discovery if developed with those parts of the deposits that extend to such areas, the Contractor shall promptly notify the Ministry. The Ministry may decide if and how the non-awarded area shall be awarded, and any terms and conditions for such joint development.
- 22.3 **Collaborative Proposals.** The Contractor shall collaborate with other contractors in preparing a collective proposal for common development and production of the deposits of Hydrocarbons for approval by the Ministry.
- 22.4 **Ministry Proposals.** If the proposal for common development and production has not been presented within ninety (90) Days of the request described in Section 22.1, or if the Ministry does not approve such proposal, the Ministry may prepare or cause to be prepared, for the account of the Contractor and the other contractors involved, a reasonable plan for common development and production. If the Ministry adopts such plan, the Contractor shall comply with all conditions established in such plan.
- 22.5 **International Coordination.** This Article XXII shall also be applicable to Discoveries of Hydrocarbons within the Contract Area which extend to areas that are not within the dominion of Afghanistan, provided that in these cases the Government shall be empowered to impose the special rules and conditions which may be necessary to satisfy obligations under any agreements with international organizations or adjacent states with respect to the development and production of such Hydrocarbons. If a Liquid Hydrocarbons deposit extends onto the territory of another state, the Ministry will assist the Contractor in, as far as possible, negotiating an agreement with the government of that other state on the most efficient co-ordination of Hydrocarbons Operations in connection with the Liquid Hydrocarbons deposit as well as on the apportionment of the Liquid Hydrocarbons deposit. This shall apply similarly when, in the case of several Liquid Hydrocarbons deposits, joint Liquid Hydrocarbons activities would obviously be more efficient.

- 22.6 **Unitization.** Within ninety (90) Days following the approval or adoption of a unitization plan for common development and production by the Ministry, the Contractor shall proceed to operate under any such plan. If a clause of a cooperative or unitary development and production plan which has been approved or adopted by the Ministry, and which by its terms affects the Contract Area or a part of the same, contradicts a clause of this Contract, the clause of the cooperative or unitary plan shall prevail.

## ARTICLE XXIII

### **HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION**

- 23.1 **Compliance with Laws.** In the conduct of the Hydrocarbons Operations, the Contractor shall comply, and shall require its subcontractors to comply, with any applicable laws and regulations, including the Hydrocarbons Law and any regulations issued thereunder, relating to the protection of the environment and the health, safety and welfare of workers and the public.
- 23.2 **Oversight and Rehabilitation.** Prior to the commencement of Hydrocarbons Operations in a Designated Field or other area of a Block outside of a Designated Field, the Contractor shall undertake and complete a Baseline Environmental Assessment of the Designated Field or other area consistent with International Best Practices and applicable laws and noting any existing deficiencies, including any environmental contamination existing in the Designated Field or other area on or prior to the commencement of Hydrocarbons Operations. In the course of the Hydrocarbons Operations, the Contractor shall consider, investigate, assess and manage the impact of the Hydrocarbons Operations on the environment and the socio-economic conditions of any Person who might directly be affected thereby. Furthermore the Contractor shall, upon completion of any Hydrocarbons Operations, rehabilitate as far as reasonably practicable the environment affected thereby to its natural or predetermined state or to land use.
- 23.3 **Health and Safety Plan.** The Contractor shall take all necessary measures to secure the health, safety and welfare of individuals. Prior to the commencement of Hydrocarbons Operations in the Contract Area, the Contractor shall establish, submit to the Ministry and publish, implement and enforce a health and safety plan throughout all Hydrocarbons Operations, which shall include the following measures:
- (a) all equipment and facilities shall afford reasonable safety from accidents, and shall be inspected by a qualified person as often as may be necessary to ensure the safety of the equipment or facility and compliance with the relevant laws and regulations;
  - (b) the person performing the inspection shall make a written report of the inspection and shall forward a copy of the report to the Ministry, and any equipment found to be defective or unsafe shall be repaired or replaced;



- (c) adequately designed, tested and maintained blowout prevention equipment shall be employed in connection with the drilling, testing, completing or working over of any Well;
- (d) adequate, easily accessible and properly maintained fire fighting equipment shall be provided at all operational locations where the potential of fire exists, the personnel shall be trained in the effective use of such equipment and fire fighting contingency procedures shall be published and displayed around the site;
- (e) all completed Wells shall be reasonably protected and a notice warning persons of the danger that exists shall be prominently displayed;
- (f) all personnel shall wear clothing and footwear suitable for the operational conditions and the work being performed, including, where appropriate, industrial protective equipment, such as helmets, eye protectors, gloves and hearing protection equipment;
- (g) where appropriate, notices in English and in the prevalent language of the area of operations shall be displayed at the operational sites warning all personnel of any potential danger and of the associated safety requirements;
- (h) adequate first aid equipment and personnel shall be available on all operational sites while work is in progress and procedures shall be established for the transportation of persons needing prompt medical attention;
- (i) reliable communication facilities shall be provided at all operational locations; and
- (j) all aircraft operations shall be conducted in accordance with existing laws of Afghanistan.

23.4 **Manuals.** The Contractor shall prepare and submit to the Ministry for approval prior to the commencement of Hydrocarbons Operations:

- (a) a manual of instructions for the safety operations which shall detail procedures to be followed to safeguard the health and safety of all personnel associated with all foreseen operations and to safeguard the environment;
- (b) a manual of response to emergencies which may occur, including the escape or ignition of Hydrocarbons, serious injuries, and other conditions requiring the evacuation of the site; and
- (c) a manual of procedures for the maintenance of Well control which shall detail procedures and equipment which will be used in the event of a blowout.

All appropriate personnel at the site shall be made aware of and be trained in the procedures detailed in the manuals.

23.5 **Additional Protective Measures.** In addition to the requirements for the protection of the environment as is provided in the environmental management plan approved by the Ministry, the Contractor shall, when carrying out Hydrocarbons Operations, take all practical measures to:

- (a) prevent the pollution of any water well, spring, river, lake or reservoir by the escape of Hydrocarbons, drilling fluids, chemical additives or any other waste product or effluent;
- (b) where pollution occurs, treat or disperse it in an environmentally acceptable manner;
- (c) dispose of all waste liquids used during the drilling of a Well in a manner approved by the Ministry;
- (d) properly secure permanent installations;
- (e) remove all worn, damaged or surplus equipment and supplies, and other rubbish from site to an approved waste disposal site to be reused or recycled if possible; and
- (f) on the completion or abandonment of a Well, promptly restore the Well site and any surrounding area as near to the state existing prior to the conduct of Hydrocarbons Operations as may practically be done and render that area safe.

23.6 **Minimization of Flaring.** When carrying out Hydrocarbons Operations, the Contractor shall furthermore take all practical measures to minimize flaring of any Natural Gas by re-injecting such Natural Gas into suitable strata or underground storage in accordance with International Best Practices or in any other approved scheme. The Contractor shall seek the Ministry's approval to flare any such gas which cannot be re-injected due to specific reservoir considerations or for other reasons that are accepted internationally or in an approved scheme in line with International Best Practices. Before flaring, the Contractor shall take reasonable measures to ensure the extraction of Natural Gas and other liquids contained in the Associated Gas if the Ministry and the Contractor have agreed that such extraction is economically justifiable. Notwithstanding anything in this Article XXIII to the contrary, Associated Gas may be flared if necessary for the conducting of Well and production tests and during any emergency.

23.7 **Remedial Measures.** If the Ministry reasonably determines that any works or installations erected by the Contractor or any operations conducted by the Contractor endanger or may endanger persons or third party property or cause pollution or harm wildlife or the environment to an unacceptable degree, or are otherwise not in compliance with the provisions of the applicable laws and regulations or of this Contract, the Ministry may require the Contractor to take remedial measures within a reasonable period established by the Ministry and to repair any damage to the environment. If the Ministry deems it necessary, it may also require the Contractor to discontinue Hydrocarbons Operations in whole or in part until the Contractor has taken such remedial measures or has repaired any damage. The period of discontinuance shall



not exceed six (6) Months. In the event that the Contractor fails to take the remedial measures required by the Ministry within the time period established by the Ministry, the Ministry may carry out such remedial measures for the Contractor's account.

- 23.8 **Reporting of Accidents or Hazards.** The Contractor shall as soon as possible report any serious or fatal accident that occurs, or any imminent hazard that arises, in connection with the Hydrocarbons Operations by the most rapid means of communication to the Ministry and the local State administrative authorities under whose jurisdiction the accident or hazard occurs or arises.
- 23.9 **Emergency Measures.** In case of imminent threat to life, property, or the environment, the Contractor shall take every measure possible in accordance with the risk management plan to mitigate or avoid such imminent threat and such immediate action as is necessary to preserve life, prevent destruction of property, or protect the environment. The Contractor shall as soon as possible thereafter notify the Ministry of the action taken. The costs incurred by the Contractor in relation to such action shall be recoverable as Hydrocarbons Operations Expenditures. The Ministry shall take such measures to assist in efforts to mitigate or avoid such imminent threat as it deems appropriate and issue such orders and/or instructions as it deems necessary.

## ARTICLE XXIV

### **DISPUTE SETTLEMENT/ ARBITRATION**

- 24.1 **Arbitration.** Subject to Section 24.3, any dispute, controversy or claim arising out of or relating to this Contract which shall not be determined by mutual agreement within forty-five (45) Days from the date on which the existence of a dispute is notified in writing by one Party to the other shall be settled by arbitration initiated by either Party by submission to the International Centre for Settlement of Investment Disputes (ICSID) pursuant to the Convention on the Settlement of Investment Disputes between States and Nationals of other States as of March 18, 1965 (ICSID Convention) and the arbitration rules promulgated thereunder. For the avoidance of doubt, the State hereby expressly consents to the submission of any dispute which may arise under this Contract to ICSID for settlement by arbitration in accordance with Article 25 (1) of the ICSID Convention. For the purpose of Article 25 (2) (b) of the ICSID Convention, the Contractor shall be treated as a national of a state other than Afghanistan. The number of arbitrators shall be three. The arbitration shall be conducted in the English language. The arbitration award may take the form of an order to pay a sum of money, or an order to perform an act, or an order to refrain from an act, or any combination of such orders. The place of arbitration shall be London, England. The award rendered shall be final and conclusive. Judgment on the award rendered may be entered in any court having jurisdiction or application may be made in such court for a judicial acceptance of the award and an order of enforcement, as the case may be. As far as practicable, both the Contractor and the Ministry shall continue to implement this Contract during pendency of any dispute.

- 24.2 **Sovereign Immunity.** The Ministry hereby waives any rights it may have now or in the future to claim sovereign immunity for itself or any of its assets to the fullest extent permitted by the laws of any applicable jurisdiction. This waiver includes a waiver of any claim to immunity from any legal proceeding commenced in connection with this Contract including any application for interim relief and any action to enforce or execute any award or judgment.
- 24.3 **Expertise Proceedings.** In the event of any dispute arising out of or in connection with Section 6.4, Section 7.1(j)(iii), or Section 36.2 of this Contract, the Parties agree to submit the matter, in the first instance, to administered expertise proceedings in accordance with the Rules for Expertise of the International Chamber of Commerce. The determination of the expertise proceedings shall be non-binding and the proceedings and all documents used or produced in connection therewith shall be confidential and may not be used in connection with any arbitration or judicial proceeding, whether pursuant to Section 24.1 or otherwise. If following such administered expertise proceedings the dispute has not been resolved by mutual agreement of the Parties it shall, after notification from the International Centre for Expertise of the termination of the expertise proceedings, be finally settled by arbitration conducted in accordance with Section 24.1.

## ARTICLE XXV

### **TERMINATION, REVOCATION AND RENEGOTIATION**

- 25.1 **Termination for Default.** In accordance with the provisions of the Hydrocarbons Law, the Ministry shall have the right to terminate this Contract upon giving thirty (30) Days written notice of its intention to do so if the Contractor: (a) fails to provide or maintain in effect such guarantees required by law or under this Contract, including the Financial Guarantee, on the due date for providing such guarantees; (b) fails to make any monetary payment required by law or under this Contract, including any payment in respect of the purchase price of the Hydrocarbons deemed sold by the Ministry to the Contractor pursuant to Article X, for a period of thirty (30) Days after the due date for such payment; (c) fails to comply with any other material obligation that it has assumed under this Contract, including the obligation to perform the Minimum Exploration Programme; (d) fails to comply with the Hydrocarbons Law or regulations thereunder or fails to comply in any material respect with any other lawful acts, regulations, orders or instructions issued by the Government or any department or agency of the Government; or (e) becomes bankrupt, or goes into liquidation because of insolvency or makes a composition with its creditors; provided, however, that a termination for failure to perform part of the Minimum Exploration Programme shall only apply in respect of the Block or Blocks (excluding any Fields therein) to which the unperformed obligation relates.
- 25.2 **Cure Period.** If the circumstance or circumstances that result in termination under Section 25.1 are remedied by the Contractor (i) in the case of Section 25.1(a) or (b), within the sixty (60) Day period following the notice of termination as aforesaid or (ii)



in the case of Section 25.1(c) or (d), within the ninety (90) Day period following the notice of termination as aforesaid, such termination shall not become effective.

- 25.3 **False or Fraudulent Information.** If the Ministry finds that the Contractor has presented false or fraudulent information or information has been withheld by the Contractor, the Ministry may require the Contractor to provide any necessary information and explanation. If the Contractor fails to provide such information or the information and/or explanations provided are unsatisfactory, and the incorrect information provided or the omission to provide information constitutes a material breach of Contract, the Contract may be revoked and the State is entitled to compensation for losses incurred as a result of the breach of contract or other remedies for breach of contract. Likewise, where the Contractor otherwise repeatedly or materially violates the Contract, or is in breach of the prohibition of bribing State Officials pursuant to Article 69 of the Hydrocarbons Law, the Contract may be revoked and the State is entitled to compensation for losses incurred as a result of the breach of contract or other remedies for breach of contract. In case of revocation, the Ministry shall publish reasons justifying revocation of the Contract and shall send a copy thereof to the Contractor. In such case, the rights and privileges granted to the Contractor shall be revoked, and the Contract Area shall be forfeited as well as the Financial Guarantee in accordance with its terms.
- 25.4 **Continuing Obligations.** The termination or revocation of this Contract for whatever reason shall be without prejudice to the obligations incurred and not discharged by the Contractor prior to the date of termination. In the case of any termination, the Ministry and the Contractor shall promptly agree on a plan for take-over and/or abandonment. The Contractor is liable to pay compensation for any damage incurred in the Contract Area, including the environment.
- 25.5 **Continuing Performance.** In the event of termination pursuant to Section 25.1, Section 25.3 or Section 25.8, the Ministry may require the Contractor, for a period not to exceed one hundred eighty (180) Days from the effective date of termination, to continue, for the account of the Ministry, Liquid Hydrocarbons or Natural Gas production activities until the right to continue such production has been transferred to another entity. During such period, the Contractor shall be entitled to its share of Hydrocarbons production as determined in accordance with Section 10.1. Upon termination, the provisions of Sections 4.4 and 4.5 shall apply.
- 25.6 **Mitigating Environmental Damages or Hazards.** Within ninety (90) Days after the termination or revocation of this Contract pursuant to Section 25.1, Section 25.3 or Section 25.8, unless the Ministry has granted an extension of this period, the Contractor shall complete any reasonably necessary action as directed by the Ministry to avoid environmental damage or a hazard to human life or third-party property.
- 25.7 **Transfer of Ownership.** Upon the termination or revocation of this Contract for any reason, ownership of all pipes, pipelines, installations, facilities, downhole well equipment, wellhead equipment and other equipment or materials within the geographic limits of the Contract Area shall be transferred to the Ministry, other than leased

equipment and other Contractor equipment which can be removed without damage to the Contract Area.

- 25.8 **Area Closed to Hydrocarbons Operations.** If, after the Contractor has signed this Contract, the State declares or designates an area as disputed, prohibited or unauthorised in accordance with Article 15 of the Hydrocarbons Law, then the Contractor shall be entitled to terminate or re-negotiate this Contract. The Contractor shall also be entitled to damages for losses incurred due to such declaration or designation.

## ARTICLE XXVI

### **BOOKS, ACCOUNTS AND AUDITS; RECORDS, REPORTS AND INSPECTIONS**

- 26.1 **Maintenance of Accounts, Books and Records.** The Contractor shall, in accordance with prevailing legislation and regulations and International Financial Reporting Standards, be obliged to keep and maintain complete accounts, books and records at its registered office in Afghanistan reflecting all Hydrocarbons Operations, Hydrocarbons Operations Expenditures and Gross Contractor Revenues consistent with generally accepted procedures and standards in the international petroleum industry and in accordance with this Contract and the Accounting Procedures.
- 26.2 **Submission of Accounts.** No later than June 30 each Year, the Contractor shall submit to the Ministry detailed accounts showing all Hydrocarbons Operations Expenditures and all Gross Contractor Revenues during the past Year. Before submission to the Ministry, the accounts shall be audited and certified by an independent chartered accountant or certified public accountant acceptable to both Parties, at the expense of the Contractor (such expense to be considered as Hydrocarbons Operations Expenditures recoverable by the Contractor in accordance with Section 10.1(b)). It is understood that the Ministry retains the authority to review and audit the Contractor's accounts, books and records with respect to Hydrocarbons Operations conducted hereunder either directly or through an independent accountant designated by the Ministry.
- 26.3 **Inspection Rights.** The Ministry shall have full and complete access to the Contract Area at all reasonable times with a right to observe Hydrocarbons Operations and shall have the right to inspect all accounts, books, records, assets and data kept by the Contractor relating to Hydrocarbons Operations and this Contract, such observations and inspections to be conducted at the expense of the Ministry. The Ministry may, upon reasonable advance notice to the Person-in-Charge, perform examinations, surveys, drawings, tests and analyses, inspect and make copies for the purpose of implementing this Contract. In doing so, the Ministry shall not unduly interfere with the Contractor's Hydrocarbons Operations. The Ministry shall be entitled to make reasonable use of the equipment and instruments of the Contractor for purposes of this Section 26.3, provided that no damage to the equipment or instruments or impediment to the Hydrocarbons Operations hereunder shall result from such use. The Ministry shall indemnify and



reimburse the Contractor for any loss or damage that may in fact result from any such use of equipment and instruments. The Ministry shall be given reasonable assistance by the Contractor for such functions, and the Contractor, the Person-in-Charge and the Contractor's representatives shall be required to provide the Ministry with all reasonable facilities and assistance for the effective exercise of its functions, inter alia by affording to the Ministry all facilities and privileges afforded to its own personnel in the field including the use of available office space and housing free of charge.

- 26.4 **Current Recordkeeping and Reporting.** The Contractor shall prepare and maintain accurate and current records of its activities in the Contract Area. The Contractor shall furnish the Ministry all information, reports and data concerning its activities and operations under this Contract at such times and with such intervals as are required under the Hydrocarbon Law and any regulations issued thereunder.
- 26.5 **Samples.** The Contractor shall save and keep for the duration of this Contract all unused cores and samples taken from the Wells drilled, which shall be forwarded to the Ministry or its representatives at such time and in the manner directed by the Ministry. All cores and samples acquired by the Contractor shall be available for inspection by the Ministry or its representatives at all reasonable times. Unless previously forwarded to the Ministry pursuant to instructions given under this Section 26.5, the Contractor shall forward to the Ministry all remaining cores and samples upon expiration or termination of this Contract. Unless otherwise agreed to by the Ministry, in the case of exporting any rock or Hydrocarbons samples from Afghanistan for the purpose of testing and analysis, samples equivalent in size and quantity shall, before such exportation, be delivered to the Ministry.
- 26.6 **Exportation of Original Data.** Originals of records and other data can be exported only with the prior permission in writing of the Ministry; provided, however, that any data which must be processed or analyzed outside Afghanistan may be exported if a comparable record is maintained in Afghanistan and such exported records and data, including processed and interpreted data, are repatriated to Afghanistan. Response to a request for such permission shall be given without undue delay.
- 26.7 **Ownership of Data.** The Contractor shall provide to the Ministry in appropriate form all original data resulting from Hydrocarbons Operations, including geological, geophysical, petrophysical, engineering, Well logs, production data and completion status reports and any other data (including derivative data) which the Contractor may compile during the term hereof, including all reports, analyses, interpretations, maps and evaluations thereof prepared by the Contractor and any contractors, subcontractors or consultants to the Contractor or by its Affiliated Entities, and cuttings of all samples that have been obtained or compiled during the term hereof ("**Data**"). The State shall have title to all Data. The Data shall not be disclosed to third parties by the Ministry prior to relinquishment of the area to which they relate, or prior to the end of the Exploration Phase if such area is not sooner relinquished, provided, however, that the Ministry may make copies available to professional consultants, legal counsel, accountants, underwriters, lenders and such Government entities as may need to be made aware thereof or have the right to require disclosure. In any event, the Contractor may retain



copies of all Data. The Contractor shall not disclose the Data to any third parties without the Ministry's prior written consent, provided, however, that the Contractor may make copies available to professional consultants, legal counsel, accountants, underwriters, lenders, its Affiliated Entities and contractors and subcontractors of the Contractor and such government entities as may need to be made aware thereof or have the right to require disclosure. Any Data that are disclosed by the Ministry or the Contractor to third parties pursuant to this Section 26.7 shall be disclosed on terms that ensure that the Data are treated as confidential by the recipient. To the extent that there is any inconsistency between the provisions of this Section 26.7 and the provisions of Article XXXIII, the provisions of this Section 26.7 shall govern except to the extent that application of this Section 26.7 would violate applicable law.

## ARTICLE XXVII

### INSURANCE AND INDEMNIFICATION

- 27.1 **Insurance.** To ensure that the Contractor shall meet its obligations to third parties, or to Government agencies, that might arise in the event of damage or injury (including environmental damage or injury and cleanup of accidents) caused by Hydrocarbons Operations, notwithstanding that the damage is accidental, the Contractor shall maintain in force a third-party liability insurance policy through an internationally recognized insurance company reasonably acceptable to the Ministry covering the activities of itself, its contractors and subcontractors and the employees of all such parties. Such insurance policy shall include the Ministry as an additional insured, shall waive subrogation against the Ministry, and shall provide that it may not be cancelled except upon thirty (30) Days prior written notice to the Ministry. A certificate evidencing such insurance policy shall be furnished to the Ministry within ninety (90) Days of the Effective Date. The limits, coverage, deductibles and other terms thereof shall be subject to approval in writing by the Ministry. To the extent that such third party liability insurance is unavailable or is not obtained, or does not cover part or all of any claims or damage caused by or resulting from Hydrocarbons Operations, the Contractor shall remain fully responsible and shall defend, indemnify and hold the Ministry harmless against all such claims, losses and damages of any nature whatsoever.
- 27.2 **Indemnification.** Subject to Section 27.3, the Contractor shall indemnify, defend and hold the Government harmless against all claims, losses and damages of any nature whatsoever, including, without limitation, claims for loss or damage to property or injury or death to persons, caused by or resulting from any Hydrocarbons Operations conducted by or on behalf of the Contractor, provided that the Contractor shall not be held responsible to the Government under this Section 27.2 for any loss, claim, damage or injury caused by or resulting from any negligent action of personnel of the Government or from any environmental contamination existing in the Contract Area on or prior to the Effective Date. The Ministry shall be solely responsible for its use of and or reliance upon any interpretations, reservoir descriptions, recommendations or advice furnished by the Contractor, the accuracy, correctness or completeness of which has not been expressly warranted by the Contractor.



- 27.3 **Limitation on Liability.** Neither Party shall be liable to the other Party (and for the benefit of the Contractor, the Ministry agrees that no subcontractor of the Contractor shall be liable to the Ministry) for reservoir or formation damage, inability to produce, loss of use or disposal of Hydrocarbons, loss or deferment of income, loss of profits, punitive damages, exemplary or indirect damages, business interruption damages or loss of goodwill arising out of a breach of this Contract or in connection with Hydrocarbons Operations, including under any indemnity provision under this Contract, unless such Party has caused the damages or losses by its willful misconduct or gross negligence. Reference to "willful misconduct or gross negligence" means (a) a marked and flagrant departure from the standard of conduct that a reasonable and prudent person acting in such circumstances would have been expected to display at the time of the purported misconduct, or such wanton and reckless conduct as constitutes in effect an utter disregard for harmful, foreseeable, and avoidable consequences; or (b) an act or failure to act with knowledge or reckless disregard of the harmful, foreseeable, and avoidable consequences. Nothing contained in this Section 27.3 shall limit any obligations of either Party under applicable law or regulation in respect of its activities or limit any remedies available to any regulatory agency (except for the Contractor's limitation of liability under this provision).

## ARTICLE XXVIII

### **ASSIGNMENT AND SUBCONTRACTORS**

- 28.1 **Assignment.** Subject to Article XXXVI, the Contractor may not sell, assign, transfer, convey, pledge or otherwise dispose of any part or all of its rights or obligations under this Contract to any person or entity, unless approved by the Council of Ministers and subsequently authorised by the Ministry. In the case of any assignment authorised under this Section 28.1, the assignor shall provide to the Ministry an unconditional undertaking by the assignee to assume all obligations of the assignor under this Contract. The assignment, encumbrance or transfer of this Contract or interests hereunder shall not affect any liability that the assignor has incurred prior to the date upon which such assignment, encumbrance or transfer takes effect. Notwithstanding such undertaking, the assignor shall remain jointly and severally liable with the assignee for performance of the obligations of the assignor unless the assignor assigns its entire interest under this Contract.
- 28.2 **Indirect Transfers; Change of Control.** The Ministry shall have the right to terminate this Contract upon notice to the Contractor if, without the prior approval of the Council of Ministers and subsequent approval of the Ministry: (i) the Contractor, CNPCI, or Watan shall, during the life of this Contract, undergo, directly or indirectly, a change in control (it being understood that for this purpose "control" means the power, directly or indirectly, to direct or change its management or policies, whether through ownership of shares or other voting securities or by any other means); or (ii) CNPCI, Watan or any of their respective Affiliated Entities sells, assigns, transfers, conveys, pledges or otherwise disposes, directly or indirectly, of any interest in the Contractor. Notwithstanding the foregoing, nothing in this Article XXVIII shall prohibit CNPCI, Watan or any other

entity holding an ownership interest in the Contractor from entering into any merger, acquisition or other business combination.

28.3 **Application to the Ministry.** Any proposed assignment, change of control or reduction of ownership interest shall be notified to the Ministry in advance together with an application which shall include:

- (a) the name, address and nationality of the third party;
- (b) in the case of the third party organized as a corporation:
  - (i) its place of registration or incorporation, its principal place of business, the names, addresses and nationality of the directors, principal officers and authorised signatories of the company and its capital structure;
  - (ii) the corporate structure of the third party, its parent company, if any, and other Affiliated Entities;
  - (iii) financial information on the third party and its parent company, if any, including annual reports, audited balance sheets and profit and loss statements for the past three years, and any reports of relevance for the Hydrocarbons Operations which the third party or its parent company may have filed with government agencies responsible for securities regulation during that period;
- (c) how the Hydrocarbons Operations would be financed;
- (d) the third party's previous experience and technical expertise in Hydrocarbons Operations, specifically including the third party's experience in developing countries;
- (e) information concerning experience and technical competence of significance to the area or areas to which an application applies;
- (f) a description of the organization and expertise which the third party will have available in Afghanistan and elsewhere for activities in connection with the Contract Area;
- (g) a description of the relevant equipment, machinery, tools and personnel that will be available for the Hydrocarbons Operations of that third party;
- (h) an indication of who in Afghanistan will be the representative in relation to the authorities;
- (i) a description of the third party's experience and procedures that will apply for securing the health, safety and welfare of persons involved in or affected by the Hydrocarbons Operations;



- (j) a description of the third party's experience and procedures that will apply for protecting the environment, preventing, minimizing and remedying pollution and other harm from the Hydrocarbons Operations;
- (k) proposals with respect to the training of Afghan nationals and expenditures to be incurred therefor;
- (l) such guarantees required pursuant to Article 40, Section 14 of the Hydrocarbons Law and as required herein; and
- (m) such other particulars as the Ministry may reasonably require to be submitted within a reasonable specified timeframe.

If such further information is not submitted within the specified timeframe, the application shall be deemed to be withdrawn. The Ministry will not unreasonably withhold its consent to any such assignment, change of control or reduction in ownership interest, except that the Ministry may in its sole discretion withhold any such consent in the event of any transaction which would result in the ultimate parent entity of CNPCI owning, directly or indirectly, less than fifty-one percent (51%) of the Contractor at any time during the Exploration Phase.

- 28.4 **Subcontractors.** The provisions of this Article XXVIII shall not apply to the engagement of subcontractors that are engaged to perform special operations or provide services. The Contractor undertakes to provide copies of all such subcontracts to the Ministry and the Ministry of Finance.

## ARTICLE XXIX

### LAW OF THE CONTRACT

This Contract shall be governed by, construed under and interpreted in accordance with the laws of Afghanistan, as such laws may be amended from time to time.

## ARTICLE XXX

### FORCE MAJEURE

Except as otherwise provided in this Article, each Party shall be excused from complying with, or permitted to delay its performance of, this Contract, except for the payment of money due and only with respect to those terms that are directly affected by the event in question, for so long as such compliance is prevented or delay in performance is caused by Force Majeure. "**Force Majeure**" shall mean any act or cause that is unforeseeable, unavoidable and reasonably beyond the control of such Party and does not result from the fault or negligence of such Party, including natural catastrophes, fires, earthquakes, strikes (except strikes by the Contractor's employees), wars (declared or undeclared), acts of terrorism, and acts of God. It is expressly understood that Force Majeure shall not mean economic hardship or change in market conditions. In the event

that either Party hereto is rendered unable, wholly or in part, by any of these causes to carry out its obligations under this Contract, such Party shall give notice and details of Force Majeure in writing to the other Party within seven (7) Days after its occurrence. In such cases, the obligations of the Party giving the notice shall be suspended during the continuance of any inability so caused, and the duration of any period specified in this Contract for carrying out the obligations affected by any of the aforesaid causes shall be extended for a period equal to the impact of delay caused by the Force Majeure occurrence; and the term of this Contract shall be extended accordingly, provided that such extension does not violate the laws of Afghanistan. The Party claiming Force Majeure shall use all reasonable efforts to remove or correct the event that gave rise to the Force Majeure. If the duration of a Force Majeure event exceeds three hundred and sixty-five (365) Days, either Party shall have the right, upon notice to the other, to terminate this Contract with respect to the part or parts of the Contract Area affected.

## ARTICLE XXXI

### ENTIRE CONTRACT AND AMENDMENTS

- 31.1 **Entire Agreement.** This Contract embodies the entire agreement and understanding between the Contractor and the Ministry relative to the subject matter hereof, and supersedes and replaces any provisions on the same subject in any other agreement between the Parties, whether written or oral, prior to the date of this Contract.
- 31.2 **Amendment.** This Contract may not be amended, modified, varied or supplemented except by mutual consent in writing, executed, endorsed and approved in accordance with the Hydrocarbons Law, and signed by the Contractor and the Ministry.

## ARTICLE XXXII

### WAIVERS; CUMULATIVE REMEDIES

- 32.1 **Express Waiver Required.** Performance of any condition or obligation to be performed hereunder shall not be deemed to have been waived or postponed except by an instrument in writing signed by the Party that is claimed to have granted such waiver or postponement.
- 32.2 **No General Waivers.** No waiver by either Party of any one or more obligations or defaults by the other Party in the performance of this Contract shall operate or be construed as a waiver of any other obligations or defaults, whether of a like or of a different character.
- 32.3 **Cumulative Remedies.** All rights, powers, and remedies provided hereunder are cumulative and not exclusive of any other rights, powers or remedies provided hereunder or under applicable laws.



## ARTICLE XXXIII

### TRANSPARENCY IN AFGHAN HYDROCARBONS OPERATIONS

- 33.1 **Transparency.** The Ministry shall have the right to keep a copy of this Contract in the Hydrocarbons Register, publish and keep publicly available and distribute to provincial offices such information and reports on the Contract, related documents and the Contractor as is required pursuant to the Hydrocarbons Law, any regulations issued thereunder and internationally accepted norms relating to transparency in the extractive industries, including production and financial data concerning all revenues from income taxes, production shares, royalties, fees and other taxes and other direct or indirect economic benefits received by the Ministry and all amounts paid by the Contractor under or in relation to this Contract.
- 33.2 **Trade Secrets.** Notwithstanding the above, if such information concerns technical devices, production methods, business analyses and calculations and any other industrial and trade secrets and are of such a nature that others may exploit them in their own business activities, the Ministry may approve that such information may rightfully be subject to confidentiality for a certain period of time.
- 33.3 **Press Release.** All press releases and information intended to be reported to news media relating to the contracting and/or Contract execution and/or Hydrocarbons Operations shall be subject to prior mutual approval of both the Ministry and the Contractor. Notwithstanding the foregoing, the Ministry may without the Contractor's consent report to news media or other public sources any information that the Ministry is required by law to report and shall notify the Contractor of the information it reports prior to such reporting if reasonably practicable.

## ARTICLE XXXIV

### NOTICES

All notices, reports and other communications required or permitted hereunder or any notices that one Party may desire to give to the other Party shall be in writing in the English language and deemed to have been properly delivered if personally handed to an authorised representative of the Party for whom intended or sent by electronic mail, registered airmail or cable, except as otherwise provided herein, at or to the address of such Party for whom intended as indicated below, or such other address as either Party may from time to time designate by notice in writing to the other Party:

THE CONTRACTOR: c/o CNPC International Ltd.  
No. 6-1, Fuchengmen Beidajie, Xicheng District  
Beijing, China 100034  
Telephone +86 10 5855 1114  
Fax +86 10 5855 1110  
ATTN: Mr. BO Qiliang

MINISTRY: Ministry of Mines  
Pashtoonistan Watt  
Across from Ministry of Finance  
Kabul, Afghanistan  
Telephone +93 (0) 202 100 309  
ATTN: Director of Petroleum Authority

## ARTICLE XXXV

### EFFECTIVENESS AND REGISTRATION

- 35.1 **Effective Date and Validity.** This Contract, which has been endorsed by the Inter-ministerial Commission, shall become effective and binding on the Parties on the Effective Date. The Ministry shall inform the Contactor of the Effective Date within forty-eight (48) hours thereof. The Ministry represents that it has all requisite power and authority to enter into this Contract and perform its obligations hereunder and that the execution, delivery and performance of this Contract by the Ministry has been duly authorized in accordance with the constitutional and administrative procedures of the Ministry and that only the approval of the Council of Ministers is required to give this Contract legal effect.
- 35.2 **Registration of Contract and License; Publication.** Within ten (10) Days following the Effective Date, the Ministry shall (i) register this Contract and the appurtenant exclusive License for Hydrocarbons Operations in the Hydrocarbons Register and (ii) publish in at least three (3) newspapers of national circulation in Afghanistan and on the Ministry's website an announcement summarizing the material terms of the Contract.
- 35.3 **No Corrupt Action.** Each Party represents and covenants that it is, and during the term of this Contract will remain, in full compliance with all laws applicable to it prohibiting corrupt business practices, including Article 69 of the Hydrocarbons Law.

## ARTICLE XXXVI

### CHANGE OF LAW

- 36.1 **Structure of the Contractor** Subject to Article XXVIII, the Ministry undertakes that in the event that, at any time during the term of this Contract, the Hydrocarbons Law or any other applicable law changes in such a manner as to permit the Ministry to enter into agreements similar to the Contract with more than one party, the Ministry shall, at the request of the Contractor and at no cost to the Contractor, assign and novate this Contract to CNPCI and Watan (or their Affiliated Entities) such that each such entity is a party to the Contract with liability to the Ministry on a joint and several basis.
- 36.2 **No Double Taxation.** The Ministry acknowledges and agrees that the Contractor has entered into this Contract in reliance on the Ministry's representation that the revenues



generated from Hydrocarbons Operations for the Contractor's account shall only be subject to income tax once in Afghanistan. The Ministry represents that either the Contractor shall be liable to pay Income Tax on such revenue or the owners of the Contractor shall be liable to pay Income Tax on such revenue in accordance with applicable laws. If at any time after the Effective Date, there is any change in the legal, fiscal and/or economic framework applicable to the Contract (or the interpretation thereof) which results in the Contractor and the owners of the Contractor both being liable to pay Income Tax on such revenue, the terms and conditions of this Contract shall be altered so as to restore the Contractor and the owners of the Contractor to the same overall economic position as that which such person would have been in, had no such change in the legal fiscal and/or economic framework occurred. If the Contractor believes that its economic position, or the economic position of its owners, has been detrimentally affected herein by a change or interpretation of law that results in a double taxation of income, upon the Contractor's written request, the Parties shall meet to agree on any necessary measure to resolve the issue. Should the Parties be unable to agree on a method to resolve the issue, the Contractor may refer the matter in dispute to expertise proceedings as provided in Section 24.3, without the necessity of first referring the matter to negotiation and mediation.



IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be executed by their respective duly authorised representatives as of the date first above written.

CNPCI WATAN OIL AND GAS AFGHANISTAN LTD.

By   
Managing Director

THE MINISTRY OF MINES OF THE  
GOVERNMENT OF THE ISLAMIC REPUBLIC  
OF AFGHANISTAN

By   
Minister of Mines



**EXHIBIT A**

**DESCRIPTION OF CONTRACT AREA**

**COORDINATES OF CONTRACT AREA**

The Contract Area consists of the following three Blocks comprising the interiors of the geographic regions described by the respective corners, stated with reference to the meridian of Greenwich and the Equator:

**KASHKARI BLOCK**

65° 45' 0" E	36° 25' 0" N
66° 10' 0" E	36° 25' 0" N
66° 10' 0" E	36° 0' 0" N
65° 45' 0" E	36° 0' 0" N

**BAZARKHAMI BLOCK**

65° 25' 0" E	36° 25' 0" N
65° 45' 0" E	36° 25' 0" N
65° 45' 0" E	36° 5' 0" N
65° 25' 0" E	36° 5' 0" N

**ZAMARUDSAY BLOCK**

64° 35' 0" E	36° 20' 0" N
65° 25' 0" E	36° 20' 0" N
65° 25' 0" E	36° 5' 0" N
65° 0' 0" E	36° 5' 0" N
65° 0' 0" E	36° 10' 0" N
64° 35' 0" E	36° 10' 0" N



## COORDINATES OF QUADRANTS CONTAINING THE DESIGNATED FIELDS

The Designated Fields consist of the following five Fields located in the quadrants comprising the interiors of the geographic regions described by the respective corners, stated with reference to the meridian of Greenwich and the Equator:

### ANGOT FIELD

65° 55' 0" E	36° 15' 0" N
66° 05' 0" E	36° 15' 0" N
66° 05' 0" E	36° 10' 0" N
65° 55' 0" E	36° 10' 0" N

### KASHKARI FIELD

65° 55' 0" E	36° 10' 0" N
66° 0' 0" E	36° 10' 0" N
66° 0' 0" E	36° 5' 0" N
65° 55' 0" E	36° 5' 0" N

### AQ DARYA FIELD

66° 0' 0" E	36° 10' 0" N
66° 5' 0" E	36° 10' 0" N
66° 5' 0" E	36° 5' 0" N
66° 0' 0" E	36° 5' 0" N

### BAZARKHAMI FIELD

65° 40' 0" E	36° 15' 0" N
65° 45' 0" E	36° 15' 0" N
65° 45' 0" E	36° 10' 0" N
65° 40' 0" E	36° 10' 0" N

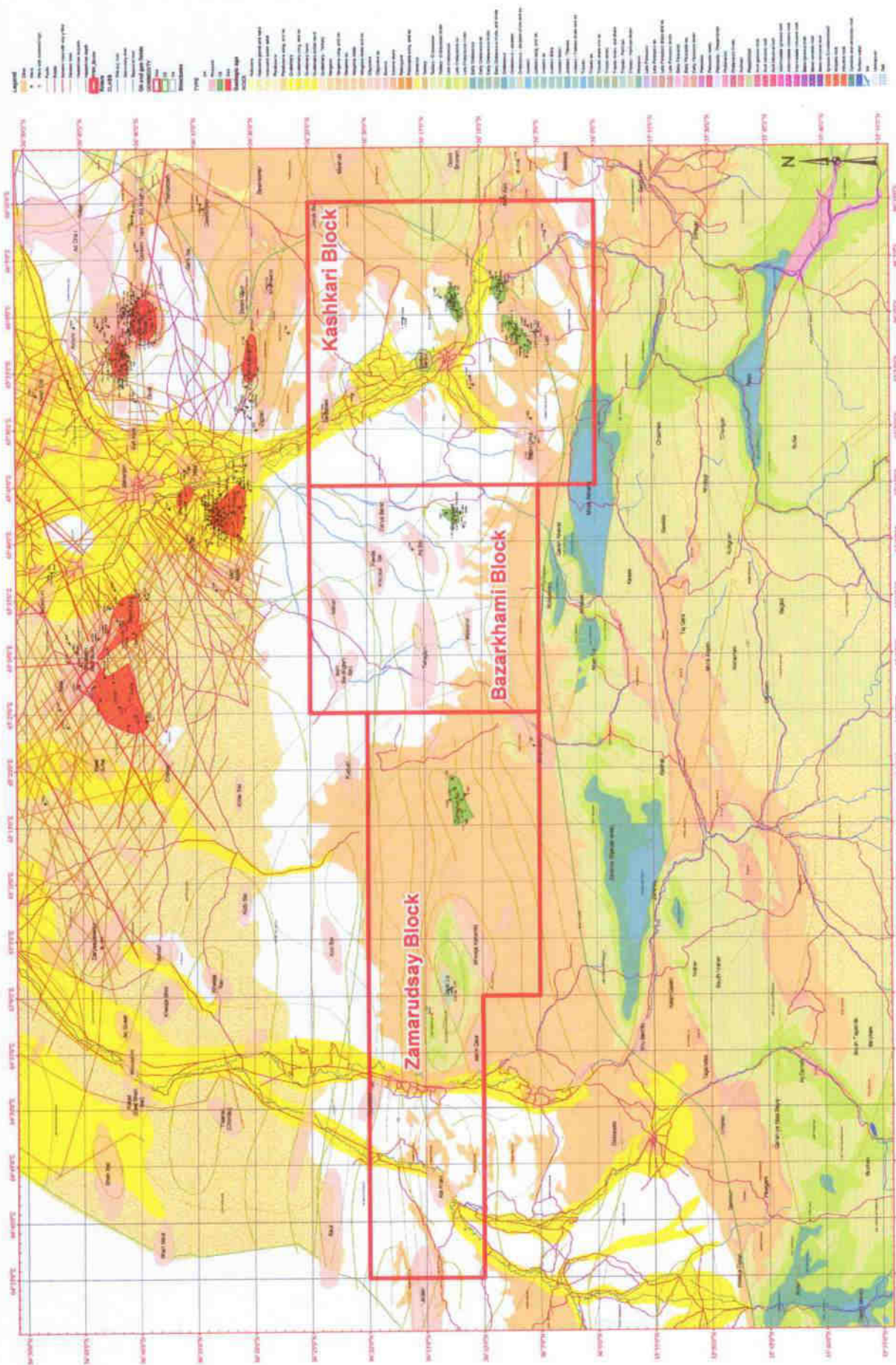
### ZAMARUDSAY FIELD

65° 10' 0" E	36° 15' 0" N
65° 20' 0" E	36° 15' 0" N
65° 20' 0" E	36° 10' 0" N
65° 10' 0" E	36° 10' 0" N

**EXHIBIT B**

**MAP OF CONTRACT AREA**





**EXHIBIT C**  
**ACCOUNTING PROCEDURES**

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**EXHIBIT C**  
**ACCOUNTING PROCEDURES**

**ARTICLE I**

**General Provisions**

**1.1 Definitions and Scope**

The Accounting Procedures described herein are to be followed and observed in the performance of both Parties' obligations for purposes of Article X of the Contract. Except as otherwise provided in the Contract, these Accounting Procedures shall not apply to the Contractor's Income Tax obligations, which shall be governed by the provisions of the Income Tax Law (2009) as amended or replaced and in effect from time to time.

The definitions appearing in Article I of the Contract shall also apply to this Exhibit C.

In order to determine the "R" Factor, the Contractor shall keep a particular system of accounts to record, in U.S. Dollars, income and expenditure related to the Hydrocarbons Operations. This system shall consist of two main accounts: the "R" Factor Income Account, and the "R" Factor Expenditure Account as defined in this Exhibit C. A separate system of accounts shall be kept in respect of Hydrocarbons Operations relating to (i) the Designated Fields and (ii) each Block (excluding any Designated Fields in such Block).

**1.2 Inconsistency**

In the event of any inconsistency or conflict between the provisions of this Exhibit C and the other provisions of the Contract, the other provisions of the Contract shall prevail.

**1.3 Accounting Records and Reports**

- (a) The Contractor shall establish and maintain at its business office in Afghanistan complete accounts, books and records of all revenues, costs and expenses relating to all Hydrocarbons Operations hereunder in accordance with International Financial Reporting Standards and generally accepted procedures and standards in the international petroleum industry. Such accounts, books, records and reports will be available for the inspection and use of the Government and its representatives in carrying out its supervisory, financial and fiscal functions under the Contract.
- (b) All accounts, books, records, reports and statements will be prepared in accordance with the Contract, the laws of Afghanistan, and where there are no



relevant provisions of either of these, in accordance with International Financial Reporting Standards and International Best Practices.

- (c) The Ministry may, in accordance with the prevailing laws and regulations, from time to time by no less than thirty (30) Days notice to the Contractor, specify the style, format and level of details of the reports, documents and materials that Ministry may reasonably require from the Contractor.

#### **1.4 Language and Units of Account**

Unless otherwise agreed or prescribed in prevailing legislation, all accounts, records, books and reports shall be maintained and prepared in the English language and shall be recorded in U.S. Dollars.

#### **1.5 Cash Basis**

All financial books, accounts and records shall be prepared on a cash basis. All cash receipts and cash expenditures will be attributed to the time period in which the cash receipt or expenditure is realized.

#### **1.6 "R" Factor Expenditure Account**

Hydrocarbons Operations Expenditures may consist of capital and operating expenditures as follows:

##### **(a) Capital Expenditures**

Capital expenditures are those Hydrocarbons Operations Expenditures for assets that normally have a useful life that extends beyond the year in which the asset was acquired.

In addition to expenditures relating to assets that normally have a useful life beyond the year in which the asset was acquired, the costs of exploration and development operations, as described in Sections 1.6(a)(v), (vi), (vii), (viii), (ix), and (x) of this Exhibit C, will be classified as capital expenditures. Capital expenditures shall be reduced by the amount of any proceeds received by the Contractor from sales of Liquid Hydrocarbons or Natural Gas produced during production testing, such sales to be valued at the net realized price obtained by the Contractor therefor.

Capital expenditures include, but are not limited to, the following:

- (i) Construction utilities and auxiliaries – work shops, power and water facilities, warehouses, and field roads. Cost of Liquid Hydrocarbons treating plants and equipment, secondary recovery systems, Natural Gas plants and steam systems;

- (ii) Construction housing and welfare housing – recreational facilities and other tangible property incidental to construction;
  - (iii) Production facilities – production rigs (including the costs of labour, fuel, hauling and supplies for both the offsite fabrication and onsite installation of rigs, and other construction costs in erecting rigs and installing pipelines), wellhead equipment, subsurface lifting equipment, production tubing, sucker rods, surface pumps, flow lines, gathering equipment, delivery lines and storage facilities;
  - (iv) Movables – surface and subsurface drilling and production tools, equipment and instruments, barges, floating craft, automotive equipment, aircraft, construction equipment, furniture and office equipment and miscellaneous equipment;
  - (v) Development and production drilling – labour, materials and services used in drilling Wells with the object of penetrating a proven reservoir, including the drilling of delineation Wells as well as redrilling, deepening or recompleting Wells, and access roads, if any, leading directly to Wells;
  - (vi) Exploration drilling – labour, materials and services used in the drilling of Wells with the object of finding unproven reservoirs of Liquid Hydrocarbons and Natural Gas, and access roads, if any, leading directly to Wells;
  - (vii) Surveys – labour, materials and services used in aerial, geological, topographical, geophysical and seismic surveys, and core hole drilling;
  - (viii) Security and De-mining – the engagement of private security providers licensed in Afghanistan and de-mining or mine clearance costs associated with Hydrocarbons Operations;
  - (ix) Third-Party Assessments – the engagement of internationally recognized third parties to conduct assessments, including Baseline Environmental Assessments, wireline, well-logging and testing, logistics, security and de-mining assessments;
  - (x) Other exploration expenditures – auxiliary or temporary facilities having lives of one year or less used in exploration and purchased geological and geophysical information; and
  - (xi) Any expenditures in relation to the foregoing incurred prior to the Effective Date of the Contract, provided the Ministry has provided approval in writing of such expenditure.
- (b) Operating Expenditures



Operating expenditures are all Hydrocarbons Operations Expenditures other than capital expenditures.

#### **1.7 "R" Factor Income Account**

The following shall be recognized as income and recorded in the "R" Factor Income Account:

- (a) The value of Cost Recovery Hydrocarbons allocated to the Contractor in accordance with Section 10.1(b) of the Contract.
- (b) The value of Net Hydrocarbons allocated to the Contractor in accordance with Section 10.1(c) of the Contract, determined in accordance with the Formula Price applicable to such Hydrocarbons.
- (c) Income from sales of assets acquired by the Contractor for Hydrocarbons Operations, the cost of which was recorded in the "R" Factor Expenditure Account.
- (d) Income from services rendered to third parties involving personnel whose remuneration and benefits are recorded in the "R" Factor Expenditure Account and/or involving goods whose acquisition cost has been recorded in the "R" Factor Expenditure Account.
- (e) Income from letting assets belonging to the Contractor, whose acquisition cost has been recorded in the "R" Factor Expenditure Account or subletting of goods whose hire is charged to the "R" Factor Expenditure Account.
- (f) Compensation received from insurance policies taken out in relation to Contract activities for damaged goods, including compensation for loss of profits.
- (g) Income resulting from the exchange of currency in accordance with Section 1.10.
- (h) Other income representing credits applicable to charges to the "R" Factor Expenditure Account.

#### **1.8 Arm's Length Transactions**

Except as may be otherwise agreed in writing between the Ministry and the Contractor, all transactions giving rise to revenues, costs or expenses which will be credited or charged to the books, accounts, records and reports prepared, maintained or submitted hereunder shall be conducted at arm's length or on such a basis as will assure that all such revenues, costs or expenses will not be higher or lower, as the case may be, than would result from a transaction conducted at arm's length on a competitive basis with third parties.

## 1.9 General Exclusions

The following expenditures shall not be included in Hydrocarbons Operations Expenditures:

- (a) costs and expenses incurred at any time prior to the Effective Date, except any expenditures pursuant to Section 1.6(a)(xi);
- (b) costs relating to Hydrocarbons refining, marketing or transportation beyond the Delivery Point;
- (c) contributions and donations, except those approved by the Government;
- (d) gifts or rebates to suppliers, and gifts or commissions to intermediaries arranging service or supply contracts;
- (e) any costs relating to the provision of the Financial Guarantee including payments made to the Ministry pursuant thereto or otherwise for failure to perform the work commitments in accordance with Section 6.3 of the Contract;
- (f) any interest, fees and other financial charges relating to loans and credits obtained by the Contractor to acquire funds for the execution of Hydrocarbons Operations, as well as amortization of such loans and credits;
- (g) any fines, interest, monetary corrections or increases in expenses resulting from the Contractor's failure to comply with its obligations under the Contract, applicable law or agreements with third parties;
- (h) overhead or payments to any Affiliated Entity of the Contractor or CNPCI or Watan that do not comply with Section 1.8 and are not otherwise allocable to Hydrocarbon Operations Expenditures pursuant to Section 2.6;
- (i) any other expenditures not directly related to Hydrocarbons Operations or not in compliance with the provisions of this Exhibit C; and
- (j) costs that would otherwise be recoverable as Hydrocarbons Operations Expenditures but exceed by ten percent (10%) or more the approved Work Programme Budget as may be amended by the Parties from time to time; provided, however, that costs in excess of one hundred and ten percent (110%) of any approved Work Programme Budget shall be included in Hydrocarbons Operations Expenditures where such costs are associated with emergency measures taken in accordance with Section 23.9 of the Contract. Without prejudice to the foregoing, costs that are less than ten percent (10%) in excess of the approved Work Programme Budget shall be recovered as Hydrocarbons Operations Expenditures without need for further review by the Ministry.

The following shall not be recognized as income for the purposes of calculating the "R" Factor:



- (a) Financial income in general.
- (b) Income received for services rendered by the Contractor or sales of the Contractor's assets occurring before the Effective Date.
- (c) Income received for activities not related to the Hydrocarbons Operations.

#### **1.10 Currency Exchange Rates**

For conversion purposes between Afghanis, or any other currency, and U.S. Dollars, the average of the buying and selling rate of exchange shall be used as issued by Da Afghanistan Bank on the first Day of the Month in which the revenues, costs or expenses are recorded.

#### **1.11 Acceptance of Costs**

The acceptance by the Ministry of the values and treatment proposed by the Contractor relating to all costs and expenses may be conditional upon the presentation by the Contractor, following a request by the Ministry or its representatives, of all records and original documents supporting such costs and expenses, such as invoices, cash vouchers, debit notes, price lists or similar documentation verifying the value and treatment proposed.

### **ARTICLE II**

#### **Accounting Methods and Principles**

Hydrocarbons Operations Expenditures incurred hereunder shall be calculated and accounted for in a manner consistent with the following principles and definitions and shall include:

##### **2.1 Labour Costs**

Costs of salaries and wages of the Contractor's employees directly engaged in Hydrocarbons Operations, including costs of holidays, vacations, sickness, living and housing allowances, travel time, bonuses and other established plans for employee benefits customarily granted to the Contractor's employees and their families in similar ventures.

##### **2.2 Material Costs**

Costs of materials, equipment, machines, tools and any other goods of a similar nature used or consumed in Hydrocarbons Operations, subject to the following:

Acquisition - the Contractor shall only supply or purchase materials for use in Hydrocarbons Operations that may be used in the foreseeable future. The accumulation of surplus stocks and inventory shall be avoided. Inventory levels shall, however, take into account the time lag for replacement, emergency needs and similar considerations;

Components of Costs - costs of materials purchased by the Contractor for use in Hydrocarbons Operations may include, in addition to the invoice price for such materials (subtracting the discounts given, if any) and provided that they are properly documented with invoices:

- (a) freight costs and costs of transportation between the supply point and delivery point (provided that such costs are not included in the invoice price);
- (b) inspection costs;
- (c) insurance; and
- (d) customs duties, taxes and other items that may be charged to imported materials or to materials purchased in Afghanistan; and

Inventories - the Contractor shall maintain both a physical and accounting inventory of all materials in stock in accordance with International Best Practices. The Contractor shall make a physical inventory of all such materials at least once in any Year. The Ministry may carry out total or partial inventories whenever it deems it necessary.

### **2.3 Technical Services Costs**

The value of technical services costs relating to Hydrocarbons Operations, which shall be:

In the case of technical services performed by third parties directly subcontracted, including outside consultants, the contractors and utilities, the price paid by the Contractor, provided that such prices are no higher than the prices charged by other suppliers for comparable work and services; and

In the case of technical services performed by the Contractor or its Affiliated Entities, prices which are no higher than the prevailing prices charged to other Affiliated Entities of the Contractor and to third parties for comparable services.

### **2.4 Insurance and Claims**

Costs relating to insurance, provided such insurance is customary, affords prudent protection against risks and is at a premium no higher than that charged on a competitive basis by insurance companies which are not Affiliated Entities of the Contractor. The proceeds of any insurance or claim shall be credited against Hydrocarbons Operations Expenditures. Except in cases where insurance coverage is required pursuant to Article XXVII of the Contract, if no insurance is carried for a particular risk, all costs incurred by the Contractor in settlement of any related loss, claim, damage or judgment, including legal services, shall be includable in Hydrocarbons Operations Expenditures, provided that such costs did not result from the Contractor's gross negligence.



## **2.5 Legal and Litigation Costs**

Costs and expenses of litigation and legal or related services necessary or expedient for the protection of the Contract Area. Any damages or compensation received shall be credited against Hydrocarbons Operations Expenditures. Under no circumstances may the Contractor's costs incurred in the course of arbitration entered into under Article XXIV of this Contract be included in Hydrocarbons Operations Expenditures.

## **2.6 Overhead Costs**

Overhead costs, other than direct costs, including:

- (a) The Contractor's personnel, personnel of CNPCI or Watan, and services costs, incurred outside of Afghanistan, relating to administration, legal, accounting, treasury, auditing, taxation, planning, employee relations, purchasing and other functions required for Hydrocarbons Operations under the Contract; and
- (b) Reasonable travel expenses of the Contractor's, CNPCI's or Watan's personnel in the general and administrative categories listed in (a) above for the purpose of inspection and supervision of Hydrocarbons Operations in Afghanistan;

shall be allocable to Hydrocarbons Operations Expenditures according to methods agreed to by the Contractor and the Ministry. The methods agreed shall result from a detailed study and the methods selected following such study shall be applied each Year consistently unless otherwise agreed by the Parties. These general and administration and services overhead costs shall not exceed two percent (2%) of the direct costs incurred in Hydrocarbons Operations in each Month.

## **2.7 Office Costs, *et cetera*, in Afghanistan and Dubai**

Staffing and maintenance of the Contractor's head office in Afghanistan and other offices in Afghanistan and Dubai, including rent, telephone and radio expenses, as well as the expenses of general facilities such as bases, warehouses, water, power and communications systems, roads and bridges.

## **2.8 Land Use and Surface Rental Fees**

Any compensation paid to private landowners or occupiers pursuant to Section 9.2 of this Contract and any annual surface rental fees paid to the Ministry in respect of State-owned land in accordance with Article XIV of this Contract shall be included in Hydrocarbons Operations Expenditures.

## **2.9 Training Costs**

Any expenditures pursuant to Sections 20.1 or 20.2 of this Contract for the purposes of training Afghan nationals and Ministry personnel.

### ARTICLE III

#### **Audit and Inspection Rights of the Ministry**

The Ministry, upon thirty (30) Days advance written notice to the Contractor, shall have the right to inspect and audit, during normal business hours, the Contractor's accounts, books and records with respect to the Hydrocarbons Operations conducted hereunder. During the Exploration Phase of the Contract, it may be necessary to conduct such an examination at the Contractor's or an Affiliated Entity's office in Beijing, the People's Republic of China. Where this is the case, the Contractor agrees to reimburse the Ministry direct economy airfare costs to and return from Beijing, the People's Republic of China, and a reasonable foreign per diem living allowance for a reasonable period for two auditors to conduct such an examination. The cost of any audits or examinations by the Ministry within Afghanistan shall be for its sole expense. Any audit exceptions must be in writing within one hundred and eighty (180) Days following completion of such audit and failure to give such written exception within such time shall establish the correctness of the Contractor's books and accounts.

For purposes of auditing, the Ministry may examine and verify, at reasonable times upon prior notice to the Contractor, all charges and credits relating to the Hydrocarbons Operations, such as books of account, accounting entries, material records and inventories, vouchers, payrolls, invoices and any other documents, correspondence and records necessary to audit and verify the charges and credits.

The auditors shall have the right in connection with such audit, to visit and inspect at reasonable times, all sites, plants, facilities, warehouses and offices of the Contractor directly or indirectly serving the Hydrocarbons Operations.

The Contractor shall include in its contracts with subcontractors provisions granting to the Ministry the same audit and inspection rights in respect of the subcontractors that it has in respect of the Contractor pursuant to this Contract.

The provisions of the present Article shall not infringe with the power of inspection for authorised representatives of the Ministry pursuant to the laws and regulations of Afghanistan.

All agreed adjustments resulting from an audit shall be made in the Contractor's accounts.



**APPENDIX 1  
TO ACCOUNTING PROCEDURES**

**Example Calculation of Escrow Under Section 7.3(c) of the Contract:**

At beginning of month,

ROIIP = 2,000,000 barrels

Decommissioning and Abandonment Budget = US\$ 2,400,000

Amount in Escrow Account = US\$ 800,000

Net shortfall = US\$ 2,400,000 – US\$ 800,000 = US\$ 1,600,000

Monthly production = 100,000 barrels

Monthly contribution =  $100,000 / 2,000,000 \times \text{US\$ } 1,600,000 = \text{US\$ } 80,000$

At end of month,

ROIIP = 1,900,000 barrels

Amount in Escrow Account = US\$ 880,000

**APPENDIX 2  
TO ACCOUNTING PROCEDURES  
PROCUREMENT MANUAL**



## **Procurement Procedures**

### **Table of Contents**

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2. Procurement Objectives and Principles
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## **1.0 INTRODUCTION**

### **1.1 PURPOSE OF THE MANUAL**

**1.1.1** The purpose of Operator (hereafter called “the COMPANY”) Procurement Procedures Manual (hereafter called “Manual”) is to provide COMPANY with guidelines and procedures that are to be adhered to in conducting its procurement activities. Note that “procurement” covers both purchasing and contracting.

**1.1.2** This manual is designed to ensure that:

The COMPANY procurement objectives, policies and principles are explicitly stated and consistently applied;

- a) Standards of ethics and fairness in procurement of materials and services are maintained; and
- b) Standard guidelines are presented to all departments in COMPANY.

### **1.2 SCOPE OF THIS MANUAL**

**1.2.1** This Manual shall apply to inquiries and tenders issued and contracts entered into for procurement of equipment, facilities, goods, materials, supplies and services required by COMPANY for carrying out Hydrocarbons Operations.

**1.2.2** Failure to follow the procedures of this Manual for procurement may result in the purchase or contract being disallowed from inclusion as a Hydrocarbons Operations Expenditure under the CONTRACT.

### **1.3 CONTROL OF THE MANUAL**

**1.3.1** The Procurement Department of the COMPANY shall be responsible for the contents of the manual and shall ensure that all relevant functional and procedural checks have been made before authorizing any amendment thereto.

## **2.0 PROCUREMENT OBJECTIVES AND PRINCIPLES**



## 2.1 COMPANY PROCUREMENT OBJECTIVES

The COMPANY's objectives in procurement and contracting are to ensure that all equipment facilities, goods, materials, supplies and services required for Hydrocarbons Operations are obtained at the right time in the right quantity and right quality at the right price from the right sources.

## 2.2 COMPANY PROCUREMENT PRINCIPLES/POLICIES

The following shall form the basis of COMPANY's procurement principles/policies for purchases and contracts;

- 2.2.1 All procurement of equipment, facilities, goods, materials, supplies and services required for Hydrocarbons Operations shall be on arms length basis and shall be obtained as a result of competitive bidding. Any deviation shall be fully justified by a technical and cost-benefit analysis and shall provide the report to detail the reason, and shall be agreed in writing by the President.
- 2.2.2 All purchases and contracts shall be adequately covered under an approved Work Program and Budget.
- 2.2.3 Contracts shall not be segmented to circumvent the requirement for competitive bidding or to circumvent the requirements of the Limits of Authority or to circumvent the need to obtain Partners.
- 2.2.4 Contracts shall at all times be awarded to the technically acceptable bidder that offers the best overall cost advantage to the COMPANY. Contracts may be awarded to companies on other considerations provided that the quality of materials and services are not sacrificed.
- 2.2.5 Where technically possible and practicable, due consideration and preference should be given to local companies to supply materials and services provided they are competitive in price and in conformity to the specifications, terms and conditions of the purchase inquiries or tender documents. Note that under Section 21.2 of the **CONTRACT**, locally produced or available equipment, materials and supplies that cost no more than 15 percent more than the equivalent imported equipment, materials or services (before import duties) shall be deemed to be equivalent in price.

- 2.2.6** The COMPANY shall have a program for qualification of local vendors to be eligible to supply materials and services, with a goal of having at least three qualified competitive local suppliers for every nontechnical good or service generally available in the market. In resource-poor emergency or special cases, with the written approval of President, 2 qualified competitive local suppliers for every nontechnical good or service will be acceptable.
- 2.2.7** Procurement of materials and contracts for services shall, as and when practicable, be grouped together to take advantage of bulk buying and consolidation. All Divisions and Departments in the COMPANY shall endeavor to plan and group their procurement requirements for each budget year based on the foregoing principles.
- 2.2.8** Procurement of spare or salvage materials and services from affiliates of CNPCI or Watan shall be priced at the lower of cost or market, plus transportation and other charges. To take advantage of potential salvage from other activities of CNPCI or Watan or their affiliates, from time to time CNPCI, Watan, and their affiliates may make available to the COMPANY spare or surplus materials or services previously purchased for other projects or activities.
- 2.2.9** Tenders shall be advertised in a manner to ensure that all potential bidders who are qualified have the opportunity to be aware of the tender.

### **3.0 DEFINITION / ABBREVIATION**

The following definitions and/or abbreviations shall apply to this Manual:

#### **3.1 AA**

"Approving Authority" as designated in the COMPANY Limits of Authority (LOA) Manual.

#### **3.2 AGREEMENT**

A document identifying and binding the parties to an agreement and outlining all the applicable terms and conditions thereto.

#### **3.3 BOARD OF DIRECTORS**

"Board of Directors" means the board of directors of the Company.

#### **3.4 COMPANY**





Means Operator.

### **3.5 CONTRACT**

“CONTRACT” means EPSC, to explore and exploit hydrocarbons resources in the Contract Area within the contract period.

### **3.6 INCOTERMS**

“International Commercial Terms” as defined by the International Chambers of Commerce outlining the responsibilities and obligations of the parties in the purchasing supplying agreement. Examples of Incoterms are FOB (Free on Board), CFR (Cost and Freight), CIF (Cost, Insurance and Freight), etc.

### **3.7 ITB**

“Invitation to Bid” means the document sent to an approved bidder for purposes of inviting the bidder to submit a bona-fide proposal. The ITB outlines the scope of supply/services required, and the proposed contractual terms and conditions.

### **3.8 LOA**

“Limits of Authority” means the levels of delegated responsibility and accountability for approving of commitments accorded to the respective management officer of Operator.

### **3.9 MR**

“Materials Requisition” is a form raised by the user department and approved according to the LOA, to request for the supply of materials required for the operations as per approved budgets. The MR specifies the description of the materials, the required delivery date, final destination for delivery and estimated budgets. The MR is used by the purchasing / materials personnel to source the items internally from warehouse stock or to call against existing contracts, price agreements or any open purchase orders or to initiate a new ITB/ purchasing inquiry.

### **3.10 PA**

“Price Agreement” is a form of a long-term supply contract, normally limited by a specified maximum quantity or maximum total price or

duration of time. Supply and delivery of individual requirement is initiated via an approved indent.

**3.11 PO**

“Purchase Order” is a company document issued by the COMPANY to an approved Supplier for the supply and delivery of materials, the PO will contain name and address of the supplier, the delivery required date, the delivery point, the terms and conditions of purchase, the descriptions, quantity and unit price of the individual line items and the total value. The PO is to be signed by the AA according to Operator LOA.

**3.12 SR**

“Service Requisition” is a form raised by the user department and approved according to the LOA, to request for the provision of service required for operation as per approved budgets. The SR is used for the contract personnel to source the required services either from existing contract or service agreements or to initiate a new ITB.

**3.13 TC**

“Tender Committee” is an organization within the COMPANY, whose responsibility is to oversee the proper conduct in the Procurement activities, ensure all established policies and principles are being followed and review and endorse the respective ITB, procurement schedules, evaluation reports and award recommendation.

**3.14 USER DEPARTMENT**

The department holding the approved budgets, which is responsible to raise the MR, SR or WO.

**3.15 WO**

“Work Order” is a form raised by the User Department and approved according to the LOA to a service company for the provision of service. The WO will contain name and address of the service company, the phone and fax number or E-mail address, period of service, work site, the terms and condition of service, scope of work, price etc.

**4.0 MATERIAL / SERVICE REQUISITION FORMS AND APPROVALS**

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#### **4.1MR / SR APPROVAL**

All Material/Service Requisitions must be approved and signed by User Department and AA according to LOA. Without proper authorized approval, Procurement Department shall not process the purchasing request, unless written approval has been obtained from AA according to LOA.

#### **4.2 MR / SR PROFESSIONAL**

The User Department will describe in detail the material and specifications including Technical parameters model and/or part number for each item as well as details of service required.

In case the description of the item is incomplete, Procurement Department may return it to User Department for clarification and modification. In those instances where the User Department has indicated a technical preference in material, service or source of supply, Procurement Department may, evaluate alternative sources. In all such instances the User Department will be advised of the alternatives and mutual agreement reached prior to placement of the commitment, of the purchase order or contract as the case may be. All changes to the requisition must be subject to LOA.

A soft copy of each MR/SR should be submitted to Procurement Department for convenience of processing.

When raising any MR, User Departments should contact warehouse to check the inventory first to ensure a reasonable stock.

All MR should be reviewed and item coded by warehouse supervisor first before sending to Procurement Department.

#### **4.3 CENTRALIZED ITEMS**

For centralized items, the User Department shall send its detailed requirement to the Department – in – Charge. The Department – in – Charge will then compose a consolidated request and send the consolidated material requisition with detailed specifications, on Quarterly basis or as deemed necessary to Procurement Department for action.



For the purpose of centralized control of materials, approval by the Department – in – Charge will be required as follows, for example:

<u>Department-in -Charge</u>	<u>Material/Service Description</u>
General Services	Includes Office Vehicle, Catering, House Rental, Maintenance, Furniture, Book & Publication and Stationary. Operation Vehicle, Fuel, Air Conditioner.
Information Technology	Computer, Photocopier, Telephone, Fax Machine, Radio and Software, Overhead Projector.
Human Resource	Consultant, Labor, Direct Hires.

#### **4.3 MR / SR ISSUE IN ADVANCE**

Except for emergency requirement, all materials, equipment and service requisitions should be planned in advance with a four to six month lead-time in order to follow a normal bid evaluation and purchasing process. Some daily-required materials like casing, bits, wellhead, mud and other consumables, will be encouraged to be requisitioned in bulk, reducing cost both for material and administration.

#### **4.4 MR PLANNING**

User Departments shall work out detailed material requisition plan each year. The material requisition plan shall be presented to COMPANY management for approval according to LOA. This is to establish the best material stock to meet the User Departments needs. This timing may be revised to suit the needs and planning of the operations.

#### **4.6 MR /SR RECEIVING**

The Manager of Procurement Department will be responsible to receive, register and assign all Material/Service requisitions. The material requisition will be forwarded to the Section Head of Purchasing for





action. Service requisitions shall be forwarded to the Section Head of Contracts for action. All requisitions shall be logged, with a unique number for the purpose of tracking through Procurement and ultimately to the User Department.

#### **4.7 MR / SR FORMALITY**

A Material/Service requisition prepared by the User Department will include Budget Code, approved AFE Number and proper account coding. The User Department is responsible to ensure that such information is present and accurate.

### **5.0 PURCHASING METHOD AND AUTHORITY**

#### **5.1 SCOPE OF WORK**

- 5.1.1 Procurement Department will be responsible for receiving Material or Service Requisitions, and in consultation with the User Department, preparing inquiry and tender documents, evaluating quotations or bids, commercial terms, preparing Tender Committee approval documents, issuing Purchase Orders or the result of evaluation of informal bids, coordinating quality control and inspection, expediting delivery and mobilization in international logistic, monitoring and analyzing material receiving, transfer, and inventory through the Material Management System.

#### **5.2 PURCHASING METHOD AGAINST EXPENDITURE LEVELS**

- 5.2.1 For the purchase and services not exceeding US \$100,000, the procurement method is subject to or governed by the terms of Single Source; For the purchase and services not exceeding US \$500,000, the procurement method is subject to or governed by the terms of Inquiry purchase ; For the purchase and service orders exceeding US \$500,000, and not exceeding US \$2,000,000, the procurement method is subject to or governed by the terms of Limited Tendering bidding; For the purchase and service orders exceeding US \$2,000,000, the procurement method is subject to or governed by the terms of Public Tendering bidding.
- 5.2.2 Competitive sealed bids will be solicited for all material and service requirements where the anticipated cost exceeds the limits set out below:

- (a) Material and/or Equipment supply where the anticipated cost exceeds US \$500,000 total requirement.
- (b) Miscellaneous Service Contracts for operations maintenance services where the anticipated costs exceed US\$500,000 per job or extend over a six (6) month time period.
- (c) Except in special circumstances, such as bids could not arrive by post and have to use e-mail, etc., competitive sealed bids will not be solicited

5.2.3 Written and duly signed competitive quotations/bids must be received for any material and/or service requirement.

5.2.4 Low value purchase, less than US\$500,000 spot check price and rotate opportunity to quote.

5.2.5 Consultants, Contractors and Agents who are required to purchase materials and services on behalf of the COMPANY will be required to follow the same procurement procedures.

5.2.6 Purchase Orders and Contracts may only be issued and signed by authorized personnel or their delegate whom has been authorized by the LOA of COMPANY.

### **5.3 PURCHASE ORDERS**

5.3.1 Purchase Orders shall apply to all the purchasing activities for and by COMPANY, for the acquisition of materials and or services.

5.3.1 Only authorized personnel can issue Purchase Orders according to the LOA.

5.3.2 The Procurement Department shall register all Purchase Orders in the PO register for ease of tracking.

### **5.4 SERVICE CONTRACTS**



5.4.1 Service Contracts apply to all the services provided by a contractor, supplier, consultant, including, but not limited to drilling, oil testing, production testing, seismic data acquisition, data processing and interpretation, transportation, house rental, consultants and any other supporting operations or services, etc.

5.4.2 Service contracts should be awarded according to the procurement procedures and signed according to the LOA.

5.4.3 All contracts shall be vetted by the Legal Department/Legal Advisor to safeguard the legal aspect and agreed to by the User Department.

5.4.4 All contracts will be registered and assigned a unique contract number by the Procurement Department. The contract number shall be indicated in all the related documents including invoices.

## **5.5 TERM PURCHASE ORDERS**

5.5.1 In consultation with the User Departments, the term of the Purchase Orders, are arranged by the Procurement Department for procurement of equipment, materials, and/or supplies that are ordered frequently. This is also known as a Price Agreement (PA).

5.5.2 Term Purchase Orders will be effective for a specific time period unless it is in the best interest of COMPANY to extend or reduce the period. Such extensions or reductions will be subject to approval assigned in the LOA.

## **5.6 PURCHASE AND SERVICE ORDER APPROVAL AUTHORITY**

5.6.1 Purchasing and service approval authority is derived from duly approved material /service requisitions, and is subject to Bid Evaluation approval authority or other approvals authorized according to LOA.

5.6.2 For the purchase and service orders exceeding US \$500,000, Tender Committee approval is required.

## **5.7 PURCHASE AND SERVICE ORDER SIGNING AUTHORITY**



- 5.7.1 Purchase/Service Order signing authority is restricted to the AA according to LOA.

## **5.8 CONTRACT SIGNING AUTHORITY**

- 5.8.1 Contract signing authority is conveyed from duly approved service requisition and is subject to competitive bidding procedures and AA delegated by LOA.

- 5.8.2 Contract signing authority is limited to the AA according to LOA.

## **6.0 TENDER PROCEDURE FLOW**

### **6.1 PURPOSE**

- 6.1.1 To describe the normal practice to be followed when the purchase of materials or services is subject to or governed by the terms and conditions of a written contract or agreement.

### **6.2 TENDER PROCEDURE FLOW**

- 6.2.1 Procurement Department shall receive Material Requisitions (MR) and Service Requisitions (SR) from User Department with proper approvals according to the LOA.
- 6.2.2 The Tender Working Team will be organized according to Tender Committee Working Procedures.
- 6.2.3 The Tender Working Team will draft the contract strategy, which shall be reviewed by User Department Manager and Procurement Department Manager, endorsed by President. This signed approved strategy will then be presented to the Tender Committee for final review and approval.
- 6.2.4 The Tender Working Team shall prepare the Tender Documents and have them reviewed by Legal Department/Legal Advisor, User Department, Procurement Department, Finance and Planning Department and HSE Department (if necessary).





- 6.2.5 The President will seek input for adding Bidders to the short list approved by the Tender Committee in cases where the estimated cost is in excess of US \$1,000,000 for material or US \$1,500,000 for service.
- 6.2.6 The Secretary of Tender Committee will then formally issue the tender as per approved short list and schedule. Tender invitation to bidders shall be made at least 30 days before the closing date or otherwise decided by tender working team.
- 6.2.7 In consultation with the User Department, the Secretary of Tender Committee or his/her Designee will clarify bidders inquiries.
- 6.2.8 The Secretary of Tender Committee, or his Designee will receive bidding documents.
- 6.2.9 Tender Working Team will open bids, but in no case shall bids be opened without three or more representatives being present. Bids will not be opened prior to closing time.
- 6.2.10 Tender will be evaluated in a two layer system, i.e. technical evaluation and the commercial evaluation according to Tender Committee Working Procedure. “NOTE THE COMMERCIAL PORTION OF ANY TENDER OR BID SHALL NOT BE OPENED UNTIL THE TECHNICAL EVALUATION IS COMPLETED AND SIGNED OFF BY ALL USER DEPARTMENT MANAGER (S),”AND THE PRESIDENT ACCORDING TO LOA AND TENDER COMMITTEE WORKING PROCEDURES.
- 6.2.11 A joint recommendation approved and signed by all User Departments if required will be prepared and presented to Tender Committee.
- 6.2.12 The Tender Working Team will respond to all queries or questions on clarifications requested by the Tender Committee. All major exceptions proposed by the bidder will not be taken into consideration unless approved by Tender Committee

- 6.2.13 The Tender Committee will approve or comment on the recommendation.
- 6.2.14 Once all questions have been answered and approvals given, the Secretary will then prepare the letter of approval, signed by President, according to Tender Committee Working Procedure.
- 6.2.15 Letter of Award will be prepared by the Secretary of Tender Committee, reviewed by Legal Department/Legal Advisor and signed by the President or other delegate according to LOA after receiving approval.
- 6.2.16 If performance Bank Guarantee is applicable, the successful bidder shall submit the required Bank Guarantee within 30 days after issuing date of Letter of Award or signature of contract. The original Bank Guarantee will be submitted and kept by Finance Department.
- 6.2.17 The Contract will be signed within one month from the date of Letter of Award and by the President or other delegate according to LOA. In case the contract value is more than US\$4,000,000 the approval from Board of Directors is required.
- 6.2.18 The original contract will be kept in Procurement Department for safe keeping, and one more copy retained in procurement. Two copies will be distributed to User Department, one copy to Finance/Planning Department and any other copy will be available upon the approval of Procurement Manager for department or person who requires a copy to perform his/her duties related to the contract. Priced copies of purchase orders and contracts will be supplied to those departments or persons who require them for contract management.

## **7.0 PURCHASE AND SERVICE ORDER FLOW**

### **7.1 PURPOSE**

- 7.1.1 To describe the normal practice to be followed when the purchase of materials or services is subject to or governed by the terms and conditions of Purchase/Service Order.



## 7.2 PURCHASE AND SERVICE ORDER FLOW

- 7.2.1 Material Requisitions (MR) and Service Requisitions (SR) shall be received by Procurement Manager for proper approvals according to LOA.
- 7.2.2 The Section Head of Purchasing will register and assign Material requisition to Buyers.
- 7.2.3 The Buyer will issue at least 3 inquiries to the vendors from the domestic or international market. EXAMPLE: Far East, Middle East, Europe, and North America. The inquiry shall state the detailed material specification and requirements along with COMPANY Standard terms and conditions. The buyer will at all times source the materials or services from at least three of the market locations or companies listed above. Any deviation from this will require the Procurement Department Manager's written approval in advance.
- 7.2.4 The buyer shall state the complete information in its inquiries including, but not limited to, specification, quantity, delivery and destination, time for submission of quotation etc. No one shall disclose COMPANY estimated cost to the supplier and the supplier's competitor in any circumstances.
- 7.2.5 The buyer shall receive the qualified quotations for the inquiry. After the technical confirmation by User Department, the buyer will then prepare a commercial evaluation to the Management or TC for approval as per the requirement of LOA. The evaluation will be based on the ~~DDP-xxx;~~  
~~DDP-xxx-Warehouse~~, CIF ~~Port-xxxxxxx~~ Hairatan Port of Entry only.
- 7.2.6 A material Requisition shall not be purposely split in an attempt to circumvent the requirement for competitive bidding on LOA Manual on the need to obtain Manager, Vice President, President approval.
- 7.2.7 The award of the Purchase /Service Order shall be based on the Bid Evaluation and approved according to LOA. The Bid Evaluation Form shall be supported by MR/SR, inquiries, quotations and prepared by the

Buyer, approved by Procurement Department Manager or other AA as per LOA.

**7.2.8** The Purchase Order (PO) shall only be signed by President as per LOA.

**7.2.9** The original Purchase Order (PO) will be kept in Procurement Department and copies shall be distributed to Logistics, User Department, Finance Department, Warehouse, and any other department or person requiring the information.

**7.2.10** Buyer may fill out a Payment Requisition (PR) duly verified by Procurement manager and approved by Line Manager or President as per LOA and submit it to the Finance Department for action. The Payment Requisition (PR) shall be registered in the Accounting Management System and the copy shall be retained in the Procurement Department. The Payment Term refers to the Payment Policy hereinafter.

**7.2.11** For the local purchase, the Payment requisition (PR) shall be attached to the vendor's original commercial invoices, with the tax stamp affixed to the invoice prior to requesting payment. The buyer and Procurement Department Manager must sign all payment requests which should be duly approved by AA as per LOA prior to submission to Finance Department for payment.

**7.2.12** The Payment Requisition (PR) shall attach the copies of Purchase Order (PO), Material Requisition (MR), Bill of Lading/Airway Bill, and Packing List. The commercial invoice or pro-forma invoice sent by courier or fax is needed for payment in advance.

## **8.0 TENDER AND EVALUATION METHODOLOGY**

### **8.1 GENERAL**

**8.1.1** Upon selection of the supplier of material and/or service through the sealed bid, price negotiation, written quotation, verbal quotation, rate schedule, etc., the Procurement Department is responsible for ensuring that the contractual agreement is properly documented and authorized. And also that the following is included in the Purchase Order (PO): all



pertinent cost, specifications, inspections, testing, services, technical, routing, packaging, insurance, warranty information, payment terms, promised delivery and delivery time constraint data.

- 8.1.2** The confidentiality of the information provided above must be strictly observed and not used for personal gain and/or divulged to any third parties. Breach of or failure to comply and follow this guideline will be grounds for immediate dismissal from the employ of COMPANY or punishment.

## **8.2 TC WORKING PROCEDURES**

As per Tender Committee Working Procedures in the separate document.

## **9.0 PAYMENT POLICY**

### **9.1 PURPOSE**

- 9.1.1 To describe practices and procedures to be followed to provide protection of COMPANY's interests in cases where suppliers of services or materials fail to perform.

### **9.2 PURCHASE ORDER**

- 9.2.1 Payment to suppliers will be made within thirty (30) days after receipt of vendor's undisputed invoice and shipping documents, or Letter of Credit as agreed in the Purchase Order or Contract.
- 9.2.2 In any case, 100 percent payment in advance will not be allowed unless proper approval has been obtained. If the supplier does not accept net thirty (30) days payment as described in Article 9.2.1., COMPANY can accept payment in several installments, i.e. at placing Purchase Order, at presentation of original shipping documents and/or thirty (30) days presentation of shipping documents.

### **9.3 SERVICE CONTRACT BONDS**

- 9.3.1 The Bank Guarantees and/or Parent Company Guarantee may apply to COMPANY service contracts. Unless otherwise approved by Tender Committee, the Bank Guarantee will not be waived or reduced.

#### **9.4 BID BOND**

- 9.4.1 This is usually 2-5% of contract price and is provided by a bidder on a project and it is payable to COMPANY, should the successful bidder not accept the contract award.

#### **9.5 PERFORMANCE BANK GUARANTEE**

- 9.5.1 The performance bank guarantee is binding the contractor to complete the contract. The performance bank guarantee will be five to ten (5-10) percent of the contract value and be valid for sixty (60) days after the contract has expired. If the contractor is unable to perform its obligation against the contract, or major defects are found in the completed work the performance bank guarantee will be paid to COMPANY unconditionally.

### **10.0 TAX AND DUTY INSTRUCTIONS**

#### **10.1 GENERAL**

- 10.1.1 All taxes are charged on all material purchases and service contracts except where specifically exempt, or a tax exemption can be obtained.

- 10.1.2 The Purchase Order must indicate any item, which are exempt.

- 10.1.3 If unsure of the tax status on a specific item, on a Purchase Order, contact the Finance/Planning Manager for assistance and clarification.

#### **10.2 TAX**

- 10.2.1 According to CONTRACT, the COMPANY will be permitted and shall be exempted from all customs duties with respect to the importation of certain listed machinery, equipment, material, vehicles, supplies and



consumable or movable property which is a piece of capital equipment and/or necessary for Hydrocarbons Operations .

10.2.2 All goods and services purchased in ~~XXXXXXXX~~ Afghanistan will be subject to ~~XXXXXX~~ Taxes Laws of ~~XXXXXXXX~~ Afghanistan, unless exempted by CONTRACT. The COMPANY will not pay the VAT but instead of issuing the VAT certificate for contractor or supplier to refund from the government according to CONTRACT

10.2.3 Material re-exported from ~~XXXXXXXX~~ Afghanistan may be exempt from tax. However, all customs duty exemption certificates shall be kept by Logistic Section, Procurement Department, for this purpose.

10.2.4 Tax policy and procedure questions regarding the import and/or export of materials should be directed to the Finance/Planning Department Manager.

10.2.5 All contractors shall be responsible for their own taxes, including but not limited to ~~XXXXXXXX~~ Afghanistan income taxes, sales taxes, etc. The COMPANY will only assist contractors for the exemption of the customs duties.

## **11.0 EXPEDITING**

### **11.1 PURPOSE**

11.1.1 The expeditor is a delegated responsibility from the Procurement Department. Expeditor or Logistic Supervisor is responsible of supervising and follow up the custom clearance and transportation of materials from and to the site. These missions are performed by agents through a contract with specified obligations and price lists.

### **11.2 RESPONSIBILITIES**

11.2.1 Expediter is responsible of seeking exemption and other necessary governmental approvals for all the imported and exported materials and submits the relevant documents to the agent.

11.2.2 Expediter will follow up the custom clearance process to avoid the occurrence of any delay and to ensure the process duration is within the duration agreed upon and stated in the contract.

11.2.3 Expediter is responsible of measuring and weighing the consignments to specify the load capacity of the trucks needed for inland transportation to the site.

11.2.4 Full loads will be utilized at all times when and wherever possible. This will include the holding of some items whenever conditions and schedules will allow.

### **11.3 CUSTOMS CLEARANCE (IMPORT AND EXPORT)**

The Logistic Section/Procurement Department will be responsible for the custom clearance together with the custom clearance agent for the importation of the equipments, materials, or personal effects into XXXXXXXX (and also with the export arrangements for any of the foregoing) and for regular maintenance items and/ or emergency services.

- 11.3.1 For importation, the needed documents are
- a. One Original of commercial invoice.
  - b. One original of Bill of Lading or Airway Bill.
  - c. One original of packing list
  - d. One original of certificate of Origin.
  - e. Three copies of the purchase order.

These documents will be prepared by Purchasing Section/Procurement Department in sufficient lead – time (preferably 72 hours).

- 11.3.2 For exportation, the needed documents are:
- (a) Two originals of commercial invoice {For custom purposes only}
  - (b) Two originals of packing lists

These documents will be prepared by the user end in the cases of dispatching samples for testing and analysis, maintenance, warranty and others.



## **12.0 INSPECTION**

### **12.1 PURPOSE**

12.1.1 Inspection is performed preferably at the vendor's manufacturing facilities and alternatively at the storage or marshalling location prior to shipment, or after it reaches the COMPANY operation site in order to ensure that the material and equipment is of the same design, dimensions, material and quality as specified and conforms to minimum requirements of the COMPANY's purchase order or contract. Procurement Department will be responsible for, arranging and assisting the User Department with inspection arrangements.

### **12.2 USER/PROCUREMENT DEPARTMENT RESPONSIBILITIES**

12.2.1 User Department, via Material Requisition, is responsible for determining any specific items that will require inspection.

12.2.2 Procurement Department will indicate on the Purchase Order that the material and/or equipment are subject to shipment, and the scope of inspection.

## **13.0 RECEIVING MATERIAL**

### **13.1 PURPOSE**

13.1.1 To outline the practices to be followed when receiving materials and services. Warehouse will follow this procedure.

### **13.2 GENERAL**

13.2.1 The following general instructions apply for all receiving regardless of the type of commitment document (purchase order, contract, etc.)

### **13.3 RECEIVING**

13.3.1 The person who receives goods or services from a supplier is responsible to ensure that:

- a) Quantities and description of services or materials received, and all exceptions are properly recorded on the packing slip, time sheets, waybill and or material receiving report. The purchase order number shall be recorded on all documents.
- b) A receiving exception report (over short damaged report) is prepared for all shipments received that are not as ordered, or that are over, short, or damaged.
- c) Appropriate copies of the above documents are sent to Accounts Payable who will attach to the supplier's invoice, they may then forward to User Department and/ or Procurement Department for approval, or pay invoice directly in accordance with the Financial Procedure.

## **14.0 MATERIAL TRANSFERS AND RETURNS**

### **14.1 PURPOSE**

14.1.1 To control and record the movement or transfer of materials, equipment or services controlled or owned by COMPANY or in COMPANY's custody through the material management system.

### **14.2 SCOPE**

14.2.1 The material transfer form is used to accomplish the above purpose and is to be completed when:

- a) Materials are moved from one cost center, AFE, or inventory location to another.
- b) Surplus materials are returned to suppliers for credit or in.
- c) Materials are lost or destroyed.
- d) Materials are sold to outsiders.
- e) Materials are sent to outside suppliers or contractors for repair and will be away more than 15 days or where otherwise necessary for control purposes.



- f) Materials are returned from repairing suppliers or contractors as in 14.2.1 above.
- g) Services are performed or supplied by COMPANY to or for contractors and are chargeable to the contractor or other third party.

### **14.3 RESPONSIBILITIES**

14.3.1 Complete and register the Materials Transfer Form in material management system before the material moves or services are supplied.

14.3.2 Send the Materials Transfer Form to Accounting in Field Office.

14.3.3 Send a copy of Material Transfer Form to receiving Unit for signature.

## **15.0 ETHICAL PRACTISES STATEMENT**

### **15.1 PURPOSE**

15.1.1 The purpose of this policy is to provide guidance on ethical practices when an employee, consultant, contractor, or agent is engaged in a supplier – related activity.

### **15.2 GENERAL**

15.2.1 It is the responsibility of all employees to maintain the good name and reputation of the COMPANY and its partners and to consistently exercise good judgment in the interest of COMPANY. The COMPANY and reputation for honest, forthright treatment of suppliers is an indispensable asset.

15.2.2 In personal contacts with suppliers, all employees represent COMPANY and their actions and decisions on behalf of COMPANY, must be impartial and objective in the performance of their work.

15.2.3 Employees must maintain an impeccable standard of integrity in all transactions and must not allow themselves to be put into a position where their judgment can be influenced or be seen to be influenced.

15.2.4 No employee shall use their authority of office or position for personal gain, or other advantages. In any business transaction, the employees must not allow themselves, to be put into a position, which might affect or be seen by others as possibly affecting the employee's judgment or impartiality.

15.2.5 No employee shall seek or accept gifts other than items of small intrinsic value that is not normally saleable and is designed primarily for advertising and represents cordial relations only.

15.2.6 No employee shall seek or accept any payments, loans or services from any organization, company, or person doing or seeking to do business with COMPANY.

15.2.7 Any personal interest which may impinge or might reasonably be deemed by others to impinge on an employee's impartiality must be declared to COMPANY in writing. This shall be ground for the company to prohibit the employees from taking part in certain purchases of products, goods or services as well in ITB for goods or services.

15.2.8 No employee shall use or cause to be used, COMPANY's name or the employee's title or position within COMPANY to obtain any benefits for any other affiliated or unaffiliated company or organization without proper management approval.

15.2.9 The confidentiality of information received in the course of the employee's duties must be strictly observed at all times and shall not be released to any other company, person, or organization and shall not be used for personal gain or himself or others.

## **16.0 EMERGENCY PROCUREMENT**

### **16.1 APPLICABILITY**

16.1.1 From time to time, local management may be required to purchase materials or services for the preservation of life, for protection of the environment, or to prevent destruction of property. The emergency



purchase materials or services should not exceeding US \$500,000, and such occasions are to last no longer than 48 hours without the written approval of the President.

## **16.2 PROCEDURES**

16.2.1 When an emergency situation occurs, the onsite manager must first take action to preserve life, protect the environment, or prevent destruction of property. As soon as is reasonably practicable, the onsite manager must notify COMPANY of the nature of the emergency and the actions taken.

16.2.2 Procurement of materials or services under emergency circumstances is presumed prudent and the policies in this manual are waived temporarily to the extent necessary to contain the emergency for up to 48 hours.

16.2.3 Upon notice of the emergency, COMPANY will immediately activate emergency procurement procedures. These may include previously purchased services (e.g., well control, fire fighting) or services from affiliates. If the emergency is of longer than 48 hours duration, local management emergency procurement authority is superseded by the COMPANY procurement authority. After procurement, the User Department should submit purchase report to LOA relate personnel.

**EXHIBIT D**

**FINANCIAL GUARANTEE FOR  
MINIMUM EXPLORATION PROGRAMME**

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**EXHIBIT D**

**FINANCIAL GUARANTEE**

Ministry of Mines of the Islamic Republic of Afghanistan  
Kabul  
Islamic Republic of Afghanistan

Gentlemen:

Re: Our Irrevocable Letter of Guarantee No. \_\_\_\_\_

In compliance with the request of CNPCI Watan Oil and Gas Afghanistan Ltd. (the "Contractor"), we, (Name of bank), issue this unconditional irrevocable letter of guarantee in your favour for a sum not exceeding \_\_\_\_\_ U.S. Dollars (US\$ \_\_\_\_\_), which represents the total estimated expenditures for the Minimum Exploration Programme during [the Initial Exploration Period] [the First Extension Period] [the Second Extension Period], as set forth in Part I of Exhibit H of the Exploration and Production Sharing Contract (the "Contract"), dated December 26, 2011, between the Contractor and the Ministry of Mines of the Government of the Islamic Republic of Afghanistan (the "Ministry"), relating to Hydrocarbons Operations in Afghanistan, to guarantee the Contractor's faithful performance of such Minimum Exploration Programme. The said sum of \_\_\_\_\_ U.S. Dollars (US\$ \_\_\_\_\_) shall be reduced as of the end of each Month in [the Initial Exploration Period] [the First Extension Period] [the Second Extension Period] by the amount determined in accordance with Section 8.2 of the Contract, as such amount is evidenced by a signed certificate from the Ministry.

The terms and conditions of this Letter of Guarantee are as follows:

1. Capitalized terms used herein and not otherwise defined shall have the meanings as set forth in the Contract.
2. The said amount, or any part thereof, shall be paid to the Ministry upon our receipt of your demand by way of a written statement that the amount claimed is duly payable under the Contract.
3. We hereby waive diligence, presentment, demand for payment, protest, any requirement that the Ministry exhaust any right or power or take any action against the Contractor, all notices (whether of non-payment by the Contractor, dishonour, protest or otherwise) and all demands whatsoever. Our obligations hereunder are continuing, absolute and unconditional, and will not be in any way affected by giving of time or any forbearance by the Ministry, the waiver or consent by the Ministry with respect to any provision of the Contract, and irrespective of the validity, regularity, enforceability or value of the

Contract, or by any other circumstances which might otherwise constitute a legal or equitable discharge or defence of a surety or guarantor, all of which are hereby expressly waived.

4. Our obligations hereunder shall be paid in U.S. Dollars to the bank account designated by the Ministry, free and clear of and without reduction by reason of any and all present and future taxes, levies, imposts, deductions, assessments, charges or withholdings whatsoever levied, assessed, imposed or collected with respect thereto by the government of [name of jurisdiction of issuing bank] or any political sub-division or taxing authority thereof or therein. We shall bear and pay any and all fees and expenses in relation to or in connection with this Letter of Guarantee.
5. In order to give effect to this Letter of Guarantee, we hereby declare that the Ministry shall be at liberty to act as though we were the principal debtor, and we hereby waive all and any of the rights as surety which may at any time be inconsistent with any of the above provisions.
6. Any claim or demand under this Letter of Guarantee shall be presented to us on or before the expiration of the date of the validity of this Letter of Guarantee.
7. This Letter of Guarantee shall be effective immediately [enter date that is ninety (90) days after the last day of the Initial Exploration Period, the First Extension Period or the Second Extension Period, as applicable], and thereafter automatically without any formality become null and void for all its effects and this Letter of Guarantee shall be returned to us immediately.

Yours very truly,

---

(Name of Bank)



**EXHIBIT E**

**GENERAL PERFORMANCE GUARANTEE**



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**EXHIBIT E**

**GENERAL PERFORMANCE GUARANTEE**

Reference is made to the Exploration and Production Sharing Contract (the "Contract"), dated December 26, 2011, entered into between CNPCI Watan Oil and Gas Afghanistan Ltd. (the "Contractor") and the Ministry of Mines of the Government of the Islamic Republic of Afghanistan (the "Ministry").

With regard to the obligations assumed by the Contractor under the Contract or that may be imposed upon the Contractor under or in connection with the Contract, we, CNPC International Ltd. (the "Guarantor"), a corporation organized under the laws of Cayman Islands, agree as follows:

1. Capitalized terms used herein and not otherwise defined shall have the meanings as set forth in the Contract.
2. The Guarantor hereby expressly represents and warrants to the Ministry that (i) it is duly organized, validly existing and in good standing order under the laws of its jurisdiction of organization, (ii) it has all requisite corporate power and authority to execute, deliver and perform this Guarantee, (iii) the execution, delivery and performance of this Guarantee have been duly authorised by all necessary corporate action, (iv) this Guarantee constitutes the legal, valid and binding obligation of the Guarantor, enforceable against the Guarantor in accordance with its terms, (v) no governmental approvals are required in connection with the execution, delivery and performance of this Guarantee, except as has been obtained and is in force on this day of signature as set forth below, and (vi) execution, delivery and performance of this Guarantee by the Guarantor will not violate any provision of any existing law or regulation to which the Guarantor is subject or any provision of the Guarantor's constitutive documents or of any material agreements to which it may be a party.
3. The Guarantor hereby unconditionally and irrevocably guarantees to the Ministry, as a primary obligor, the due and punctual performance of all the obligations of the Contractor under or in connection with the Contract.
4. This Guarantee is irrevocable and unconditional and shall remain in full force and effect until all obligations of the Contractor under or in connection with the Contract are fully and irrevocably satisfied and discharged, notwithstanding (a) any amendment or termination of the Contract, (b) any extension of time, or (c) any delay or failure of the Government in pursuing any remedies against the Contractor.
5. The Ministry shall have no obligation to pursue any remedy or take any action against or in respect of the Contractor or any other Guarantor or surety prior to enforcing its right directly against the Guarantor. In addition, the Guarantor may not claim that the Ministry



could have avoided or mitigated, in any manner or through any action, the damages resulting from a default of the Contractor under the Contract or resort to any other guarantee held at any time in its favour, before proceeding against the Guarantor in connection with its obligations under this Guarantee. The Guarantor's obligations under this Guarantee shall be independent and absolute, and the Guarantor shall have no right to set-off or counterclaim with respect to any other claims it may have against the Government or any other Person.

6. All of the obligations of the Guarantor set forth herein shall bind the Guarantor and its successors. The Guarantor may not assign or delegate its duties hereunder without the prior written consent of the Ministry, and any purported assignment or delegation without such consent shall be null and void. The Guarantor confirms that this Guarantee shall remain in effect with respect to any assignee of the Contractor that is an Affiliated Entity of the Contractor. Upon any such assignment the assignee shall be considered the Contractor for all purposes hereunder to the extent of the assigned obligations. The Guarantor also confirms that any assignee of the Ministry under the Contract may exercise all rights and remedies of the Ministry under this Guarantee. No other person or entity shall be a beneficiary of this Guarantee or have or acquire any rights by reason of this Guarantee.
7. This Guarantee shall be governed and construed in accordance with the laws of Afghanistan, as amended or replaced and in effect from time to time.
8. Any failure of the Ministry to exercise any right, in whole or in part, hereunder shall not be construed as a waiver of the right to exercise the same or any other right.
9. No amendment or modification of this Guarantee shall be effective unless in writing and signed by both the Guarantor and the Ministry.
10. Any dispute concerning the legal interpretation hereunder shall be settled in accordance with Article XXIV of the Contract.
11. The Guarantor shall pay upon demand and presentation of invoices all reasonable and actual costs and expenses incurred by the Ministry in connection with the successful enforcement of this Guarantee, including, without limitation, reasonable fees and expenses of counsel.
12. All notices, demands, instructions, waivers, consents or other communications hereunder shall be in writing in the English language and deemed to have been properly effective upon receipt, and shall be sent by personal delivery, courier, first class mail or fax to the following addresses:

GUARANTOR:       CNPC International Ltd.  
                      No. 6-1, Fuchengmen Beidajie, Xicheng District  
                      Beijing, China 100034  
                      Telephone +86 10 5855 1114  
                      Fax +86 10 5855 1110  
                      ATTN: Mr. BO Qiliang

MINISTRY: Ministry of Mines  
Pashtoonistan Watt  
Across from Ministry of Finance  
Kabul, Afghanistan  
Telephone +93 (0) 202 100 309  
ATTN: Director of Petroleum Authority

The Addresses and fax numbers by either Party for notices given pursuant to this Guarantee may be changed by means of written notice to the other Party at least 14 working days prior to effective date of such change.

13. This Guarantee shall be effective immediately.

IN WITNESS WHEREOF, the Guarantor has caused this Guarantee to be executed and the Ministry duly authorised the same, both parties represented by their respective duly authorised representatives on this day of \_\_\_\_\_.

CNPC INTERNATIONAL LTD.

By \_\_\_\_\_  
President

THE MINISTRY OF MINES OF THE  
GOVERNMENT OF THE ISLAMIC REPUBLIC  
OF AFGHANISTAN

By \_\_\_\_\_  
The Minister of Mines



**EXHIBIT F**

**LONG RANGE PLAN FOR  
THE TRAINING OF AFGHAN NATIONALS**

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WS

## EXHIBIT F

### LONG RANGE PLAN FOR THE TRAINING OF AFGHAN NATIONALS

#### **Introduction**

One of the fundamental principles of CNPCI is the development of local resources in the places where we work. This consists primarily of a national workforce and reliable supporting suppliers and service organizations. Our staffing philosophy has been developed over sixty-five years of oilfield operations, in established, emerging and new oil sectors throughout the world. CNPCI is committed to recruiting, training and developing nationals in all the countries in which we operate and committed to complying with local laws and regulations. Our objective is to have, within CNPCI, sufficient national personnel to completely staff all our operations in that country. To ensure key employees are continually developed, we offer engineers the opportunity of overseas assignments, which broaden their technical and experience horizons. Cultivation of international talents is a key part of our internationalization strategy. On June 1, 2006, the International Talents Training Project was launched in a aim to cultivate a group of international talents with excellent specializations, work ethics, language skills, and a profound understanding of management and international operation rules.

#### **Workforce Nationalization**

A competent national workforce at all levels of our local organizations is crucial in enabling us to perform at a world class level. Engineers, managers and technical staff are especially important, and significant resources are dedicated to recruiting, training and developing this population.

To ensure common, high standards of **recruiting**, we have a dedicated recruiting department that focuses on recruiting engineers and technicians from the best universities and institutions in Afghanistan. Our recruiters have the charter to hire sufficient national personnel to staff all our operations in a particular country, and such is the case in Afghanistan.

Once an individual is recruited, he/she should follow a structured **training** programme. CNPCI respects the personalities and interests of all employees and pays attentions to their career plans. Through the skills cultivation, selection and allocation mechanism, we aim to create a suitable development channel for every employee. Recruited employees follow a structured training programme comprised of about [70%] technical material and about [30%] management material. This split has been set to ensure that individuals are technically prepared for running any wellsite operation as well as prepared to eventually take management positions.



## **Development Plan, Career Paths, and Technical Training of Afghan Nationals**

Any training programme shall incorporate a mix of theoretical and practical training. Some of training courses we will provide are:

### **Health, Safety, and Environment:**

Field Introduction, Specific Location Induction, H<sub>2</sub>S Safety, Explosives Safety, Radiation Safety, Lifting & Stepping, Rig Safety, Language Training, Defensive Driving and Journey Management, First Aid, all tailored to the needs of the individual's development plan.

The above training will be mandatory training for all Afghan national and expatriate technical professionals to ensure safe operations in all hydrocarbons operations.

### **Technical Skills:**

Technical training is key to all hydrocarbons operations. All new hires in Afghanistan hired for technical positions will follow an intensive three-year technical training programme. A technician training system is occupied to train front-line teams and cultivate highly skilled staff. The training programmes for the different functions involved in hydrocarbons operations will include intensive classroom and on-the-job training with regular review and assessment.

### **Management:**

We focus on the enhancement of management and innovative capabilities. All field professional staff, irrespective of discipline, will participate in the following management skills seminars:

- Introduction to Exploration & Production Industry (2 weeks)
- Basic Management Tools (1 week)
- People Skills (1 week)
- Finance (1 week)

### **Logistics:**

In order to ensure success of this crucial role, we will focus on training logistics personnel in local Afghan procedures as well as the provision of industry logistics.

**Administration:**

Centrally administered training for personnel, financial and legal, professional and administrative staff, including computer training and language training.

**E-learning in CNPC:**

Our parent entity, China National Petroleum Corporation ("CNPC"), has developed CNPC E-learning College, which is a specialized remote training institution devoted to establishing a modern enterprise training system offering both classroom and online training. By leveraging the network training resources of CNPC and its subsidiaries, the college provides employees with an autonomic learning platform. About 20,000 person times of employees are expected to be trained through the E-learning College in [2009]. The CNPC E-learning website also provides a way for publics to learn more about petroleum.

**Mentoring**

CNPCI understands that to provide sustainable economic gains for Afghanistan, we must facilitate learning-by-doing for our Afghan personnel to progressively assume greater leadership roles and responsibility in hydrocarbons operations. CNPCI will pair senior project staff and junior project staff to develop on-the-job mentoring opportunities. This approach will allow senior staff to enter into a surge capacity on new sites and junior staff to step into more senior roles on existing sites.

**Ministerial Training Courses**

In addition to developing Afghan nationals for the private sector, a wide range of courses and programmes, covering all hydrocarbons operations, will be offered to ministerial staff. This will be in addition to the mentoring required during the development of the Work Programmes. Such courses could be in reservoir studies, evaluation, as well as modeling and production management.

**Nationalization Plan**

Position	Start Up	2013	2014
	AFG % of Total	AFG % of Total	AFG % of Total
Management	0%	10 %	20 %
Engineers & Professionals	20 %	30 %	40 %
Field Technicians	40 %	50 %	60 %

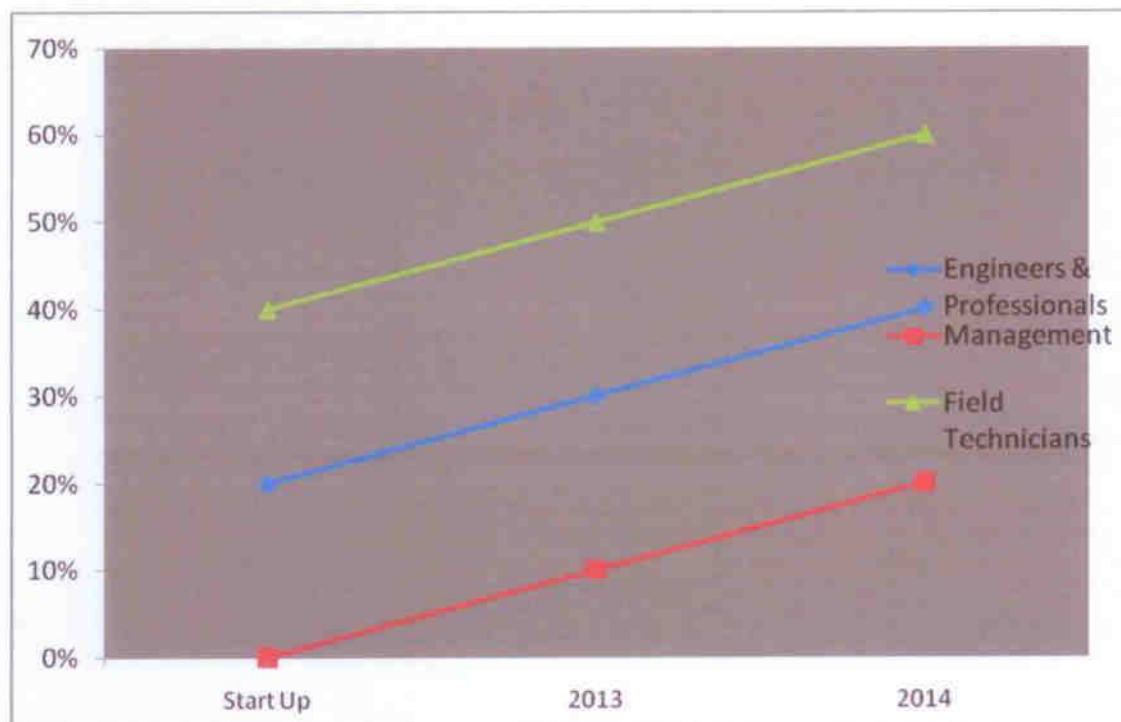


As seen in the table above, CNPCI is committed to developing Afghan national personnel to assume positions at ALL levels within the organization.

#### Key Technical and Management Positions

Development of Afghan nationals into key technical and management jobs is an operational priority. Several positions have been identified and targeted for Afghan national employees. These positions will be tracked accordingly. The CNPCI plan for key technical and management positions is illustrated in the following graph.

#### Nationalization by Key Positions



# Training plan of students abroad and officer and staff from 2012 to 2014

Personnel	Total	Training site	Content	Budget
<b>2012</b>				
Students abroad	2	China	Professional education	10000
Governor Officer	2	China	Management ,HSE, etc	12000
Management	5	Afghanistan	HSE ,Management ,E-language, etc	6000
Engineers & Professionals	10	Afghanistan	HSE , E-language, specialty knowledge specialty skill, etc	9000
technician	50	Afghanistan	Operation skill, HSE, E-language ,etc	13000
<b>2013</b>				
Students abroad	2	China	Professional education	10000
Governor Officer	2	China	Management ,HSE, etc	10000
Management	10	Afghanistan	HSE ,Management ,E-language ,etc	8000
Engineers & Professionals	20	Afghanistan	HSE , E-language, specialty knowledge specialty skill ,etc	12000
technician	100	Afghanistan	Operation skill, HSE, E-language ,etc	15000
<b>2014</b>				
Students abroad	2	China	Professional education	10000
Governor Officer	2	China	Management ,HSE, etc	10000
Management	15	Afghanistan	HSE ,Management ,E-language, etc	11000
Engineers &	20	Afghanistan	HSE , E-language,	14000



Professionals			specialty knowledge specialty skill, etc	
technician	150	Afghanistan	Operation skill, HSE, E-language ,etc	15000

In addition to the sourcing and hiring of experienced, qualified management and technical staff currently employed within the Ministry, additional hiring will be done at the university level. The recruiting of personnel must provide several candidates with the necessary levels of training, expertise and experience to develop into field managers. In the hydrocarbons operations disciplines there will be candidates working in Afghanistan and abroad who will be selected for development into a field management role during the first three years of the EPSC.

In the first three years, CNPCIW will arrange Students abroad, Governor Officers of mine ministry, managements, Engineers and technicians take part in training in china or in Afghanistan, in next five years, we will arrange an another long term training plan according to the development of AD project , there are the particular description in follow chart:

# AD PROJECT LONG TERM TRAINNING PLAN

标识号	任务名称	开始时间	完成时间	2012	2013	2014	2015	2016	2017	2018	2019
0	Training schedule planning	2012年07月03日	2019年09月30日								
1	Students abroad	2012年09月03日	2019年09月30日								
2	year2012 two students	2012年09月03日	2012年12月04日								
3	year2013 two students	2013年01月31日	2013年12月03日								
4	year2014 two students	2014年01月31日	2014年12月03日								
5	2nd, 5year	2016年02月02日	2019年09月30日								
6	Governor Officer	2012年07月03日	2019年09月30日								
7	year2012 two persons	2012年07月03日	2012年08月08日								
8	year2013 two persons	2013年07月03日	2013年09月25日								
9	year2014 two persons	2014年07月02日	2014年09月30日								
10	2nd, 5year	2016年02月02日	2019年09月30日								
11	Management	2012年10月08日	2019年09月30日								
12	year2012 5persons	2012年10月08日	2012年12月18日								
13	year2013 10persons	2013年04月02日	2013年05月26日								
14	year2014 15persons	2014年04月03日	2014年06月30日								
15	2nd, 5year	2016年02月02日	2019年09月30日								
16	Engineers & Professionals	2012年10月08日	2019年09月30日								
17	year2012 10persons	2012年10月08日	2012年12月18日								
18	year2013 20persons	2013年05月08日	2013年10月30日								
19	year2014 20persons	2014年05月08日	2014年10月30日								
20	2nd, 5year	2016年02月02日	2019年09月30日								
21	technician	2012年09月05日	2019年09月30日								
22	year2012 50persons	2012年09月05日	2012年12月18日								
23	year2013 100persons	2013年03月04日	2013年09月27日								
24	year2014 150persons	2014年03月05日	2014年10月30日								
25	2nd, 5year	2016年02月02日	2019年09月30日								
26											



项目: 项目TRAINING PLAN 1. app  
 日期: 2011年12月08日



**EXHIBIT G**  
**BIDDING FORM**

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**Exhibit IV: Bidding Form**

**AMU DARYA OIL TENDER OF 2011**

**BIDDING FORM**

Ministry of Mines of the Islamic Republic of Afghanistan  
Kabul  
Islamic Republic of Afghanistan

BIDDER: Consortium of CNPC International, Ltd. and Watan Oil and Gas, Ltd.

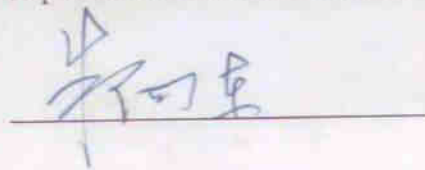
ROYALTY BID: Fifteen percent ( 15.000 %)

The undersigned, CNPC International, Ltd. and Watan Oil and Gas Ltd., hereby unconditionally commit that, if selected as the winning bidder in the above-referenced tender process, they will cause a company organized under the laws of the Islamic Republic of Afghanistan and wholly owned by them to enter into the Exploration and Production Sharing Contract (the "EPSC") in the final form distributed to the bidders in the above-referenced tender process, with the royalty referred to in Section 10.1 of the EPSC being the percentage indicated above. Unless such period is extended by the Ministry, the EPSC shall be executed no later than thirty (30) days after notification by the Ministry of award of the EPSC. The undersigned acknowledge that non-compliance with the obligation set forth above shall result in a drawing on the Bid Guarantee.

Zhu Xiangdong

Ahmad Rateb Popal

Representative of CNPC International, Ltd. Representative of Watan Oil and Gas Ltd.



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**EXHIBIT H**

**MINIMUM EXPLORATION PROGRAMME;**  
**MINIMUM PRODUCTION REQUIREMENTS FOR**  
**DESIGNATED FIELDS**

**EXHIBIT H****MINIMUM EXPLORATION PROGRAMME;****MINIMUM PRODUCTION REQUIREMENTS  
FOR DESIGNATED FIELDS****I. Minimum Exploration Programme**

The Contractor shall perform the following minimum Exploration Operations during the Exploration Phase:

	<b>Block</b>	<b>2D Seismic (km)</b>	<b>Wells</b>
<b>Initial Exploration Period</b>	<b>Kashkari</b>	100	3
	<b>Bazarkhami</b>	100	
	<b>Zamarudsay</b>	100	
<b>First Extension Period</b>	<b>Kashkari</b>	100	3
	<b>Bazarkhami</b>	100	
	<b>Zamarudsay</b>	100	
<b>Second Extension Period</b>	<b>Kashkari</b>	100	3
	<b>Bazarkhami</b>	100	
	<b>Zamarudsay</b>	100	

For purposes of the foregoing and for calculation of the amount of the Financial Guarantee required pursuant to Section 3.1(a), each kilometer of 2D seismic survey shall be deemed to have a value of US\$30,000; each square kilometer of 3D seismic survey shall be deemed equivalent to 3 kilometers of 2D seismic survey; and each Exploration Well shall be drilled to the Hauterivian horizon and shall be deemed to have a value of US\$2,000,000. The Contractor may drill the required Exploration Wells in any portion of the Contract Area outside of the Designated Fields. The Ministry may grant credit for Wells that do not reach target depth in accordance with Section 5.4(k). The amount of any seismic surveys undertaken or Exploration Wells drilled in excess of the required






minimum Exploration Operations for any given period shall be carried forward to the next period and shall be taken into account to satisfy the required minimum Exploration Operations and/or calculate the amount of the Financial Guarantee required for such subsequent period.

## II. Minimum Production Requirements for Designated Fields

The Contractor shall meet the minimum cumulative production requirements from each of the Designated Fields during the Years indicated under either Option 1 or Option 2 below. The Contractor shall elect either Option 1 or Option 2 in the manner prescribed by Section 6.4 of this Contract. Liquid Hydrocarbons produced during production testing shall not be counted toward satisfaction of the minimum cumulative production requirements.

### Option 1

Designated Field	Cumulative Production (thousand barrels of Liquid Hydrocarbons)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Kashkari Field	50	1400	3000	5000	7000
Angot Field	100	250	400	500	600
Aq Darya Field	0	0	500	1500	2700
Bazarkhami Field	0	0	0	100	200
Zamarudsay Field	0	0	0	300	1800

## Option 2

Designated Field	Cumulative Production (thousand barrels of Liquid Hydrocarbons)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Kashkari Field	0	1400	3000	5000	7000
Angot Field	100	250	400	500	600
Aq Darya Field	50	1050	2250	3500	4700
Bazarkhami Field	0	0	0	100	200
Zamarudsay Field	0	0	0	300	1800



**EXHIBIT I**

**LIST OF ITEMS TO BE IMPORTED**  
**FREE OF CUSTOMS DUTIES**

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## EXHIBIT---I-1

### LIST OF ITEMS TO BE IMPORTED FREE OF CUSTOMS DUTIES --for seismic survey/drilling &

#### construction

#### I. Material and equipments required for Seismic survey 地震作业设备材料

##### 1. Line clearing.

Equipment type	Description	Number of Units
Bulldozer	D8R up	12

##### 2. Topographical surveying for seismic crew.

Equipment type	Description	Number of Units
GPSRTK	dual frequency, TRIMBLE 5700	2+10
Software		
Computer		
Color plotter	HP5500 up	1
Color plotter	HP800 up	1

##### 3.Up-hole & Refraction survey equipment

There are at least two sets of uphole truck -mounted rigs with a drilling capability more than 150m for the seismic crew, and recording equipment as follows:

Equipment type	Manufacturer and description	Number of Units
R48 Portable recorder		2
Cable and geophones		4
Truck-mounted rig	WTZ-150 up	2
Water tank truck	DONGFENG 2102 (6 X 6 up truck)	2

#### 4.Source equipment, vibrators

Equipment type	Description	Number of Units
Vibrators	KZ-28	12
Electronics:	PELTON-III	2+13
DGPS	NOVAL OEM4	2+13
Monitoring system:		
Quality assurance equipment:		
Age of Vibrators:		

#### 5.Recording equipment



The recording instrument is required and the specifications shall be:

Recording instrument	Receiver Station	Number of Units
Type, make and age of proposed recording instrument	ARIES	2
Ages of all equipment		

Geophone and geophone string specifications shall be:

Geophones and geophone strings	Description	Number of Units
Minimum number of active and passive recording channels on line to ensure sufficient roll along capacity		
Geophone strings	SG-10	20000
Acquisition Unit	Ram (Remote Acquisition Module)	1500
Acquisition cross unit	LTU(Line Tap Unit)	40
Acquisition cross cable		60
Acquisition cable		1500
Battery	14AH	2600

Geophone tester	SMT-300	3
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Contractor shall provide complete testing equipment and repair facilities are available on site. Contractor shall provide a portable line tester to test spread equipment remote from the recording unit.

#### 6. Base camp equipment for seismic crew

Base camp, including descriptions of accommodation, sanitary facilities, catering and recreational facilities. A non permanent base camp is required. Company attaches great importance to proper accommodation and recreational facilities.

Equipment type	Description	Number of Units
Instrument trailer	BEIAO For instrument maintenance	2
Generator	CATERPILLAR 300kw up	3
Generator	CATERPILLAR 200kw up	3
Oil pump	Equipped with measure	2

#### 7. Medical equipment and facilities for the seismic crew

##### Clinic (if any) and medical supplies

Equipment type	Description	Number of Units
first aid bag	Standard	400

Ambulance	4x4 Land Cruiser or equivalent	2
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#### 8. Seismic Unit administration

Equipment type	Description	Number of Units
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#### 9. On-site processing

Area based processing unit, capable of processing data within short turn around time up to final migration, including all equipment necessary to conduct such processing:

Equipment type	Description	quantity
On site processing unit	Sun Blade 2500	1
Thermal plotter	V24	2
Tape Driver	IBM3592	4

#### 10. Communications

Contractor shall provide Inmarsat A or Inmarsat B or other satellite voice and data communication equipment on the Seismic Unit to guarantee 24 hours per day communication between the Area and Company's and Contractor's logistics and administrative bases. At all times Company's On-Site or other Representatives shall have access to the system and shall have the right to use the system.



Contractor shall provide long range (HF) radio communication equipment on the Seismic Unit to ensure communications between each individual unit, including water transport units, and the base camps and between units and individuals travelling outside the Area.

Contractor shall provide sufficient short range (VHF, UHF) radio communication equipment on the Seismic Unit to ensure reliable communications within the Area between individual units, including water transport units, and the base camps and within individual units.

Communications equipment (including status of licenses in the Area):

Equipment type	Description	Number of Units
Satellite phone	TT3060A or equivalent	8
Satellite vsat	With internet and phone	2
Radio	45w	160
Radio	5w	260

#### 11. Land transport

Contractor shall provide at least one basic ambulance on standby 24 hours per day in the base camp. Contractor shall provide land transport equipment for two Company On-Site Representatives (two separate 4WD jeeps or pickup trucks), and any land transport equipment not specifically mentioned above for crew separately:

Equipment type	Description	Number of Units
Engineering truck	DongFeng, 6 X 6 up truck	2
Vibrator service truck	DongFeng, 6 X 6 up truck	1
Transport vehicle	DongFeng, 6 X 6 up truck	12
Water tank truck	DongFeng, 6 X 6 up truck	6
Truck with crane	DongFeng, 6 X 6 up truck	3
Bus truck	DongFeng, 6 X 6 up truck(放线班 8 台, 营地 2 台)	10
Bus truck	DongFeng, 6 X 6 up truck (安保 10 台)	10
Oil tank truck	DongFeng, 3tons up (震源组、推土机各 1 台)	5
Oil tank truck	DongFeng, 5tons up	2
Oil tank truck	DongFeng, 10tons up (从油库运油至小队)	2
Crane	Ural, 25tons (25 吨吊车)	1
Low bed trailer	Ural, 50 tons (低板运输车)	2

#### 12. Air transport

Equipment type	Description	Number of Units
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Helicopter	40 persons(安保)	1
Helicopter	20 persons (安保)	1

There should be one helicopter available at any time, and another two helicopters reserved not include the one used for operation. If the operation in the hilly area 4 helicopters will be reserved, of which two for normal operation, one being maintained, the other one will be kept at main camp meet for emergency.

### 13. Other equipment (Operation by Dynamite)

#### Source equipment, explosives and shot hole drilling equipment

Explosives	Requirement	Number of Units
Type of explosives	Seismic-Used explosive, waterproof, PVC cover	50 tons
Exploding Velocity	6000m/s	
Country of origin	Iran or other country	
Type of detonators	Electric, with copper skin, its time delay firm on ms level	12500 caps
Explosives truck	DongFeng, 6×6 up	6
Shot hole drilling equipment as needed	Description	No. of units
Truck-mounted rig	DongFeng50, Using air and water	4
Water tank truck	DongFeng, 6×6 up	4
Portable Drilling Rigs	HY40, 30m up	30



Source firing equipment	Description	No. of units
firing equipment	ShotPro II, Remote control, transmit distance more than 10km.	2+8
Timing accuracy checker, type	Using instrument	2

## II. Equipments and equipments for Integrated Project on the drilling and oil field surface construction

钻井,地面总包项目设备材料

序号 No.	设备名称 Name	备注 Remarks
<b>1</b>	<b>钻井设备</b>	
	<b>Drilling Equipment</b>	
1.1	天车 Crown Block	
1.2	游车 Travelling Block	
1.3	大钩 Hook	
1.4	水龙头 Rotary Swivel	
1.5	井架 Derrick	
1.6	底座 Substructure	

1.7	绞车 Drawworks	
1.8	盘刹自动送钻装置 Disc Brake Autodriller Unit	
1.9	电磁涡流刹车 DWS50(水冷) Electromagnetic Eddy Current Brake DWS50(Water Cooling)	
1.10	液压盘刹系统 Hydraulic Disc Brake System	
1.11	绞车强冷装置 Forced Cooling Device for Drawworks	
1.12	转盘 Rotary Table	
1.13	司钻综合控制房 Integrated Driller's Console	
1.14	电动机 Electromotor	
1.15	电传动系统 Electro Drving System	
1.16	钻台偏房 Doghouse	
1.17	泥浆泵组 MUD Pump Unit	
1.18	井场配电系统 Wellsite Distributed System	
1.19	井口起吊装置 Wellhead Lift Device	

1.20	钻井仪表 Drilling Instrument	
1.21	载人绞车 Man-riding Winch	
1.22	气源净化系统 Air Source Purification System	
1.23	转盘独立驱动装置 Independent Drive Device for Rotary Table	
1.24	监控系统 Monitoring System	
1.25	顶驱 Top Drive	
1.26	柴油发电机组 (含房子) Diesel Generator Set (including house)	
1.27	辅助柴油发电机组 (含房子) Auxiliary Diesel Generator Set(including house) (including	
1.28	空气压缩机 Air Compressor	
1.29	固控罐及固控设备 Solid Control tank & Solid Control Equipment	
1.30	高压泥浆管汇 High Pressure Mud Manifold	
1.31	钻机推移装置 Driller Drifting Device	
1.32	钢木基础/管架/猫道 Steel & Wood Substructure/ Pipe Rack/ Cat Way	



1.33	油水罐 Oil & Water Tank	
1.34	营房及生活设施 Camp & Living Facilities	
2	试修井设备 Equipment for Well Test & Workover	
2.1	试修井机 Workover	
2.2	泥浆泵组 MUD Pump Unit	
2.3	固控罐及固控设备 Solid Control tank & Solid Control Equipment	
2.4	柴油机发电机组 Diesel Generator Set	
2.5	空气压缩机及气源房 Air Compressor & Air Source House	
2.6	柴油罐 Diesel Tank	
2.7	工业水罐 Industrial Water Tank	
2.8	柴油电焊机 Diesel Electric Welder	
2.9	钢木基础/管架/猫道 Steel & Wood Substructure/ Pipe Rack/ Cat Way	

2.10	营房及生活设施 Camp & Living Facilities		
3	钻井工具 Drilling & Well Testing Tools		
3.1	井控设备 Well Control Equipment		
3.1.1	环形防喷器 Annular Blowout Preventer		
3.1.2	双闸板防喷器 Double Ram Preventer		
3.1.3	单、双及剪切闸板防喷器 Single, Double & Shear Ram Preventer		
3.1.4	远程控制房 Remote Control Cabinet		
3.1.5	节流控制箱 Choke Control Cabinet		
3.1.6	节流管汇 Choke Manifold		
3.1.7	压井管汇 Kill Manifold		
3.1.8	四通 Spool		
3.1.9	内控管线 Control Lines		

3.1.10	放喷管线 Flow Line		
3.1.11	液气分离器 Liquid & Gas Separator (Poor Boy)		
3.1.12	气动试压台 Pneumatic Pressuer Testing Table		
3.1.13	燃烧筒 Combston Canister		
3.1.14	升高短节 Lifting Joint		
3.1.15	闸板总成 Rams Assembly		
3.1.16	压井管线 Kill Line		
3.1.17	套管头 Casing Head		
3.2	钻井工具 Drilling Tools		
3.2.1	钻铤 DC		
3.2.2	钻杆、加重钻杆 DP,HWD		
3.2.3	短钻杆 Short DP		



3.2.4	方钻杆 Kelly DP	
3.2.5	方补心 Kelly Bushing	
3.2.6	螺杆钻具 Screwdrill	
3.2.7	随钻减震器 Absorber While Drilling	
3.2.8	提升短接 Lifting Sub	
3.2.9	配合接头 Fitting Adapter	
3.2.10	配合接头 Fitting Adapter	
3.2.11	扶正器 Centralizer	
3.2.12	方钻杆上、下旋塞 Upper & Lower Kelly Cock	
3.2.13	回压凡尔 Back Pressuer Valve	
3.2.14	B 型大钳 B Type Tong	
3.2.15	气动卡瓦 Pneumatic Slips	
3.2.16	钻头盒 Bit Box	
3.2.17	钻铤卡瓦	

	DC Slips		
3.2.18	钻杆卡瓦 DP Slips		
3.2.19	油管卡瓦 Tubing Slips		
3.2.20	安全卡瓦 Safety Slips		
3.2.21	钻杆吊卡 DP Elevator		
3.2.22	钻铤吊卡 DC Elevator		
3.2.23	套管吊卡 Casing Elevator		
3.2.24	套管吊卡 Casing Elevator		
3.2.25	防喷盒 Saver		
3.2.26	刮泥器 Scraper		
3.2.27	通径规 Caliper		
3.2.28	循环接头 Recirculating Adapter		

3.2.29	吊环 Link		
3.2.30	套管扶正台 Casing Stabbing Table		
3.2.31	试压接头 Pressure Testing Adapter		
3.2.32	取芯工具 Coring Tools		
3.2.33	刮管器 Pipe Scraper		
3.2.34	斜向器 Whipstock		
3.3	钻头 Bit		
3.3.1	牙轮钻头 Cone Bit		
3.3.2	PDC 钻头 PDC Bit		
3.3.3	取芯钻头 Coring Bit		
3.4	打捞工具 Fishing Tools		
3.4.1	公锥 Pin Tap		



3.4.2	母锥 Box Tap	
3.4.3	卡瓦打捞筒 Overshot	
3.4.4	卡瓦打捞矛 Slips Trip Spear	
3.4.5	安全接头 Safety Joint	
3.4.6	可变弯接头 Adjustable Joint	
3.4.7	内钩捞绳器 Internal Hook	
3.4.8	外钩捞绳器 Outer Hook	
3.4.9	铅模 Lead Pattern	
3.4.10	扩孔铣锥 Expanding Mill Bit	
3.4.11	倒扣接头 Back off Sub	
3.4.12	倒扣打捞矛 Back off Trip Spear	

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3.4.13	倒扣打捞筒 Back off Overshot	
3.4.14	铣鞋 Drill Mill	
3.4.15	铣筒 Washover Barrel	
3.4.16	测卡与爆松倒扣工具 Free Point and Back Off tools	
3.4.17	机械式内、外割刀 Mechanical Inside & Outside Cutter	
3.4.18	水力式内、外割刀 Hydraulic Inside & Outside Cutter	
3.4.19	磁铁打捞器 Hell Raiser	
3.4.20	反循环打捞蓝 Reverse Circulation Junk Basket	
3.4.21	多功能打捞器 Multiple Founctional Junk Basket	
3.4.22	随钻打捞器 Fisher While Drilling	

3.4.23	磨鞋 Grind Shoe	
3.4.24	震击器 Bumper	
3.4.25	液压加速器 Hydraulic Accelerator	
3.5	固井工具、套管及附件 Cementing Tool, Casing & Accessories	
3.5.1	导管 Conductor	
3.5.2	套管 Casing	
3.5.3	油管 Tubing	
3.5.4	分级箍 Stage Collar	
3.5.5	悬挂器 Hanger	
3.5.6	浮鞋 Float Shoe	



3.5.7	套管引鞋 Casing Guide	
3.5.8	浮箍 Float Collar	
3.5.9	承托环 Retainer	
3.5.10	弹性双弓扶正器 Elastic Diapsid Centralizer	
3.5.11	刚性扶正器 Rigid Centralizer	
3.5.12	变径变扣短节 Adapter Change Nipper	
3.5.13	水泥 Cement (API Class C or Class G or equivalent)	
3.5.14	水泥添加剂 Cementing Additives	
3.5.15	水泥化验仪器 Cement Tester Device	
3.5.16	水泥伞 Basket	

3.5.17	管外封隔器 External Packer	
3.5.18	水泥头 Cement Head	
3.6	钻井液用化工材料类 Chemical Material for Drilling Fluid	
3.6.1	堵漏剂 SCM	
3.6.2	润滑剂 Lubricant	
3.6.3	降粘剂 Thinning Agent	
3.6.4	增粘剂 Anchoring Agent	
3.6.5	解卡剂 Releasing Stuck Agent	
3.6.6	降失水剂 Filtrate Reducer	
3.6.7	粘土类 Siallite	

3.6.8	清洁剂 Cleaner	
3.6.9	乳化剂 Emulsifier	
3.6.10	消泡剂 Antifoam Agent	
3.6.11	加重材料 Weighting Material	
3.6.12	减磨剂 Anti-friction Agent	
3.6.13	絮凝剂 Coagulant	
3.6.14	防塌剂 Anti-shrink Agent	
3.6.15	油气层保护剂 Preservative Agent for Hydrocarbon Reservoir	
3.6.16	其他钻井用化工料 Other Chemical Material for Drilling	
3.7	测斜仪器 Drift Device	



3.8	完井工具 Completion Tools	
3.8.1	封隔器 Packer	
3.8.2	安全阀 Safety Valve	
3.8.3	其他配套工具 Other Supporting tools	
3.9	采油树 X-tree	
4	运输设备 Transportation Equipment	
4.1	重型运输卡车 Heavy Duty Transport Truck	
4.2	牵引车头 Tractor Headstock	
4.3	半挂车 Trailer	
4.4	平板拖车 Low Boy Trailer	

4.5	吊车 Crane	
4.6	油罐车 Tank	
4.7	水罐车 Water Tank	
4.8	越野指挥车 Cross Country Command Car	
4.9	救护车 Ambulance	
4.10	冷藏车 Refrigerator Car	
4.11	运输卡车 Transport Truck	
4.12	随车吊卡车 Crane Truck	
5	工程机械 Engineering Machinery	
5.1	挖掘机 Shovel	

5.2	轮式推土机 Wheel Dozer	
5.3	履带推土机 Track Dozer	
5.4	平地机 Grader	
5.5	压路机 Roller	
5.6	装载机 Loader	
5.7	洒水车 Spinklers Spraying Car	
5.8	抓管机 Grab Pipe Machine	
5.9	自卸车 Dumper	
5.10	打桩机 Pile Driver	
6	测井设备 Well Logging Equipment	



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6.1	测井装备 Well Logging Equipment	
6.1.1	测井设备 Well Logging Equipment	标准载重汽车(装载测井系统) Standard truck (c/w well logging system)
6.1.2	桅杆汽车 Mast Car	标准桅杆汽车 Standard mast car
6.1.4	地面设备 Surface Equipment	测井系统 Well logging system
6.1.5	电缆头 Cable Head	电缆头 Cable head
6.1.6	钻杆传送测井工具包 DP Transmission Logging Kits	钻杆传送测井工具包(PCL) DP transmission logging kits(PCL)
6.2	仪器类 Tools	
6.2.1	双侧向 DLL Dual Laterolog DLL	
6.2.2	微球形聚焦 MSFL Microspherically Focused MSFL	
6.2.3	双相量感应 DPIL Phasor Dual Induction DPIL	
6.2.4	多组感应 HDIL Multicomponent Induction HDIL	
6.2.5	自然伽马 GR	

MS

	Gamma Ray	
6.2.6	自然伽马能谱 SL Natural Gamma Ray Spectrometry SL	
6.2.7	PE	
6.2.8	自然电位 SP Selfpotential SP	
6.2.9	岩石密度 ZDL Rock Density ZDL	
6.2.10	补偿中子孔隙度 CNL Compensation Neutron Porosity CNL	
6.2.11	井径 CAL Hole Diameter CAL	
6.2.12	井眼定向数据 BDS Borehole Directional Data BDS	
6.2.13	井眼补偿声波 BHC Borehole Compensation Sonic Wave BHC	
6.2.14	数据声波 DAC Data Sonic Wave DAC	
6.2.15	多组声波 MAC Multicomponent Sonic Wave (MAC)	
6.2.16	交叉多极阵列声波 XMAC Cross-Multipole Array Acoustilog XMAC	

6.2.17	环状井眼成像 CBIL Ring Borehole Imaging CBIL	
6.2.18	裸眼电阻率成像 STAR Open Hole Resistivity Imaging STAR	
6.2.19	核磁共振成像 MRIL Magnetic Resonance Imaging MRIL	
6.2.20	钻进式井壁取芯工具 RSCT Drilling Type Well Wall Core Tool RSCT	
6.2.21	井壁取芯 SWC Well Wall Coring (SWC)	
6.2.22	卡点指示器 FPI Freeze Point Indicator FPI	
6.2.23	温度 TEMP/电阻率 RM	
6.2.24	地层压力测试器 RFT Formation Pressure Test Device RFT	
6.2.25	套管接箍定位 CCL Casing Coupling Location CCL	
6.2.26	陀螺测斜 GYRO Gyroscopic Survey GYRO	
6.2.27	压力表 Pressure Gauge/CCL	



6.2.28	流体密度 FDR Fluid density FDR	
6.2.29	流量计探头 CFS Flowmeter Detector CFS	
6.2.30	满眼旋转器 CFBM Full-packed Rotator CFBM	
6.2.31	连续流量旋转器 CFSM Continuous Flow Rotator CFSM	
6.2.32	进口转子流量计 ILS Import Rotor Rotator ILS	
6.2.33	阻水指示计 Water hold-up indicator	
6.2.34	内径仪 Gauge Ring	
6.2.35	打捞篮 Junk Basket	
6.2.36	倾斜筒 Dump Bailer	
6.2.37	假塞 Dummy Plug	
6.2.38	加重杆 Weight bar	
6.2.39	固井声波 CBL Cementing Sonic Wave CBL	
6.2.40	变密度 VDL Varying Density VDL	

6.2.41	分区水泥胶结测井仪 SBT Segmented Bond Tool SBT	
6.2.42	微声波 Slim CBL	
6.2.43	微变密度 Slim VDL	
6.2.44	微套管接箍定位 Slim CCL	
6.2.45	固井评价 Cementation Evaluation	
6.3	打捞工具类 Fishing Tool	
6.3.1	四球打捞工具 Four ball fishing tool	
6.3.2	CDL-140 打捞工具 CDL-140 Fishing Tool	
6.3.3	磨铣打捞筒工具 Grinding Milling Catching Sleeve	
6.3.4	电缆打捞矛 Cable Trip Spear	
6.3.5	管柱射孔 String Perforating	
6.4	井控设备类 Well Control Equipment	

6.4.1	标准井口和井控设备 Standard wellhead & Well Control Equipment	
	针对标准或单芯电缆的井口压力控制设备,工作压力级别 5000 psi,双闸板 BOP,防硫 Standard/well pressure control equipment with single bore cable, working pressure of 5,000Psi, double ram BOP, anti-sulfur.	
6.4.2	标准井口和井控设备 Standard wellhead & Well Control Equipment	
	针对标准或单芯电缆的井口压力控制设备,工作压力级别 10000 psi,三闸板 BOP,防硫 Standard/well pressure control equipment with single bore cable, working pressure of 10,000Psi, triple ram BOP, anti-sulfur.	
6.4.3	标准井口和井控设备 Standard wellhead & Well Control Equipment	
	针对标准或单芯电缆的井口压力控制设备,工作压力级别 15000 psi,三闸板 BOP,防硫 Standard/well pressure control equipment with single bore cable, working pressure of 15,000Psi, triple ram BOP, anti-sulfur.	
6.5	射孔工具类 perforating Equipment	
6.5.1	油管传输射孔 Tubing Transmission Perforating	
6.5.2	电缆传输射孔	



	Cable Transmission Perforating	
	机械桥塞服务 Mechanical Bridge Plug	
6.6	永久性桥塞 Permanent Bridge Plug	
6.6.1	复合式桥塞 Composite Bridge Plug	
6.6.2	(固/液 回流型) (Solid/Liquid reverse flow type)	
6.6.3	可回收式桥塞 Recycling Type Bridge Plug	
6.6.4	切割工具类 Cutting Tool	
6.7	聚能切割器 Jet Cutter	
6.7.1	切割管柱回收工具 Cutting String Recovering Tool	
6.7.2		
7	固井设备 Cementing Equipment	
7.1	固井所需设备 Necessary Equipment for Cementing	

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7.1.1	水泥车 Cementing Truck	混配泵注水泥浆车辆 c/w mixed pump to inject cementing slurry
7.1.2	混浆罐/车 Mix Slurry Skid/Truck	批混水泥浆的车辆/设备 Batch of mix slurry truck/equipment
7.1.3	随车起重运输车 Truck with Loading Crane	带有能起吊 6 吨左右重量起重设备的卡车 c/w loading crance with loading capacity of 6 ton
7.1.4	运灰车 Cement Transportation Vehicle	散装水泥运输车辆, 自带有压风机 To transport bulk cement, c/w blowing fan
7.1.5	压风机 Blowing Fan	空气压缩机 Air Compressor
7.1.6	井口注水泥装置 Wellhead Cement Injecting Device	包括固井施工用的各种尺寸的水泥头、循环头等 Incl. various sizes of cement head and circulating head,ect.
7.1.7	高压管汇 High Pressure Manifold	包括注水泥用的高压管线、弯头、旋塞等 Incl. high pressure pipeline, bend, cock, etc for injecting the cement
7.1.8	测量仪表 Measure Instrument	固井施工中用于检测施工压力、排量、总量的仪表装置 Measure instrument for test working pressure, displacement and gross.
7.1.9	储灰罐 Cement Storage Truck	用于储存施工用的散装水泥 To store bulk cement.
7.1.10	切割罐 Cutting Truck	用于将袋装水泥破带入罐 Sack cement is broken by it

7.1.11	供灰管线 Cement Supply Line	
7.1.12	固井配液系统 Cementing Fluid System	带有搅拌机、供水泵的固井水罐 c/w agitator, cementing water tank
7.1.13	水泥浆试验仪器 Cement Fluid Test Device	包括有瓦楞搅拌机、比重称、高温高压稠化仪、常压稠化仪、失水仪、强度仪、旋转粘度计等 incl. corrugated blender, specific gravity balance, high temperature & high pressure thick instrument, constant pressure thick instrument, water loss meter, intensity meter, rotational viscometer, etc.
7.2	酸化所需设备名称 Acidizing Equipment	
7.2.1	100MPa 压裂车 100Mpa Fracturing Truck	泵注酸液或携砂液 injecting acid fluid or carrying fluid
7.2.2	70MPa 压裂车 70Mpa Fracturing Truck	酸化施工环空补压；配合试油修井 annular repressing while acidizing operation or using while testing and workover operation
7.2.3	高压管汇车 High Pressure Manifold Truck	承载高压管汇、阀门 carrying high pressure manifold and valve
7.2.4	配酸车 Truck with Aicd	转配酸液 To transport and mix the acid
7.2.5	灌注车 Filling Truck	为 100MPa 压裂车提供上水压头 To provide charging pressure head for 100Mpa fracturing truck



7.2.6	仪表车 Measuring Truck	实时显示、打印、处理施工资料 to display, print and process work document
7.2.7	卧式酸罐 Acid Tank	现场储存酸液 To store acid fluid on site
7.3	连续油管、注氮所需设备 Coil Tubing and Nitrogen Services Equipment	
7.3.1	连续油管车 Coil Tubing Unit	带所需规格连续油管，液压力及控制系统， 操作室 c/w coil tubing, hydraulic power and control system, operating room
7.3.2	连续油管辅车 Coil Tubing Auxiliary Unit	带放喷器、不压井井口装置、吊车，连续油管 井下工具及氩弧焊装置 c/w relief unit, non-killing wellhead device, crance, coil tubing downhole tool and argon arc welding device
7.3.3	70MPa 压裂车 70Mpa Fracturing Truck	泵注液体介质；配合试油修井 pumping fluid media and using while testing and workover
7.3.4	12 方运液车 12m3 Fluid Transportation Truck	施工所需酸液或其他液体介质 To transport acid liquid or other liquid media.
7.3.5	液氮泵车 Liquid Nitrogen Truck	泵注液氮 pumping liquid nitrogen
7.3.6	液氮槽车 Liquid nitrogen tank car	储、运液氮 To store and transport liquid nitrogen.

7.4	水泥及添加剂 Cement & Additives	
7.4.1	油井水泥 Oil Well Cement (API Class C or Class G or equivalent)	
7.4.2	加重剂 Weighting Agent	
7.4.3	稳定剂 Stabilizing Agent	
7.4.4	工业盐 Industrial Salt	
7.4.5	降失水剂 Fluid Loss Agent	
7.4.6	减阻剂 Drag Reducer	
7.4.7	缓凝剂 Retarder	
7.4.8	消泡剂 Defoamer	
8	录井设备 Mud Logging Equipment	
8.1	综合录井仪器 Mud Logging Instrument	
8.1	仪器房 Instrument House	
8.2	电源系统 Power Supply System	

8.3	增压控制系统 Booster Control System	
8.4	气测参数测量系统 Gas Logging Parameter Measuring System	
8.5	工程参数测量系统 Engineering Parameter Measuring System	
8.6	钻井液参数测量系统 Drilling Fluid Parameter Measuring System	
8.7	CAN 总线 CAN Bars	
8.8	计算机系统 Computer System	
8.9	辅助设备配置 Auxiliary equipment distribution	
8.10	地质仪器及工具 geological instruments and tools	
8.11	摄像显示系统 Video Display System	
8.12	定量荧光 Quantitative Fluorescence	
8.2	地质室 Geological House	
9	钻采设备	
9.1	井下测试工具	
9.1.1	APR 测试系统 APR Testing Tool	



9.1.1.1	全通径伸缩接头 Full Bore Slip Joint	
9.1.1.2	RD 循环阀 RD Circulating Valve	
9.1.1.3	RD 安全循环阀 RD Safety Circulating Valve	
9.1.1.4	RD 取样器 RD Sampler	
9.1.1.5	放样阀 Drain Valve	
9.1.1.6	OMNI 阀 OMNI Valve	
9.1.1.7	LPR-N 阀 LPR-N Valve	
9.1.1.8	液压旁通阀 Hydraulic Circulating Valve	
9.1.1.9	大约翰震击器 Big John Jar	
9.1.1.10	RTS 安全接头 RTS Safety Joint	
9.1.1.11	RTS 封隔器 RTS Packer	
9.1.1.12	CHAMP 封隔器 CHAMP Packer	
9.1.1.13	HPHT 封隔器 HPHT Packer	

9.1.1.14	全通径压力计托筒 Gauge Carrier	
9.1.1.15	外挂压力计托筒 Outer Gauge Carrier	
9.1.1.16	电子压力计 Electronic Pressure Gauge	
9.1.1.17	配合接头 Crossover	
9.1.2	HST 测试系统 HST Testing Tool	
9.1.2.1	伸缩接头 Slip Joint	
9.1.2.2	泵注式循环阀 Pump Injection Circulating Valve	
9.1.2.3	断销式循环阀 Breaking Pin Circulating Valve	
9.1.2.4	HST 测试器 Hydraulic Spring Tester	
9.1.2.5	裸眼旁通阀 Bypass	
9.1.2.6	TR 震击器 TR Jar	
9.1.2.7	波纹安全接头 Bowen Safety Joint	
9.1.2.8	VR 安全接头 VR Safety Joint	

9.1.2.9	BT 封隔器 Bore Tailer	
9.1.2.10	NR 封隔器 NR Packer	
9.1.2.11	选层锚 Position Anchor	
9.1.2.12	筛管 Liner	
9.1.2.13	压力计托筒 Gauge Carrier	
9.1.2.14	调节钻铤 Adjustable Drill Collar	
9.1.2.15	配合接头 Crossover	
9.1.3	膨胀式测试系统 Expansion Tools	
9.1.3.1	液压开关阀 Hydraulic Switch Valve	
9.1.3.2	膨胀泵 Expansion Pump	
9.1.3.3	滤管 Filter Tube	
9.1.3.4	膨胀封隔器 Expansion Packer	
9.1.3.5	带孔接头 Ported Joint	



9.1.3.6	阻力弹簧器 Spring	
9.1.3.7	配合接头 Crossover	
9.2	定向井配套 Directional Well Tool	
9.2.1	海蓝无线随钻仪	
9.2.1.1	数据处理仪 Digital Treating Meter	
9.2.1.2	电源线 Power Wire	
9.2.1.3	探管测试线 Probe Testing Wire	
9.2.1.4	处理仪与司显线盘连线 Connecting Wire between Treating Meter and Driller Monitor Wire Coil	
9.2.1.5	司钻显示器 Driller Monitor	
9.2.1.6	压力传感器 Pressure Sensor	
9.2.1.7	压力传感器配合接头) Pressure Sensor Crossover	
9.2.1.8	不间断电源 Uninterruptible Power Supply	
9.2.1.9	BJ-1 部件检测器(含 XF-1 信号发生器)BJ-1 Detector (including XF-1 Signal Generator)	

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9.2.1.10	数据处理仪接司显电缆 Connecting Cable between Digital Treating Meter and Driller Monitor	
9.2.1.11	计算机（内有 2 根线：、与处理仪连接线） Computer	
9.2.1.12	计算机电源线 Computer Power Wire	
9.2.1.13	计算机与处理仪连接线） Connecting Wire between Computer and Treating Meter	
9.2.1.14	打印机（内有 2 根线：电源线、数据线、安装盘） Printer (with Power Wire, Data Line, Installation Disk)	
9.2.1.15	插线板 Wiring Board	
9.2.1.16	文件夹 Folder	
9.2.1.17	探管 Probe	
9.2.1.18	脉冲发生器 Pulser	
9.2.1.19	供电装置保护筒 Protective Barrel of Power Supply Unit	
9.2.1.20	供电装置 Power Supply Unit	
9.2.1.21	扶正器 Centering Guide	
9.2.1.22	打捞头 Fishing Head	

9.2.1.23	扶正器工装 Centering Guide Tooling	
9.2.1.24	打捞锚组件(下放) Fishhook Assembly (Downpass)	
9.2.1.25	打捞工具(提升) )Fishing Tool (Lifting)	
9.2.1.26	加长杆组件 Extension Bar Assembly	
9.2.1.27	加长杆 Extension Bar	
9.2.1.28	支撑架 Support Frame	
9.2.1.29	摩擦管钳 Friction Pipe Pliers	
9.2.1.30	钻杆滤子 Drill Stem Filter	
9.2.1.31	主阀芯 $\phi 27.6$ Main Valve Plug $\phi 27.6$	
9.2.1.32	主阀芯 $\phi 28.5$ Main Valve Plug $\phi 28.5$	
9.2.1.33	限流环 $\phi 34.3$ Restrictor Ring $\phi 34.3$	
9.2.1.34	限流环 $\phi 35.6$ Restrictor Ring $\phi 35.6$	
9.2.1.35	信号阀杆 Signal Stem	



9.2.1.36	闷帽 Bonnet	
9.2.1.37	主弹簧 Main Spring	
9.2.1.38	引鞋 Guide Shoe	
9.2.1.39	耐磨环 Wear-resisting Ring	
9.2.1.40	耐磨套 Wear-resisting Sleeve	
9.2.1.41	筛屏 Screen	
9.2.1.42	Y 型圈 Y-ring	
9.2.1.43	密封圈 $\phi 18 \times 3.55$ Seal $\phi 18 \times 3.55$	
9.2.1.44	密封圈 $\phi 22.4 \times 2.65$ Seal $\phi 22.4 \times 2.65$	
9.2.1.45	密封圈 $\phi 23.6 \times 3.55$ Seal $\phi 23.6 \times 3.55$	
9.2.1.46	密封圈 $\phi 35.5 \times 3.55$ Seal $\phi 35.5 \times 3.55$	
9.2.1.47	密封圈 $\phi 34.5 \times 2.65$ Seal $\phi 34.5 \times 2.65$	
9.2.1.48	密封圈 $\phi 35.5 \times 3.55$ Seal $\phi 35.5 \times 3.55$	

9.2.1.49	密封圈 $\phi 37.5 \times 2.65$ Seal $\phi 37.5 \times 2.65$	
9.2.1.50	密封圈 $\phi 50 \times 2.65$ Seal $\phi 50 \times 2.65$	
9.2.1.51	密封圈 $\phi 53 \times 3.55$ Seal $\phi 53 \times 3.55$	
9.2.1.52	密封圈 $\phi 73 \times 3.55$ Seal $\phi 73 \times 3.55$	
9.2.1.53	密封圈 $\phi 87.5 \times 3.55$ Seal $\phi 87.5 \times 3.55$	
9.2.1.54	螺钉 M6×10 Screw M6×10	
9.2.1.55	螺钉 M3×8 Screw M3×8	
9.2.1.56	螺钉 M4×6 Screw M4×6	
9.2.1.57	螺钉 M5×6 Screw M5×6	
9.2.1.58	挡圈 38 Detent Ring 38	
9.2.1.60	定向键 I Directional Bond I	
9.2.1.61	定向键 II Directional Bond II	
9.2.1.62	定向键 III Directional Bond III	

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9.2.1.64	小限流环 (φ30.5) Small Restrictor Ring (φ30.5)	
9.2.1.65	限流环 (φ32.5) Restrictor Ring (φ32.5)	
9.2.1.66	限流环 (φ34.3) Restrictor Ring (φ34.3)	
9.2.1.67	限流环 (φ35.6) Restrictor Ring (φ35.6)	
9.2.1.68	限流环 (φ38.1) Restrictor Ring (φ38.1)	
9.2.1.69	限流环 5φ30.5/φ50.7 Restrictor Ring 5φ30.5/φ50.7	
9.2.1.71	循环套 Loop 98mm	
9.2.1.72	循环套 Loop 79mm	
9.2.1.73	循环套 Loop 60mm	
9.2.1.74	工具箱 Toolbox	
9.2.1.75	改锥(311)/十字 PH0*60Screwdriver (311)/ Cross PH0*60	
9.2.1.76	改锥(311)/十字 PH1*100Screwdriver (311)/ Cross PH1*100	
9.2.1.77	改锥(311)/十字 PH2*150Screwdriver (311)/ Cross PH2*150	
9.2.1.78	改锥(302)/一字 3*80 Screwdriver (302)/ Slotted Point 3*80	



9.2.1.79	改锥(302)/一字 4.5*125Screwdriver (302)/ Slotted Point 4.5*125	
9.2.1.80	改锥 (302) /一字 6.5*150Screwdriver (302)/ Slotted Point 6.5*150	
9.2.1.81	钢卷尺 3m Steel Tape 3m	
9.2.1.82	钢丝钳 Cutting Pliers	
9.2.1.83	记号笔 Marking Pen	
9.2.1.84	介子钳 Muon Clamp	
9.2.1.85	烙铁 Branding Iron	
9.2.1.86	镊子 Tweezers	
9.2.1.87	偏口钳 Diagonal Cutting Pliers	
9.2.1.88	万用表 Multimeter	
9.2.1.89	游标卡尺 0-150mm Vernier Caliper 0-150mm	
9.2.1.90	焊锡丝 $\phi 1$ Soldering Wire $\phi 1$	
9.2.1.91	300mm 标准水平尺 300m Standard Spirit Level	

9.2.1.92	弯刃电工刀 Curved Blade Electrical Knife	
9.2.1.93	数码全 LED 照明灯 LED Digital Illuminating Lamp	
9.2.1.94	塑柄半圆挫 Half-round File with Plastic Handle	
9.2.1.95	六方扳手 334DS/3*100 Hexagon Spanner 334DS/3*100	
9.2.1.96	活动扳手 Adjustable Spanner	
9.2.1.97	包装箱/工具箱 Packing Box/ Toolbox	
9.2.1.98	硅胶 1213 Silica Gel 1213	
9.2.1.99	绝缘胶带 20mm*15mm Insulation Tape 20mm*15mm	
9.2.1.100	螺纹胶 242 Thread Locking Adhesive 242	
9.2.1.101	螺纹胶 609 Thread Locking Adhesive 609	
9.2.1.102	密封胶带 Sealing Tape	
9.2.1.103	勾扳手 Hook Spanner	
9.2.1.104	方扳 Wrench	

9.2.1.105	密封硅脂 Sealing Silicon Grease	
9.2.1.106	十芯座套拆卸工装 Ten Core Seating Disassembly Tooling	
9.2.1.107	方头板手 Square Spanner	
9.2.1.108	包装箱 Packing Box	
9.2.2	PCDWD 无线随钻仪	
9.2.2.1	地面数据处理系统 Ground Data Handling System	
9.2.2.2	接口箱 Interface Box	
9.2.2.3	司钻显示器 Driller Monitor	
9.2.2.4	安全箱 Safety Box	
9.2.2.5	脉冲器测试盒 Pulser Testing Box	
9.2.2.6	压力传感器 (进口) Pressure Sensor (Import)	
9.2.2.7	安全箱电源线 Power Wire for Safety Box	
9.2.2.8	接口箱电源线 Power Wire for Interface Box	



9.2.2.9	探管模式设置线 Probe Model Setting Wire	
9.2.2.10	接口箱到安全箱跨接线 Connecting Wire between Interface Box and Safety Box	
9.2.2.11	安全箱到司钻显示器电缆跨接线 Connecting Wire between Safety Box and Driller Monitor Cable Coil	
9.2.2.12	司钻显示器电缆卷 (100 米) Driller Monitor Cable Coil (100m)	
9.2.2.13	压力传感器电缆卷 (100 米) Pressure Sensor Cable Coil (100m)	
9.2.2.14	1/2"NPT 关闭阀 1/2"NPT Shutoff Valve	
9.2.2.15	1/2"NPT 堵头 1/2"NPT Bottom Sub	
9.2.2.16	2"NPT 堵头 2"NPT Bottom Sub	
9.2.2.17	1/2"NPT 双母接头 1/2"NPT Double Tool Joint Box	
9.2.2.18	1/2NPT 双公接头 1/2NPT Double Tool Joint Pin	
9.2.2.19	1/2"NPT(公扣)至 1/2"NPT(母扣)转换接头 Crossover Joint from 1/2"NPT (Pin) to 1/2"NPT (Box)	
9.2.2.20	1/2"公制(公扣)至 1/2"NPT(母扣)转换接头 Crossover Joint from 1/2" Metric (Pin) to 1/2"NPT (Box)	

9.2.2.21	2"NPT(公扣)至 1/2"NPT(母扣)转换接头 Crossover Joint from 2"NPT (Pin) to 1/2"NPT (Box)	
9.2.2.22	1/2"NPT"L"型双母接头 1/2"NPT "L" Style Double Tool Joint Box	
9.2.2.23	1/2"NPT"T"型双母接头 1/2"NPT "T" Style Double Tool Joint Box	
9.2.2.24	硅脂 Silicone Grease	
9.2.2.25	勒泰胶 620(50ML) Loctite 620(50ML)	
9.2.2.26	丝扣油 Thread Dope	
9.2.2.27	红油(2.5KG )Red Oil (2.5KG)	
9.2.2.28	螺纹胶 242(50ML) Thread Locking Adhesive 242	
9.2.2.29	金属清洁剂 WD40 Metal Cleaner WD40	
9.2.2.30	电子清洁剂 Electrical Cleaner	
9.2.2.31	扶正器塞型安装工具 Plug Model Erecting Tool for Centering Guide	
9.2.2.32	扶正器套筒型安装工具 Sleeve Model Erecting Tool for Centering Guide	
9.2.2.33	扭矩扳手 Torque Wrench	

9.2.2.34	O 环拆卸工具 O-ring Remover	
9.2.2.35	通用转子夹 General Rotor Bridge	
9.2.2.36	流筒支架 Flow Cylinder Support	
9.2.2.37	钢板尺(1.5m) Steel Ruler (1.5m)	
9.2.2.38	脉冲器/探管支架 Support for Pulsar and Probe	
9.2.2.39	便携式链虎钳 Portable Chain Jaw	
9.2.2.40	铜棒 Copper Rod	
9.2.2.41	限流环拆卸工具 Restrictor Ring Remover	
9.2.2.42	瞄准镜 Scope Sight	
9.2.2.43	板状瞄准工具 Plate-like Sight Tool	
9.2.2.44	管状瞄准固定工具 Tube-like Sight Tool	
9.2.2.45	水平仪 Spirit Level	
9.2.2.46	定向转角 Directional Corner	



9.2.2.47	常用工具箱 General Toolbox	
9.2.2.48	限流环座拆卸工具 Restrictor Ring-set Remover	
9.2.2.49	流筒拆卸工具 Flow Cylinder Remover	
9.2.2.50	脉冲器伸缩测试工具 Pulse Extendible Testing Tool	
9.2.2.51	直翼导流筒拆卸工具 Straight Wing Guide Cylinder Remover	
9.2.2.52	通讯线拉线 (7 芯) Communication Wire (7 Cores)	
9.2.2.53	轴承拆卸工具包 Bearing Remover Kit	
9.2.2.54	蘑菇头拆卸工具 Mushroomhead Remover Kit	
9.2.2.55	硅脂枪 (90-178) Silicon Grease Gun (90-178)	
9.2.2.56	硅脂注射器 Silicon Grease Injector	
9.2.2.57	脉冲器拔出工具 Pulser Puller	
9.2.2.58	插入/拔出工具总成 Insert/Pull Tool Assembly	
9.2.2.59	耐磨套拆卸工具 Wear-resisting Sleeve Remover	

9.2.2.60	提升工具 Pulling Tool	
9.2.2.61	蘑菇头间隙指示器 Mushroomhead Clearance Indicator	
9.2.2.62	摩擦管钳 Friction Pipe Pliers	
9.2.2.63	定子夹 Stator Clip	
9.2.2.64	销钉拆卸工具 Pin Remover	
9.2.2.65	蘑菇头间隙表 Mushroomhead Clearance Chart	
9.2.2.66	探管 Probe	
9.2.2.67	脉冲器 (ZT-MWD 正脉冲上传工具) Pulser (ZT-MWD Positive Pulse Upload Tool)	
9.2.2.68	探管螺旋线 Probe Spiral	
9.2.2.69	定向护盖 Directional Protecting Cover	
9.2.2.70	螺旋线外罩 Spiral Outer Cover	
9.2.2.71	脉冲器键 Pulse Keyer	
9.2.2.72	顶部轴承 Top Bearing	
9.2.2.73	底部轴承 Bottom Bearing	
9.2.2.74	轴卡圈 Bearing Collar	

9.2.2.75	隔套 Spacer Bush	
9.2.2.76	蘑菇头更换 O 环包 O-ring Replacing Kit for Mushroomhead	
9.2.2.77	顶部轴承套更换 O 环包 O-ring Replacing Kit for Bearing Sleeve	
9.2.2.78	转子更换 O 环包 O-ring Replacing Kit for Rotor	
9.2.2.79	脉冲器和定向总成更换 O 环包 O-ring Replacing Kit for Pulsar and Directional Assembly	
9.2.2.80	扶正器更换 O 环包 O-ring Replacing Kit for Centering Guide	
9.2.2.81	扶正器 Centering Guide	
9.2.2.82	扶正器螺丝 Centering Guide Screw	
9.2.2.83	平头螺钉 Flat Head Screw	
9.2.2.84	圆头螺钉 Round Head Screw	
9.2.2.85	鼻帽 Nose Cap	
9.2.2.86	护罩 Shield	
9.2.2.87	分流器 Shunt	



9.2.2.88	定子支撑管总成 Stator Supporting Tube Assembly	
9.2.2.89	底环滤网总成 Bottom Ring Filter Assembly	
9.2.2.90	定子支撑管更换 O 环包 O-ring Replacing Kit for Stator Supporting Tube	
9.2.2.91	定子更换 O 环包 O-ring Replacing Kit for Stator	
9.2.2.92	钻杆滤子 Drill Stem Filter	
9.2.2.93	包装箱 Packing Box	
9.2.2.94	蘑菇头 Mushroomhead	
9.2.2.95	加长鼻帽 Extension Nose Cap	
9.2.2.96	定位销钉 Directional Pin	
9.2.2.97	承托环 Bottom Ring	
9.2.2.98	转子总成 Rotor Assembly	
9.2.2.99	直翼导流筒 Straight Wing Guide Cylinder	
9.2.2.100	限流环 Restrictor Ring	

9.2.2.101	挡板 Baffle	
9.2.2.102	弹簧垫片总成 Spring Washer Assembly	
9.2.2.103	悬挂短节 Hanging Joint	
9.2.2.104	流筒总成 Flow Cylinder Assembly	
9.2.2.105	鱼颈总成 Fishneck Assembly	
9.2.2.106	耐磨套底座 Wear-resisting Sleeve Base	
9.2.2.107	锁紧螺母 Lock Nut	
9.2.2.108	限流环座 Restrictor Ring Base	
9.2.2.109	底环 Bottom Ring	
9.2.2.110	磨套 Wearing Bush	
9.2.2.111	流筒 C 型卡子 C-clip for Flow Cylinder	
9.2.2.112	限流环座 C 型卡子 C-clip for Restrictor Ring Base	
9.2.2.113	承托环 O 环包 O-ring Kit for Bottom Ring	

9.2.2.114	鱼颈和限流环更换 O 环包 O-ring Replacing Kit for Fishneck and Restrictor Ring	
9.2.2.115	泥浆滤网 Mud Filter	
9.2.2.116	底环总成 Bottom Ring Assembly	
9.2.2.117	底环螺丝 Bottom Ring Screw	
9.2.2.118	橡胶弹簧圈 Rubber Spring Coil	
9.2.2.119	限流环座锁片 Restrictor Ring Lock Sheet	
9.2.2.120	耐磨套 Wear-resisting Bush	
9.2.2.121	护罩式定子 Shield Type Stator	
9.2.2.122	鱼颈锁片 Fishneck Lock Sheet	
9.2.2.124	流筒更换 O 环包 O-ring Replacing Kit for Flow Cylinder	
9.2.2.125	工具箱 Toolbox	
9.2.2.126	老虎钳 Vice	
9.2.2.127	偏口钳 Diagonal Cutting Pliers	



9.2.2.128	尖嘴鉗 Nose Pliers	
9.2.2.129	改錐 Screwdriver	
9.2.2.130	刀子 Knife	
9.2.2.131	剪子 Shears	
9.2.2.132	銼 File	
9.2.2.133	鋸弓 Sawbow	
9.2.2.134	鋸條 Saw Blade	
9.2.2.135	活動板手 Adjustable Spanner	
9.2.2.136	電烙鐵 Electric Iron	
9.2.2.137	焊錫 Soldering Tin	
9.2.2.138	游標卡尺 Vernier Caliper	
9.2.2.139	手電筒 Flashlight	
9.2.2.140	大力鉗 Locking Pliers	
9.2.2.141	鏈鉗 Chain Tong	
9.2.2.142	沖子 Punch	

9.2.2.143	钢丝刷 Wire Brush	
9.2.2.144	铜刷 Copper Brush	
9.2.2.145	O 环刷 O-ring Brush	
9.2.2.146	榔头 Hammer	
9.2.2.147	橡胶锤 R ubber Hammer	
9.2.2.148	卷尺 TapeLine	
9.2.2.149	内卡尺 Inside Calipers	
9.2.2.150	外卡尺 Outside Calipers	
9.2.2.151	管钳 Pipe Pliers	
9.2.2.152	内六角扳手 Internal Hexagon Spanner	
9.2.2.153	防水记号笔 Waterproof Marking Pen	
9.2.2.154	生料带 PTFE Tape	
9.2.2.155	黑胶带 Black Tape	

9.2.2.156	电源插线板 Power Patch Board	
9.2.3	电子多点测斜仪 Multi Point Clinometer	
9.2.3.1	电子多点测斜仪 Multi Point Clinometer	
9.2.3.1.1	探管 Probe	
9.2.3.1.2	探管通讯电缆 Probe Communication Cable	
9.2.3.1.3	长电池筒 Long Battery Housing	
9.2.3.1.4	短电池筒 Short Battery Housing	
9.2.3.1.5	充电器 Charger	
9.2.3.1.6	摩擦扳手 Friction Wrench	
9.2.3.1.7	秒表 Stop Watch	
9.2.3.1.8	钢丝绳帽头 Steel Wire Rope Rail	
9.2.3.1.9	绳挂旋转接头 Roping Rotating Joint	
9.2.3.1.10	内减震器 Inner Damper	



9.2.3.1.11	下堵头 Lower Seal	
9.2.3.1.12	抗压管 Crush Resisting Tube	
9.2.3.1.13	缓冲器 Bumper	
9.2.3.1.14	上堵头 Upper Seal	
9.2.3.1.15	加长杆 Extension Bar	
9.2.3.1.16	底部减震器 Bottom Damper	
9.2.3.1.17	扶正器 Centering Guide	
9.2.3.1.18	测斜座 Inclinometry Base	
9.2.3.1.19	管钳 Pipe Pliers	
9.2.3.2	高温电子多点测斜仪	
9.2.3.2.1	探管 Probe	
9.2.3.2.2	探管通讯电缆 Probe Communication Cable	
9.2.3.2.3	电池筒 Battery Housing	

9.2.3.2.4	摩擦扳手 Friction Wrench	
9.2.3.2.5	秒表 Stop Watch	
9.2.3.2.6	钢丝绳帽头 Steel Wire Rope Rail	
9.2.3.2.7	绳挂旋转接头 Roping Rotating Joint	
9.2.3.2.8	内减震器 Inner Damper	
9.2.3.2.9	下堵头 Lower Seal	
9.2.3.2.10	抗压管 Crush Resisting Tube	
9.2.3.2.11	缓冲器 Bumper	
9.2.3.2.12	上堵头 Upper Seal	
9.2.3.2.13	加长杆 Extension Bar	
9.2.3.2.14	底部减震器 Bottom Damper	
9.2.3.2.15	扶正器 Centering Guide	
9.2.3.2.16	测斜座 Inclinometry Base	

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9.2.3.2.17	管钳 Pipe Pliers	
9.2.3.2.18	高温锂电池 High-temperature Lithium Battery	
9.2.3.2.19	计算机 Computer	
9.2.3.3	合康电子多点测斜仪	
9.2.3.3.1	多点探管 Multipoint Probe	
9.2.3.3.2	智能充电器 Intelligent Charger	
9.2.3.3.3	充电电池筒 Rechargeable Battery Housing	
9.2.3.3.4	探管通信数据线 Probe Communication Data Line	
9.2.3.3.5	秒表 Stop Watch	
9.2.3.3.6	USB 接口 USB Interface	
9.2.3.3.7	电子测斜仪应用软件 Application Software	
9.2.3.3.8	绳帽头 Rope Rail	
9.2.3.3.9	旋转挂头 Rotating Joint	



9.2.3.3.10	径向缓冲器 Radial Bumper	
9.2.3.3.11	隔热保护筒总成 (内减震器+下堵头+上堵头) Heat Insulation Protection Tube Assembly (including Inner Damper, Lower Seal and Upper Seal)	
9.2.3.3.12	加长杆 Extension Bar	
9.2.3.3.13	定向减震引鞋 Directional Damping Guide Shoe	
9.2.3.3.14	摩擦管钳 Friction Pipe Pliers	
9.2.3.3.15	包装箱 Packing Box	
9.2.4	其他工具 Other Tool	
9.2.4.1	螺杆钻具 Spiral Drilling Rig	含护丝 incl. Thread Protector
9.2.4.2	无磁钻铤 Nonmagnetic Drill Collar	含护丝 incl. Thread Protector
9.2.4.3	无磁承压钻杆 Nonmagnetic Pressure-bearing Drill Stem	含护丝 incl. Thread Protector
9.2.4.4	弯接头 Bent Sub	含护丝 incl. Thread Protector
9.2.4.5	定向接头 Directional Sub	含护丝 incl. Thread Protector

9.2.4.6	稳定器 Stabilizer	含护丝 incl. Thread Protector
9.2.4.7	仪器房 Instrument Shelter	
9.2.4.8	工具提篮 Tool Basket	含吊绳 incl. Lifting Rope
9.2.4.9	钻杆滤子 Drill Stem Filter	
9.3	地面设备清单 Surface Equipment List	
9.3.1	测试树 Flowing Testing Tree	
9.3.2	地面安全阀 Surface Safety Valve	
9.3.3	液动阀 Hydraulic Valve	
9.3.4	捕屑器 Plug Catcher	
9.3.5	转向管汇 Diverting Manifold	
9.3.6	上游管线 Upstream Pipelines	
9.3.7	除砂器/砂分离器 Sand Separator	
9.3.8	上游数据头 Upstream Data Header	

9.3.9	节流管汇 Choke Manifold	
9.3.10	下游数据头 Downstream Data Header	
9.3.11	下游管线 Downstream Pipelines	
9.3.12	热交换器 Heat Exchanger	
9.3.13	分离器 3-phase Separator	
9.3.14	计量罐 Gauge Tank	
9.3.15	缓冲罐 Surge Tank	
9.3.16	真空除气器 Vacuum Degasser	
9.3.17	密闭罐 Sealed Tank	
9.3.18	敞口罐 Open Top Tank	
9.3.19	火炬 Flare Stack	
9.3.20	流量计 Metering	
9.3.21	低压分流管汇 Low Pressure Diverging Manifold	



9.3.22	多传感安全泄压阀 MSRV	
9.3.23	锅炉 Boiler	
9.3.24	油水罐 Oil-water Tank	
9.3.25	传输泵 Transfer Pump	
9.3.26	螺杆泵 Screw Pump	
9.3.27	ESD 控制面板 ESD Control Panel	
9.3.28	空压机 Air Compressor	
9.3.29	配电箱 Switch Box	
9.3.30	远程视频会议传输系统 Meeting Transmission System	
9.3.31	视频系统 Video System	
9.3.32	数据采集系统 Data Acquisition system	
9.3.33	数采房 DAS office	
9.3.34	化验房 LAB	

9.3.35	材料房 Workshop	
9.3.36	工具箱 Tool Box	
9.3.37	管汇撬 Manifold Skid	
9.3.38	半高集装箱 Container	
9.3.39	化学注入泵 Chemical Injection Pump	
9.3.40	多功能试压泵 Pressure Testing Pump	
9.3.41	气体检测气体 Gas Detection System	
9.3.42	井口压力计 Wellhead Pressure Gauge	
9.3.43	H2S 防护设备 H2S Protect Equipment	
9.3.44	劳保用品 PPE	
9.3.45	取样瓶 Sample Container	
9.3.46	潜水泵 Submersible Pump	
9.3.47	固定油嘴 Fixed Choke	

9.3.48	可调油嘴 Adjustable Choke	
9.3.49	旋塞阀 Low-torque Valve	
9.3.50	闸板阀 Gate Valve	
9.3.51	移动式固定基墩 Portable Cement Block	
10	油建工程装备 EPC Equipment	
10.1	柴油发电机组 Diesel Generator Set	
10.2	半自动内燃焊机 Semi-Automatic Internal Combustion Welder	
10.3	内燃叉车 Diesel Fork Truck	
10.4	柴油发电机组 Diesel Generator Set	
10.5	液压阀门测试机 Hydraulic Valve Tester	
10.6	混凝土搅拌站 Concrete Mixing Plant	
10.7	振动压路机 Vibratoroller	



10.8	道路摊铺机 Road Paver	
10.9	埋弧焊机 Submerged Arc Welding Machine	
10.10	焊剂烘干机 Flux Dryer	
10.11	汽车式起重机 Truckcrane	
10.12	半自动内燃焊机 Semi-Automatic Internal Combustion Welder	
10.13	内燃手工焊机 Internal Combustion Manual Welding Machine	
10.14	抓管装载两用机 Pipe Grabing & Loading Machine	
10.15	履带式吊管机 Crawler Pipelayer	
10.16	抓管装载两用机 Pipe Grabing & Loading Machine	
10.17	逆变手工焊机 Inverter Manual Welder	
10.18	半自动电焊机 Semi-Automatic Welder	
10.19	逆变手工焊机 Inverter Manual Welder	

10.20	电动压风机 Eccentric Blower	
10.21	电动空压机 Eccentric Air Compressor	
10.22	卫星定位系统 Gps (Global Positioning System)	
10.23	经纬仪 Theodolite	
10.24	全站仪 Total Station	
10.25	汽车式起重机 Truck Crane	
10.26	履带式起重机 Crawler Crane	
10.27	电动卷扬机 Electric Winch	
10.28	高空作业车 Overhead Working Truck	
10.29	电动葫芦 Electric Hoist	
10.30	履带式挖掘机 Crawler Excavator	
10.31	抓管装载两用机 Pipe Grabbing & Loading Machine	
10.32	履带式挖掘机 Crawler Excavator	

10.35	钢筋切断机 Bar Cutter	
10.36	混凝土搅拌机 Concrete Mixer	
10.38	压路机 Road Roller	
10.39	内燃手工焊机 Internal Combustion Manual Welder	
10.40	电动坡口机 Electric Beveling Machine	
10.41	逆变手工焊机 Inverter Manual Welder	
10.42	半自动电焊机 Semi-Automatic Welder	
10.43	逆变手工焊机 Inverter Manual Welder	
10.44	抛丸除锈设备 Shot Blasting Machine	
10.45	吊管机 Pipelayer	
10.46	磨砖机 Brick Grinder	
10.47	切砖机 Brick Cutter	
10.48	木工多用机床 Multipurpose Woodworking Machine Tool	



10.49	自卸汽车 Dump Truck	
10.50	牵引车 Tractor	
10.51	平板半挂车 Platform Semitrailer	
10.53	搅拌运输车 Agitating Truck	
10.54	内燃叉车 Diesel Fork Truck	
10.55	柴油发电机组 Diesel Generating Set	
10.56	轮式移动电站 Wheeled Mobile Power Station	
10.57	交直流分压器 Ac/Dc Voltage Divider	
10.58	直流高压发生器 High Voltage Direct Current Generator	
10.59	变频谐振试验设备 Frequency Conversion Spectrum Vibration Test Equipment	
10.60	无线核相仪 Wireless Phasing Tester	
10.61	雷击计数校验仪 Lightning Strike Counting Calibrator	
10.62	车载式空压机 Truck Mounted Air Compressor	

10.63	真空泵 Vacuum Pump	
10.64	电动试压泵 Electric Pressure Testing Pump	
10.65	试压清洗两用泵 Pressure Test & Cleaning Pump	
10.66	电动试压泵 Electric Pressure Testing Pump	
10.67	柴油发电机组 Diesel Generating Set	
10.68	光纤熔接机 Fused Fiber Splice	
10.69	台式钻床 Bench Drilling Machine	
10.70	台式钻床 Bench Drilling Machine	
10.71	理式硬度计 Durometer	
10.72	理式硬度计 Durometer	
10.73	射线机(加速器) X-Ray Machine (Accelerator)	
10.74	X射线探伤机 X-Ray Flaw Detector	
10.75	内燃空压机 Internal Combustion Air Compressor	

10.76	洗片机 Processing Machine	
10.77	全电子三相电能表校验仪 Electronic Three-Phase Watt-Hour Meter Calibrator	
10.78	金属测厚仪 Metal Thickness Gauge	
10.79	超声波测厚仪 Ultrasonic Thickness Gauge	
10.80	复合式气体检测仪 Composite Gas Detector	
10.81	硫化氢检测仪 Hydrogen Sulfide Detector	
10.82	可燃气体检测仪 Combustible Gas Detector	
10.83	电火花检测仪 Spark Leak Detector	
10.84	涂层测厚仪 Coating Thickness Gauge	
10.85	红外线测温仪 Infrared Thermometer	
10.86	埋弧焊机 Submerged Arc Welding Machine	
10.87	半自动电焊机 Semi-Automatic Welder	
10.88	半自动内燃焊机 Semi-Automatic Internal Combustion Welder	




10.89	半自动多功能焊机 Semi-Automatic Multifunctional Welder	
10.90	智能温控设备 Intelligent Temperature Control Equipment	
10.91	光时域反射仪 Optical Time Domain Reflectometer	
10.92	射线机加速器 Ray Machine Accelerator	
10.93	超声仪 Ultrasonoscope	
11	场站建设配套 Supporting Equipment For Station Construction	
11.1	原油处理系统 Crude Oil Treatment System	
11.1.1	汇管 Header	
11.1.2	测试分离器 Test Separator	
11.1.3	三相分离器 Three Phase Separator	
11.1.4	生产分离器 Production Separator	
11.1.5	生产加热炉 Production Heating Furnace	
11.1.6	脱水泵 Dehydration Pump	

11.1.7	静态混合器 Static Mixer	
11.1.8	脱盐罐 Desalination Skid	
11.1.9	储油罐 Oil Tank	
11.1.10	化学剂注入撬 Chemical Injection Skid	缓蚀剂、阻泡剂、破乳剂、阻垢剂、降粘剂等 Corrosion inhibitor, anti-foaming agent, demulsifier, antisludging agent, viscosity breaking agent, etc.
11.1.11	增压泵 Booster Pump	
11.1.12	油水换热器 Oil-Water Heat Exchanger	
11.2.1	储罐 Tank	
	污油闪蒸罐 Sump Oil Flash Drum	
	排污罐 Blow Down Tank	
	酸水压送罐 Sour Water Pressure Tank	
	凝结水罐 Condensate Tank	
	未稳定凝析油缓冲罐 Unstabilized Condensate Surge Tank	

	净化空气罐 Purified Air Tank	
	污油储罐 Sump Oil Tank	
	缓蚀剂储罐 Corrosion Inhibitor Tank	
	放空分液罐 Venting Separating Tank	
11.2.2	机泵 Pump	
	地坑排水泵 Pit Drainage Pump	
	凝结水泵 Condensate Pump	
	稳定凝析油输送泵 Stable Condensate Delivery Pump	
	凝析油液下泵 Condensate Submerged Pump	
	污油泵	
	Sump Oil Pump	
	起重设备 Hoisting Equipment	
	手拉葫芦 Chain Hoist	



	电动葫芦 Electric Hoist	
	行车 Travelling Crane	
	起重机 Crane	
	电动伏流钢丝绳葫芦 Electric Subterranean Wire Rope Hoist	
11.2.3	管道过滤器 Pipe Filter	
	SBY-I Y 型过滤器	
	Sby-I Y-Style Filter	
	SBY-II 型 Y 型过滤器	
	Sby-II Y-Style Filter	
	SBY-III 型 T 型过滤器	
	Sby-III T-Style Filter	
	SRT-型 T 型过滤器	
	Srt T-Style Filter	
	T 型过滤器	
	T-Style Filter	
	直通篮式过滤器	
	Straight Through Basket Filter	
11.2.4	Flare System	
	高压放空火炬 Hp Release Flare	



	低压放空火炬 Lp Release Flare	
	防爆内传焰点火盘 Anti-Explosion Internal Flame Flash-Pan	
	高空点火装置 Igniter For High Altitude	
	火焰监测器 Flame Monitor	
11.2.5	长明灯 Incandescent Light	
	火炬塔架 Flare Tower	
	放空立管 Venting Shaft	
	分析化验仪器及劳动保护设备 Laboratory And Analytical Instrument, And Personnel Protection Equipment	
	Agilent 7890A 气相色谱系统 Agilent 7890A Gas Chromatograph System	
	OPTIMA 7000 DV 等离子体发射光谱仪 Optima 7000 Dv Plasma Emission Spectrometer	
	总硫/总氮分析仪 PHTON LAB/TN/STotal Sulfur / Total Nitrogen Analyzer Phton Lab/Tn/Ts	
	13-1200-C-N-冷镜式水露点分析仪 13-1200-C-N- Chilledmirror Water Dew Point Analyzer	



11.2.6	烃露点分析仪 CONDUMAXDew Point Of Hydrocarbon Analyzer Condumax WSG-101A 智能式微量水分分析仪 Wsg-101A Intelligent Moisture Analyzer Metrohm 848 型自动电位滴定仪 Metrohm 848 Automatic Potentiometric Titrator Metrohm 876 型半自动滴定仪 Metrohm 876 Semi-Automatic Titrator 实验室台式马弗炉 F48020-33CNF48020-33Cn Benchtop Muffle Furnace For Laboratory Use Elix 10 +60L Tank +Milli-Q Advantage Elix 10 +60L Tank +Milli-Q Advantage Metrohm883 型离子色谱仪 Metrohm883 Ion Chromatograph 氧气站设备 Equipment For Oxygen Station 制氧设备 Oxygen Generating Equipment 控制系统: 电器控制柜 Controlling System: Electric Control Cabinet 气防站设备 Equipment For Gas Station 防护设备 Protective Equipment	
11.2.7		



	急救设备 First-Aid Apparatus	
	检测设备 Inspection Equipment	
	个人防护设备 Personal Protective Equipment	
11.2.8	变压吸附制氮系统撬块 Skid Mounted Block Of Pressure Swing Adsorption Nitrogen Generating System 放空火炬撬 Skid Of Release Flare 仪表风撬 Skid Of Instrument Air 缓蚀剂注入撬 Corrosion Inhibitor Injection Skid	
11.2.9	预膜缓蚀剂注入撬 Pre-Filming Corrosion Inhibitor Injection Skid 清管发送装置 Pig Launcher 汇气管 Gas Header	
11.2.10	阻泡剂加入器 Anti-Foaming Agent Feeder 燃料气阻火器 Fuel Gas Flame Arrester	

	通用型波纹补偿器 General Corrugated Compensator	
	油罐自动切水器 Automatic Water Shutter For Oil Tank	
	蒸汽喷射器 Steam Ejector	
	阻火器 Flame Arrester	
	蒸汽分水器 Steam Water Separator	
11.3	沉降除油罐 Sedimentation Oil Removing Tank	
11.3.1	循环水泵 Circulating Pump	
11.3.2	污水提升泵 Sewage Lift Pump	
11.3.3	全自动并联高效纤维球过滤器 Full-Automatic Parallel Installed High Efficiency Fiber Ball Filter	
	除铁过滤器 Deferization Filter	
11.3.4	全自动纤维球过滤器 Full-Automatic Fiber Ball Filter	
11.3.5	全自动混凝剂投加设备 Full-Automatic Coagulant Feeding Equipment	
	组合式加药装置 Combined Dozing Equipment	

	冷却塔 Cooling Tower	
	中温逆流式钢结构工业型冷却塔 Medium Temperature Counter-Flow Steel Structural Industrial Cooling Tower	
11.3.6	旋转格栅机 Rotating Grating Spotter	
	平板格网 Mesh Penal	
11.3.7	不锈钢三角堰集水槽 Stainless Steel V Weir Water Accumulating Tank	
11.3.8	电动消防水泵 Electric-Drive Fire Pump	
11.3.9	柴油消防水泵 Diesel- Drive Fire Pump	
11.3.10	消防恒压给水设备 Constant Pressure Fire Fighting Water Supply	
11.3.11	污泥脱水撬装设备 Skid-Mounted Sludge Dewatering Equipment	
11.3.12	地埋式污水处理装置 Underground Wastewater Treatment Plant	
11.3.13	紫外线净水仪 Ultraviolet Water-Purifying Instrument	
11.3.14	变频供水设备 Variable-Frequency Water Supply Equipment	



11.4	接地变压器 Grounding Transformer	
11.4.1	SF6 断路器 Sf6 Breaker	
11.4.2	35kV 电力电缆 35Kv Power Cable	
	10kV 铠装阻燃电力电缆 10Kv Armored Fire Retardant Power Cable	
	10kV 非铠装电缆 10Kv Non-Armored Cable	
11.4.3	低压铠装阻燃电缆 Lv Armored Fire Retardant Power Cable	
	低压铠装阻燃耐火电缆 Lv Armored Fire Retardant And Fire Resistant Power Cable	
	落地式动力配电柜 Console Power Distribution Cabinet	
11.4.4	配电箱 Distribution Box	
11.4.5	设备线夹 Equipment Cable Clip	
11.4.6	平行挂板 Double Straps	

12.	防弹活动营房 bulletproof Removable barracks	Complete set includes four-man room 成套：包括 四人间
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活动营房 Removable barracks	Complete set includes four-man room, clinic, kitchen and dining-room , 成套包括 四人间、医务室、厨房餐厅等
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<b>13.</b>	<b>Others</b>
相机 Camera	Nikon D3
相机镜头 Camera lens	AF-S VR 70-200/2.8G IF-ED
相机镜头 Camera lens	AF-S 24-70mm f/2.8G ED
相机镜头 Camera lens	AF-S 14-24mm f/2.8G ED
相机架 Camera supports	SB-900
摄像机 Vidicon	SONY HVR-Z7C
三脚架 Tripod	SONY VCT-1170RM
充电器 Charger	SONY
摄像包 Photographic bags	
视频编辑系统 Video frequency editing system	
刨床 planer	B6066
Drilling machine with shaker 钻床	Z3050x16/1
Vertical drilling machine 垂直钻床	
Electrical hand drill 手电钻	Z5140, 3T
Screw-cutting lathe 螺纹车床	Sl-262A
Horizontal milling machine 卧式铣床	X6042
Vertical milling machine 垂直铣床	X5032
Plaz-conductor for metalworker 钳工用划线钻孔台	
Horizontal machining package 卧式车床	CW6163B, 630x3000
Oxygen cylinder 氧气瓶	

Horizontal machining package 水平车床	CA6140A, 400x2000
Acetylene cylinder 乙炔瓶	
Oxygen analyzer 氧气分析仪	
Acetylene analyzer 乙炔分析仪	
Oxygen tape 氧气带	
Welding set 电焊机	
Diascope 投影仪	NEC NP 2150+
Camera 照相机	Canon EOS 40 D with 1785 lens
缓蚀剂 Corrosion inhibitor	KO-101B
缓蚀剂 Corrosion inhibitor	KO-101A
温度自动检定系统 Automatic temperature detecting system	CST4001
全自动压力检定系统 Fully automatic pressure detecting system	低压 -95-Kpa-600KPa/中压 1-6MPa/高压 0-60MPa 0-60MPa low pressure-95-Kpa-600KPa/middle pressure1-6MPa/high pressure 0-60MPa
便携式压力校验仪 Potable pressure detector	DP1615LP, -15-15kPa 精度: GS T20050. 0.5%F.S a) 压力模块 CDP13 0-600KPa; b) 压力模块 CDP160-2MPa Accuracy: GS T20050. 0.5%F.S a) pressure module CDP13 0-600KPa; b) pressure module CDP160-2MPa
便携式压力校验仪 Potable pressure detector	DP161HC, 0-13.5MPa
便携式压力校验仪 Potable pressure detector	PV411, 0-6MPa, ra3
手泵压力计 Hand pump pressure gage	F177
数字万用表 Digital multimeter	F312
数字钳表 Digital clamp meter	F123/007
图形测试仪 Diagram tester	F724
温度校准器 Temperature calibrator	



兆欧表 Megameter	F1587
绝缘测试表 Insulation test pen	F1508
试电笔 Test pencil	F-1LAC-A-2
电能质量分析仪 Electric energy quality analyzer	F434
手操器 Manual operating device	B1200
台式活塞压力计 Desk type piston manometer	CST1090 0.1-6.0MPa
智能数字校验仪 Intelligent digital tester	CST2005
直流标准信号源 Standard DC signal source	CST-3000
数字式游标卡尺 Digital vernier caliper	0-300mm
手工红外测温仪 Manual infrared radiation thermometer	3i LTDL 3 U (-30-1200°C)
应急指挥综合调度仪 Emergency commanding comprehensive scheduling meter	信息综合管理系统 AC communication and AC information comprehensive management system
仪表常用工具 Common instrument for meter	
仪表常用工具 Common instrument for meter	弹仓式起子头套筒, 订货号№ 330057, 批次号 380 Magazine screwdriver bits socket, order No.: 330057, batch No.: 380
仪表常用工具 Common instrument for meter	电工绝缘 31 件组套, 订货号№ 331481, 批次号 9300-008 Electric insulation suit with 31 parts, order No.: 331481, batch No.: 9300-008
仪表常用工具 Common instrument for meter	电工绝缘 29 件组套, 订货号№331504, 批次号 9300-009 Electric insulation suit with 29 parts, order No.: 331504,, batch No.: 9300-009
仪表常用工具 Common instrument for meter	电工绝缘梅开扳手, 订货号№331795, 批次号 5590NT15 Electric insulation ring spanner, order No.: 331795, batch No.: 5590NT15
仪表常用工具 Common instrument for meter	标准起子头 31 件套, 订货号№294175, 批次号 7948-005 31 Standard screwdriver bits suit, order No.: 294175, batch No.:

	7948-005
仪表常用工具 Common instrument for meter	9 件装内六角扳手, 订货号№207090, 批次号 369RS9 9 socket head wrenches suit, order No.: 207090, batch No.:369RS9
仪表常用工具 Common instrument for meter	电缆剪刀, 订货号№271306, 批次号 279097 Cable scissors, order No.:271306, batch No.: 279097
铍铜防爆组合工具 BeCu anti-explosion combined tools	NO. D, 26шт.
铍铜防爆组合工具 BeCu anti-explosion combined tools	NO. E, 100шт.
枪形两段式烙铁 Two-segment soldering iron in gun shape	TQ-77-220V, 220 V, 20/20 OW
Wind Cursor 风速测试仪	BAG direction: into the tuyere diameter of 480mm, a tuyere diameter 250mm, length 1500mm, Stainless steel bearings pneumatic systems: a high degree of 700mm, diameter 38mm. Stainless steel rod wind: height 2000mm, diameter 38mm. The total height of 2.6m BAG 指示: 鼓风口入口直径 480mm, 鼓风口直径 250mm, 长度 1500mm, 不锈钢轴承, 充气系统: 高度数 700mm, 直径 38mm。不锈钢风杆: 高度 2000mm, 直径 38mm, 总高度 2.6m。
阻泡剂 Bubble resistance agent	阻泡剂 KS-604 最大浓度 22%。 Bubble resistance agent KS-604, maximal concentration 22%.
碱 (NaOH) Soda (NaOH)	碱 (NaOH), 固体, 工业级, 含量 96%, 固态, 25kg/袋。 NaOH, solid, industrial class, content 96%, solid, 25kg/bag.
絮凝剂 Flocculant	絮凝剂, 碱式氯化铝 Flocculant, basic aluminium chloride

杀菌剂 Fungicide	杀菌剂, 稳定二氧化氯 Fungicide, Stabilized chlorine dioxide solution
高效缓蚀缓垢剂 High efficient PBTC A	高效缓蚀缓垢剂, 缓蚀缓垢剂 High efficient PBTC A, PBTC A
高效缓蚀缓垢剥离剂 High efficient PBTC A remover	高效缓蚀缓垢剥离剂 High efficient PBTC A remover
磷酸三钠 Trisodium phosphate	磷酸三钠, 纯度 0.92-0.98, 工业磷酸三钠 Trisodium phosphate, purity 0.92-0.98, industrial trisodium phosphate
阻垢剂 Antisludging agent	阻垢剂, MDC220 含量 100%, 25kg/桶 Antisludging agent, MDC220 content 100%, 25kg/barrel
还原剂 Reducing agent	还原剂, 工业级, 含量 99%, 固态 25kg/袋。 Reducing agent, industrial class, content 99%, solid 25kg/bag.
次氯酸钠 Sodium hypochlorite	工业级, 浓度 10%, 液态, 50kg/桶 Industrial class, density 10%, liquid, 50kg/barrel.
柠檬酸 Citric acid	工业级, 含量 99%, 固态, 25kg/袋。 Industrial class, content 99%, solid, 25kg/bag.
氯化剂 Chlorinating agent	NaClO (有效成分 10%) NaClO (effective ingredient 10%)
还原剂 Reducing agent	NaHSO <sub>3</sub>
阻垢剂 Antisludging agent	Flcon135 膦基酸 Flcon135 DHHPA
防毒面具 Gas mask	Ponorama nova
补充药盒/过滤用 Supplement pill case/for filtering	A2B2E2K1
防静电大褂 Unlined long gown for anti static	不含帽子 Excluding cap
手提式噪音测试仪 Portable noise tester	TES1350A



蓄能器冲氮器 Accumulator nitrogen filling device	the appropriation complement nitrogen equip of MD-WCP0102 type well control system 冲氮装置适用于 MD-WCP0102 型井口控制系统
System adjusting laptop. With its own RS 232 pin connector 井口系统便携式专用调试维护平台, 带 RS 232 接口	the appropriation notebook computer of MD-WCP0102 type well control system MD-WCP0102 型井口系统便携式专用调试平台
防静电大褂 Unlined long gown for anti static	
Awning 布蓬	length*wide 3m*6m 长*宽 3m*6m
Anti-sun umbrella 遮阳伞	diameter 2m 直径 2m
Disinfecting drying cabinet for kitchen utensils 厨房用具干燥消毒柜	RTP500A-1
Disinfecting drying cabinet for kitchen utensils 厨房用具干燥消毒柜	RTP500A-1 (B)
抛缆枪 (套) Cable casting gun (suit)	3000PSL/207bar
救生带 Life belt	6x8m
救生气垫 Lifesaving air cushion	
起重气垫 Lifting air cushion	45x520mm
漏电测试仪 Leakage tester	(-18°C-800°C), 600g
红外线测试仪 Infrared tester	
风向风速仪 Wind vane and anemometer	
手持扩音器 Hand-held microphone	
警戒标识 (灯, 绳, 牌, 桩, 套) Warning logo (light, rope, board, pile, cover)	
担架 Stretcher	
消防员夏装 Summer wear for fire man	GA10-2002 TPP>35cal/cm2
消防员冬装 Winter wear for fire man	GA10-2002 TPP>35cal/cm2

消防员夏靴 Summer boots for fire man	GA6-2004
消防员训练靴 Exercise boots for fire man	
重型消防防护服 Heavy fire-fighting chemical protective clothing	
消防隔热服 Fire-fighting heat insulation clothing	GA88-94; 800-900°C, 70%
消防避火服 Fire-fighting fire proximity suit	1000°C, 30s, 25°C
消防夏手套 Summer glove for fire fighting	TPP>30cal/cm2
披肩式消防头盔 Wrap fire-fighting helmet	
消防面罩 Fire-fighting mask	
消防紧急呼救器 Emergency fire-fighting saving alarm	
安全带, 钩, 腰斧, 导向绳 Safety belt, hook, waist axe, guiding rope	GA494-2004
绝缘手套和绝缘靴 Insulation glove and insulation boot	
手台泵 Hand pump	
风力灭火机 Wind power extinguisher	
带架水枪(遥控) Hydraulic monitor with support (remote control)	
泡沫钩管 Foam hook	
消防炮 Fire monitor	
泡沫管枪吸液管 Foam gun pipe let	
泡沫比例器吸液管 Foam proportioned pipe let	
泡沫比例器闷盖扳手 Foam proportioned stiffl spanner	
高背压泡沫产生器 High back pressure foam generator	
水幕水带 Water curtain belt	6M, 2L/s.m
9米梯 9-meter ladder	
拉钩梯 Wire retractor ladder	
单杠梯 Horizontal bar ladder	

断电工具 Power cut tool	
灭火器试验台 Fire extinguisher test platform	
二氧化碳灌装装机 CO2 filling machine	3~5MPa, 6~10MPa, 1~3kg/min
干粉灭火器灌装装机 Dry-chemical fire extinguisher filling machine	1,2,3,4,5,8, 35kgBC, ABC
SFA 氮气灌装机 Nitrogen filling machine	
干粉灭火器 Dry-chemical fire extinguisher	ABC
正压式空气呼吸器 Positive pressure air respirator	6.8L
空气呼吸器气瓶充气机 Air respirator cylinder aerator	
便携式硫化氢检测仪 Portable hydrothion tester	
化学分析器材 Chemical analysis equipment	(CO.H2S.O2)
火场摄影器材 Fireground photographic equipment	
泡沫灭火剂 Foam extinguishing agent	
Flange 法兰	11"5KX11"10K flange with Ring, nut & bolt, FF
7" Completion tool for Normal pressure gas well 用于正常压力气井的 7" 完井工具	5000Psi Halliburton/Singapore, Casing: 7", 90S, 90SS, 29# ID: 6.184" Drift ID: 6.059", Tubing: P
6-5/8" Completion tool for old gas well 用于老气井的 6-5/8" 完井工具	5000Psi Halliburton/Singapore, Casing: 6-5/8", C75, 32# Min ID: 5.791", 5.675", Tubing 4-1/2" 12.6# BG 90SS-3Cr Seal-lock Apex B-P
Test pump assembly 试压泵	Manual lubricating gun & testing pump c/w connection pipe and joint, 15000Psi
Scanner 扫描仪	Fujitsu fi 6010N
Scanner 扫描仪	Fujitsu fi 6140
Scanner 扫描仪	Fujitsu fi 6240
Scanner 扫描仪	Fujitsu fi 6670A VRS
Scanner 扫描仪	Fujitsu fi 6770A VRS



Scanner workstation software 扫描仪工作站软件	Kofax Express Low Volume Production KX-W500-0001 License Type: Low volume Production Software: Kofax Express 2.5 Operating System: Microsoft Windows 7 Business 32/64bit Microsoft Windows 7 Enterprise 32/64bit Microsoft Windows Vista Business 32/64bit Microsoft Windows Vista Enterprise 32/64bit Microsoft Windows XP Professional SP3
Data Cabinet 文件柜	2hrs Fire-Resistant filing SENTINEL FRD-II-40
Data Cabinet 文件柜	2hrs Fire-Resistant filing SENTINEL FRD-II-44
Vacuum filter machine 真空过滤机	ZJA9KY
Vacuum pump 真空泵	ZJ150
High-pressure compressor unit 高压空气压缩机	ZH-LSE15-6; size: 1300X790X1000mm; mass: 550kg; with protective covering
Wellhead flange 井口法兰	Standard: API 6A 19TH; pressure class: 5K; temperature class: U; product specification Level: PSL3G; Inner diameter: 66.5mm; Face dimension: ring type joint flange; Media: H2S<5%, CO2 2-6%, NACE 1075
H2S Analyzer 硫化氢分析仪	Analyzer configure: Model 933, 240 VAC, 47 to 63Hz, class 1, Division 1, groups C&D, Ex d IIB T3
Remote Terminal Units (RTU) in well control for safety maintenance 井口安全控制系统	
Welding Flange 焊接法兰	5000PSI 3-1/8" Including ring gasket and bolts/nuts API 6A 19TH MC ASTM A694 F52 TC U PSL-3G
Welding Flange 焊接法兰	10000PSI 3-1/6" Including ring gasket and bolts/nuts API 6A 19TH MC ASTM A694 F52 TC U PSL-3G

Connecting Reducer 同心大小接管	PN23MPa DN100xDN80, D114.3x14.2-D88.9x16 L245NCS ASTM A694 F52
4A Molecular Sieves 4A 分子筛	
Activated Carbon 活性炭	
Corrosion inhibitor 缓蚀剂	Type: KO-101B; Apperance: Homogeneous yellow to brown; Density (20C): 0.86±0.1g/cm3, Solid content: ≥30%, Freezing point: ≥-30℃, Corrosion inhibiting ration: >90%
Caged choke 井口笼套式节流阀	3-1/8" 5K, FF,
Caged choke 井口笼套式节流阀	3-1/8" 5K, FF-NL
Caged choke 井口笼套式节流阀	3-1/16", 10K, HH
Armored copper cable 铠装铜电缆	3x95-1x50
Provision of Hydraulic Lift Car 液压升降车	Chassis model HFV1082K103R1; Engine model CY4102-C3B/100Kw; Rated load of platform 250Kg; 底盘型号 HFV1082K103R1, 发动机型号 CY4102-C3B/100Kw, 工作斗 额定载荷 250Kg
截止阀 031001 Stop valve	1/2"NPT*90°
截止阀 034001 Stop valve	9/16" Autoclave×180°
截止阀 032005B Stop valve	1/4"NPT×1/4"NPT
单流阀 071003B Check valve	1/2"NPT

注塑密封圈 293003 Injection sealing ring 293003	7"
注塑密封圈 414001 Injection sealing ring 414001	7"
油管帽密封 HKT Sealing ring for pipeline cap	O 型 O-образный O-ring
防尘圈 Dust ring	DH05-130
黄油嘴 Grease fitting	M6 01152-M6
阀盖垫环 Valve cover backing ring	3-1/8"5K 215630H
上座 Upper seat	1" 212005
杆密封 Bar sealing	1" 211004
上座 Upper seat	1-1/4" 212003
杆密封 Bar sealing	1-1/4" 211002
阀杆推力轴承 Valve rod thrust bearing	2-1/16"5K AXK4565
阀杆推力轴承 Valve rod thrust bearing	3-1/8"5K AXK4565
阀杆推力轴承 Valve rod thrust bearing	4-1/16"5K AXK4565
闸阀安全销 Gate valves safety pin	2-1/16"5K 209405
闸阀安全销 Gate valves safety pin	3-1/8"5K 209405
安全阀顶杆 Mandril for safety valve	4-1/16"5K 096008-13A
安全阀顶杆密封 Sealing ring of safety valve mandril	4-1/16"5K BA30670030
安全阀活塞密封 Piston sealing of safety valve	4-1/16"5K UN-130A
笼套节流阀阀盖垫环 Caged throttle cover backing ring	3-1/8"5K 215616
笼套节流阀阀盖垫环 Caged throttle mark cover	3-1/8"5K 569002A
R35 型钢圈 R35 R35 steel ring	R35 , 3 1/8", FF, 5000psi



R39 型钢圈	R37 R39 steel ring	R39 , 4 1/16", FF, 5000psi
法兰	Flange	4 1/16", F52, 5000psi
MSP 井口控制系统备件 (RTU)	MSP Wellhead control system spare parts (RTU)	
液压泵维修包	Service bag for hydraulic pump	厂家零件号 BRK01-0.47-700-P-A00-RK Part No. of manufacturer BRK01-0.47-700-P-A00-RK
手动泵维修包	Service bag for hand pump	厂家零件号 SP1A-RK Part No. of manufacturer SP1A-RK
泄放阀维修包	Service bag for discharge valve	厂家零件号 HCT3BBH-RK Part No. of manufacturer HCT3BBH-RK
减压阀维修包	Service bag for reducing valve	厂家零件号 28RG2-RK Part No. of manufacturer 28RG2-RK
减压阀维修包	Service bag for reducing valve	厂家零件号 28RG20-RK Part No. of manufacturer 28RG20-RK
蓄能器维修包	Service bag for accumulator	厂家零件号 4AT100-1-RK Part No. of manufacturer 4AT100-1-RK
蓄能器维修包	Service bag for accumulator	厂家零件号 NXQA-4/31.5-L-A-RK Part No. of manufacturer NXQA-4/31.5-L-A-RK
压力开关	Pressure switch	厂家零件号: 0140 458 09 1 306, 设定值 2.7bar Part No. of manufacturer: 0140 458 09 1 306, set value 2.7bar
温度变送器	Temperature transmitter	644HAE5XAJ6M5Q4-0065N31J0080D0050T44A1E5XA-50-450℃, 隔爆, 介质接口 1/2"NPT" 测温杆 50mm 644HAE5XAJ6M5Q4-50-450℃, 隔爆, 介质接口 1/2"NPT" 测温杆 50mm 644HAE5XAJ6M5Q4-50-450℃, 隔爆, 介质接口 1/2"NPT" 测温杆 50mm 644HAE5XAJ6M5Q4-0065N31J0080D0050T44A1E5XA-50-450℃, Explosion proof, media interface 1/2"NPT", temperature measuring rod 50mm, 644HAE5XAJ6M5Q4-50-450℃

	Explosion proof, media interface 1/2"NPT", temperature measuring rod 50mm, 644HAE5XAJ6M5Q4'-50-450□
电磁阀 Solenoid valve	E5SM-3201-34-H2-24VDC-1/4"NPT(F) & 1/8"NPT(F), DC 24V
蓄电池 Accumulator	6-GFM-150F
小型继电器 Small relay	RY4S-UL, DC24V
保险丝 Fuse	5*20 500mA
保险丝 Fuse	6*30 500mA
直流接触器 DC contactor	3TF47 22-1XB4, DC24V
接口转换器 Interface converter	NPORT5110-T
硫化氢探测器 Hydrothion detector	RRJ-RH04, 0-100PPM, 本安型防爆 RRJ-FW1-K 接头 RRJ-RH04, 0-100PPM, взрывозащитный, с соединителем типа RRJ-FW1-K
甲烷探测器 Methane detector	RRJ-RW1 0-100%LEL, 本安型防爆 配 RRJ-FW1-K 接头 RRJ-RW1, 0-100%LEL
充放电控制器 Charging and discharging controller	CX-40 24V, 40A
减压阀 Reducing valve	28RG20 3500-6000psi
减压阀 Reducing valve	28RG2 150psi
泄放阀 Discharge valve	FP15/L2/04/32/V
先导三通阀 Leading three-way valve	18SPC10
调压阀维修件 Air-vent valve service part	44-5263-243V-134

气液增压泵维修包 Gas-liquid blower pump service bag		17179—71/17178/55823
301F4Q 液止回阀维修包 301F4Q hydraulic check valve service bag	613396	
409M4F4Q 液安全阀维修包 409M4F4Q hydraulic safety valve service bag	613416	
BSP-3308-316 中继阀维修包 BSP-3308-316 relay valve service bag	B3308-316	
EB 型中继阀维修包 EB relay valve service bag	EB-101	
EH 型中继阀维修包 EH relay valve service bag	EH-101	
R 型导阀维修包 R leading valve service bag	R2/3-101	
R 型导阀维修包 R leading valve service bag	R3/2-101	
空气过滤器维修包 Air filter service bag	4380-700	
空气过滤器滤芯 Air filter element	4338-5-1	
低压调压阀维修包 Low-pressure air-vent valve service bag	4381-600	
易熔塞, Fusible plug	3/8" T, 316SS	
直通卡套接头 Straight guard staple joint	3/8" 直通卡套, 316SS, 3/8" straight guard staple, 316SS	
螺栓卡套直接头 Bolt guard staple straight joint	1/4" NPTM 转 3/8" 卡套直接头, 316SS, 1/4" NPTM for 3/8" guard staple straight joint 316SS,	



螺纹卡套弯头	Thread guard staple elbow	1/4"NPTM 转 3/8"卡套弯头,316SS 1/4"NPTM for 3/8" guard staple elbow,316SS
卡套三通	Guard staple tee joint	3/8"卡套三通,316SS 3/8" guard staple tee joint 316SS
螺纹卡套直接头	Bolt guard staple straight joint	1/4"NPTM 转 1/4"卡套直接头,316SS, 1/4"NPTM for 1/4" guard staple elbow,316SS
直通卡套接头	Straight guard staple joint	1/4" 直通卡套,316SS 1/4" Straight guard staple joint,316SS
防爆电磁阀	Explosion proof solenoid valve	E5SM-3201
防爆阀位开关	Explosion proof valve position switch	GO-Series Switch
太阳能电池板	Solar-cell panel	100W/24VDC
充电控制器	Charging controller	phocos CX20
蓄电池	Accumulator	6-CN-150
电源浪涌保护器	Power supply surge protector	DR M 2P 30
AI 浪涌保护器	AI surge protector	BXT ML2 BE S 24
AI 浪涌保护器	AI surge protector	BXT ML4 BE 24
AI 浪涌保护器	AI surge protector	BXT ML4 BC 5
DI 浪涌保护器	DI surge protector	BXT ML2 BE S 24
以太网端口浪涌保护器	Ethernet port surge protector	DPA M CAT6 RJ45S 48
浪涌保护器底座	Surge protector base	BXT BAS

信号隔离器	Signal isolator	58AP-A-R
信号隔离器	Signal isolator	58AR-4A-R
安全栅	Guard grating	58GM-111B02
安全栅	Guard grating	58GD-011B02
DC 稳压模块		明纬 SD-25B-12 MeanWell SD-25B-12
DC voltage stabilization module		
RTU 控制器		ST-IPM-6350
RTU controller		
混合 I/O	Mixed I/O	E2-MIX24882
模拟量输入		E2-16AI20M-D
Input of analog quantity		
串口服务器		Nport5110-T
Serial server		
太阳能控制器通讯模块	Solar controller communication module	MXI232
Cross-country ambulance (Iveco) 越野救护车 (依维柯)		NJ2045SAB6
捞油车	Oil fishing vehicle	JY5231TCYC20
钻机 Drilling rig		ZJ30T 拖装钻机
钻机 Drilling rig		ZJ50LDB
钻机 Drilling rig		ZJ70D
修井机 Workover rig		XJ-250
修井机 Workover rig		XJ-450
修井机 Workover rig		XJ650
钻头 Drill bit		393,7 IADC 124
钻头 Drill bit		393,7 IADC 115

钻头	Drill bit	393,7 IADC 134
钻头	Drill bit	393,7 IADC 214
钻头	Drill bit	393,7 IADC 215
钻头	Drill bit	393,7 IADC 247
钻头	Drill bit	295,3 IADC 124
钻头	Drill bit	295,3 IADC 137
钻头	Drill bit	295,3 IADC 237
钻头	Drill bit	295,3 IADC 447
钻头	Drill bit	215,9 IADC 124
钻头	Drill bit	215,9 IADC 127
钻头	Drill bit	215,9 IADC 137
钻头	Drill bit	215,9 IADC 237
钻头	Drill bit	215,9 IADC 317
钻头	Drill bit	215,9 IADC 327
钻头	Drill bit	215,9 IADC 537
钻头	Drill bit	215,9 IADC 547
钻头	Drill bit	165,1 IADC 547
钻头	Drill bit	III 490 IADC 115
油管 tubing		III 508,0 IADC 115
油管 tubing		HKT "J" 73x5,5 J55 NUE
油管 tubing		HKT "K" 73x5,51 K55 NUE
油管 tubing		HKT N-80 73x5,51 N80 NUE
油管 tubing		HKT 73x5,51 NUE no API 5 CT N-80
套管 Casing		193.7x10.92 P110



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套管 Casing	168,28x12,06 P-110 BTC (187,7mm) API 5 CT
套管 Casing	139,7x10,54 P-110 BTC (153,7mm) API 5 CT
套管 Casing	139,7x10,54 C-95 BTC (153,7mm) API 5 CT
套管 Casing	244,48x11,05 P-110 BTC (269,9mm) API 5 CT
套管 Casing	244,5x11,05 P-110 (BTC)
套管 Casing	244,5x11,99 P-110 (BTC)
套管 Casing	168,3x12,06 P-110 (BTC)
套管 Casing	139,7x10,54 P-110(BTC)
套管 Casing	244,5x11,05 P-110 (BTC)
钻杆 Drill pipe	127.x9.19 S135 (工具接头 165.1x82.5, 扣 NC-50) , 含耐磨带 tool joint 165.1x82.5, thread NC - 50), including wear resistant belt
抓管机 Pipe graber	ZL50C

## EXHIBIT--I -2

### LIST OF ITEMS TO BE IMPORTED FREE OF

CUSTOMS DUTIES---for oil collecting and gathering system

(Type model and Quantity will subject to detail engineering later on)

#### I. List of Main Equipment and Materials for

Gathering & Transmission and Processing Units of Oil Field

I. Well Head and Gas (Oil) Gathering Pipeline	
1. Well head	
No.	Equipment description
1	Throttle valve or cutoff valve (well safety system)
2	Pressure and temperature instrument
3	Auto-control RTU remote transmission system
4	Pig launcher and pig (if any)
2. Gas (oil) gathering pipeline	
1	Single-well pipeline and gas (oil) gathering pipeline
3. Transfer metering station	
No.	Equipment description
1	Separator
2	Buffer tank
3	Oil transfer pump or mixed transfer pump
4	Flash gas compressor
5	Flare
6	Pig launcher

7	Drain tank
8	Submerged pump
9	Valves (gate valve, drain valve, relief valve, control valve, ball valve, check valve and globe valve)
10	Alternate metering device
11	Instrumentation system
<b>4. Oil (gas) gathering trunk</b>	
No.	Equipment description
1	Pipeline
2	Intermediate heater
3	Buffer tank (if with intermediate pressurization)
4	Pig launcher
5	Drain tank
6	Submerged pump
7	Valves (gate valve, drain valve, relief valve, control valve, ball valve, check valve and globe valve)
8	Oil transfer pump or mixed transfer pump
9	Cutoff valve
10	Instrumentation system
<b>5. Combined station (crude oil process, only including desalting and dehydration)</b>	
No.	Equipment description
1	3-phase separator
2	Oil-gas separator
3	Pig receiver
4	Sedimentation tank
5	Tank
6	Heater
7	Heat exchanger
8	Complete set of electric desalting and dehydration equipment
9	Heater
10	Chemical injector
11	Flowmeter
12	Analyzer (water content)
13	Centrifugal pump
14	Metering and positive displacement pump



15	Valves (gate valve, drain valve, relief valve, control valve, ball valve, check valve and globe valve)	16	DCS\SCADA\ESD control system	17	Export pump	18	Pig receiver and launcher	19	Drain tank	20	Submerged pump	21	Oil transfer pipeline																										
II	Instrument	1	Central control room	1)	Configuration of computer control syste	-1	SIS	-2	PCS	-3	F&G system	2)	Safety instrument																										
-1	Portable combustible gas and toxic gas detector	-2	Toxic gas detector (H <sub>2</sub> S)	-3	SO <sub>2</sub> gas detector	-4	Combustible gas detector	-5	Explosion-proof audible and visual alarm	-6	Explosion-proof manual alarm button	2	Process unit																										
1)	Bimetallic-type thermometer	2)	Thermistor	3)	Sulfur-resistant pressure gauge	4)	Sulfur-resistant shockproof pressure gauge	5)	Stainless steel pressure gauge	6)	Sulfur-resistant advanced valve-type orifice plate throttle device	7)	Sulfur-resistant orifice plate throttle device	8)	Orifice plate throttle device	9)	Rotameter	10)	Rotor water gauge	11)	Side-mounted magnetic floater lever meter	12)	Top-mounted magnetic floater liquid level meter	13)	Sulfur-resistant transparent glass plate level meter	14)	Transparent glass plate level meter	15)	Float type level transmitter	16)	Radar level transmitter	17)	Analyzer	18)	Online H <sub>2</sub> S analyzer	19)	Toxic gas detector	20)	Audible and visual alarm

21)	Fire alarm button
22)	Double-flange differential pressure transmitter
23)	Pressure transmitter
24)	Pneumatic control valve
25)	Pneumatic cutoff ball valve
26)	Signal distributor
27)	Surge protector
28)	DCS
29)	Cable and wire
30)	Cable tray
31)	Explosion-proof junction box
32)	Explosion-proof isolating and sealing cable connector
33)	Instrument valves
34)	Pipe fittings and pipe joints
35)	Socket welded gate valve
36)	Inside screw gate valve
37)	Flange globe valve with relief valve behind valve
38)	Internal thread globe valve with relief valve behind valve
39)	Internal thread globe valve
40)	Socket type globe valve
III	Auxiliary production facility
I	Flare and vent system
1)	Venting flare
3)	Explosion-proof internal-flame-spread ignition disc
4)	High altitude ignition device
5)	Flame monitor
6)	Pilot lamp
7)	Flare stack
2	Crude oil tank farm
1)	Internal floating roof tank
2)	Spherical tank
3)	Automatic water knock out drum
4)	Screw pump
5)	Shielding pump
4	Lab
1)	Chromatography system
2)	Plasma emission spectrometer
3)	Cracking-UV fluorescent method analyzer
4)	Automatic potentiometric titrimeter
5)	Semi-automatic titrimeter
6)	Benchtop muffle furnace for lab
7)	Ion chromatograph

8)	Densitometer
9)	Air sampler
10)	Noise spectroanalyzer
11)	Full-automatic atmospheric petroleum product distillation range determination apparatus
12)	K-F Coulomb micro water determination apparatus
13)	Saturated steam pressure determination apparatus of petroleum product
14)	Petroleum product densimeter
15)	Mechanical impurity determination apparatus of petroleum product
16)	Flash point determination apparatus of petroleum product
17)	Copper strip corrosion test bomb for petroleum product
18)	Full-automatic kinematic viscosity tester
19)	Precise digital display constant temperature water bath kettle
20)	Liquid petroleum sampler
21)	Super-Nuova series heating plate and mixer
22)	Digital display carbon and nitrogen elements analyzer
23)	Liquid sampler
24)	Refrigerator
25)	Electronic temperature controlled heater
26)	Precise timing temperature rise blowing-type drying oven
27)	Quartz arsenic determination apparatus
28)	Portable high-speed grinder
29)	Swing type special oscillator
30)	opening type multi-temperature-area tubular furnace
31)	Standard sampling steel cylinder (stainless steel and aluminum alloy)
32)	Du Pont sampling bag
33)	Microwave digestion system
34)	Multi-use electric furnace with electronic temperature regulation
35)	Dry-type diaphragm vacuum pump
36)	Air blower
37)	Electronic stopwatch
38)	Calculator and clock
39)	Conventional glassware for assay and analysis
40)	Ultrasonic cleaner
41)	Glass instrument fast drier
42)	Multi-purpose high-speed centrifuge
43)	Oil concentration analyzer
44)	Wet-type gas flowmeter
45)	Box resistance furnace
46)	Aneroid pressure gauge DYM4-1
47)	Biologic photographic microscope
48)	Multi-split environment-friendly electric jacket



49)	Multi-split electric mixer
50)	High pressure steam sterilizer
51)	Orsat gas analyzer
52)	Experiment table (side table)
53)	Experiment table (central table)
54)	Instrument table
55)	Microscopy table
56)	Lifting workbench
57)	Shockproof balance table
58)	Chemicals cabinet
59)	Vessel cabinet
60)	Data cabinet
61)	Vertical eye washer
62)	Chemical protective goggles
63)	Protective gauze mask
64)	Earplug
65)	Half-face mask
66)	Chemical protective gloves
67)	H <sub>2</sub> S gas detector
68)	!TX-iSP multi-gas detector
69)	sheil812A chemical canister cabinet on non-toxic seat
70)	Caplair Midcap Filtrair
71)	1346 Grade II pipeless fume hood
72)	AVP804 chemical storage cabinet + inorganic + organic filter
IV	Water treatment/water supply & drainage system
I	Waste water treatment unit
1)	Electrode flotation and filter
2)	UV water purifier
3)	MBR reactor skid-mounted equipment
4)	RO skid-mounted equipment
5)	Sedimentation and oil removal tank
6)	Oil-water cyclone separator
7)	Sludge dehydration skid-mounted equipment
8)	Portable ammonium phosphate extinguisher
9)	Fire apparatus cabinet
V	Maintenance workshop
1)	First-aid repair equipment
2)	Equipment of maintenance workshop
3)	Equipment of cylinder storage room
4)	Engineering rescue vehicle
5)	Truck with crane
VI	Fire fighting system

1	Fire water pipe network system in plant area
1)	Hydrant and monitor dual-purpose outdoor aboveground industrial fire hydrant
2)	Outdoor aboveground fire hydrant
3)	Outdoor fire hose cabinet
4)	Wheeled ammonium phosphate dry powder extinguisher
5)	Portable ammonium phosphate dry powder extinguisher
VII	Electric System
1	Power supply and distribution system
1)	Explosion-proof single street lamp
2)	Armored fire retardant cable
3)	Non-armored fire retardant cable
4)	Armored fire retardant control cable
5)	Explosion-proof electric lift type high pole lamp
6)	Explosion-proof electric lift type high pole lamp
2	Substation
1)	Oil-immersed power transformer
2)	Power distribution unit
3)	Disconnecter for incoming line
4)	Arrester disconnector for incoming line
5)	Power carrier device
6)	110V incoming line arrester
7)	Iron tower for lightning rod
8)	Computer Integrated Automatic System
9)	Complete set of SF6 gas leak monitoring and alarm equipment
10)	Single-beam electric crane in GIS Room
11)	Maintenance power box
12)	10kV power distribution unit (air insulated, with vacuum circuit breaker)
13)	10kV ATE grouped capacitor compensation cabinet
14)	High frequency switch DC power supply unit
15)	Power distribution box/lighting distribution box
16)	35kV power cable
17)	10kV power cable
18)	110kV steel-cored aluminum twisted wire LGJ-240
19)	LV armored power cable
20)	LV non-armored power cable
21)	Control cable
22)	Earthing cable
23)	Insulated wire
24)	Indoor cable chilling shrinkable head
25)	Outdoor cable chilling shrinkable head
26)	Outdoor cable medium chilling shrinkable head
27)	Indoor cable thermal shrinkable head

3	Process unit	1)	Explosion-proof distribution box
		2)	Power cable
		3)	Explosion-proof floodlight
		4)	Explosion-proof plaster
		5)	Jumper
VIII	Communication		
		1)	Optical communication system
		2)	Microwave communication system
		3)	Trucked radio voice system
		4)	Program-controlled telephone exchange system
		5)	LAN and integrated wiring system
		6)	Explosion-proof PA/GA
		7)	CCTV monitoring system
		8)	Intrusion Detection System
		9)	Automatic fire alarm system
		10)	Power carrier communication
		11)	Optical fiber cable
		12)	Optical transmission trunk system
		13)	Single-well video optical transmission system
		14)	Single-well radio transmission system
		15)	CCTV system of RTU valve vault
IX	Heating, Ventilation and Air Conditioner		
1	Boiler plant		
1)	Gas Steam Boiler		
2)	Boiler blower		
3)	Boiler induced fan		
4)	Steel chimney		
5)	Mechanical filter		
6)	Desalination water unit		
7)	Chemical cleaning unit		
8)	Desalination Water Tank		
9)	Desalination water pump/deaerator pump for processing unit		
10)	Atmospheric thermal deaerator		
11)	Condensate tank		
12)	Brine Blowdown Pond		
13)	Boiler Blowdown Pond		
14)	Exchange heating unit for heating		
15)	Secondary stream cooler		
16)	Continuous sewage drain expander		
17)	Periodic sewage drain expander		
18)	Cooler		



I	Process
1)	UOE LSAW steel pipe
2)	LSAW seamless steel pipe
3)	Seamless steel pipe for liquid service
4)	Seamless steel pipe for high pressure boiler
8)	Stainless steel seamless steel pipe (0Cr18Ni9)
9)	Seamless steel pipe (316L)
10)	L245+316L composite pipe
11)	Obliquely inserted with 45° reducing tee
12)	Pig receiving tee (main pipe-branch) with stop strip
13)	Tee
14)	Bend
15)	Pipe cap
16)	Flat faced spectacle blind
17)	Flange
19)	Gasket

## II. List of Materials for Gathering & Transmission system of Oil Field

2	HVAC
1)	Copper and aluminum radiator
2)	Indoor unit of frequency conversion multi-split air conditioner room
3)	Outdoor unit of frequency conversion multi-split air conditioner room
4)	Dedicated air conditioner
5)	Washroom ventilator
6)	Fresh air unit
X	Utilities
1	A&N station
1)	Plant Air Vessel
2)	Purified gas Vessel
3)	Micro-oil Screw Air Compressor unit
4)	Heatless Regenerative Adsorption Dryer
5)	PSA and Nitrogen Generating System Skid
6)	Glass indicating head
2	Fuel gas system
1)	Fuel gas distribution vessel
XI	Corrosion control
1)	Potential transmitter



20)	Welding material	
21)	Insulation material	
23)	Thermometer nozzle	
24)	Nozzle of pressure gauge	
25)	Pipe bracket	
26)	Valve support	
27)	Pipe bracket	
28)	Pipe clamp	
II	Instrument	
1)	Section steel and plate	
2)	Baseplate	
3)	Column tie bar	
4)	Column head	
6)	Spiral wrapped gasket	
7)	Ring joint face octagonal metal ring gasket	
III	Communication	
1)	Program-controlled telephone exchange system	
2)	AC power line	
3)	DC power line	
4)	Battery connecting line	
5)	Earthing wire	
7)	Expansion bolt	
9)	Painting in grey	
10)	Terminal	
11)	Telephone wiring and LAN	
12)	Switch	
13)	Optical transceiver	
14)	Modular wire rack	
15)	8-core optical fiber splice fusion tray	
16)	24-core rack type optical fiber wire rack	
17)	Optical cable fiber jumper	
18)	Cat-6 patch cable	
19)	Voice jumper	

20)	Impact tool
21)	RJ45 pliers
22)	Horizontal cable arrangement ring
23)	Cat. 6 twisted pair
24)	Cable junction box
25)	Indoor wall-mounted junction box
26)	Armored local cable
27)	Local cable
28)	Armored signal cable
29)	8-core single-mode armored optical cable
30)	Double-port panel
31)	Bottom box
32)	Double-port metallic information floor jack
33)	Single-port metallic information floor jack
34)	Single-port metallic telephone floor jack
35)	Cat. 6 socket module
36)	Telephone terminal box
37)	Plastic copper-core telephone line
38)	Integrated wiring cabinet
39)	Weak-current distribution box
40)	Automatic telephone
41)	Network tester
42)	Crystal plug
43)	Telephone terminal
44)	RJ11 pliers
45)	Digital telephone
46)	Wire-passing box
47)	PA/GA
48)	Explosion-proof flexible pipe
54)	U clamp
56)	Installation bracket of loudspeaker
57)	Anticorrosive painting in grey
59)	Flexible pipe

60)	Industry Television System
61)	Monitoring system in unit area
62)	Column of rotating camera
63)	Column of rotating camera
64)	Galvanized steel plate
65)	Galvanized steel pipe
66)	Earthing flat steel
67)	Installation accessories of waterproof and explosion-proof box
68)	Explosion-proof pull box
69)	Explosion-proof union
70)	Channel type through tray
71)	Channel type vertical downward bend
72)	Channel type vertical upward bend
73)	Channel type horizontal elbow
74)	Channel type horizontal tee
75)	Channel type horizontal cross
76)	Channel type reducer
77)	Direct sheet
78)	Bracket arm
79)	Terminal tray head
80)	Through-plate joint
81)	Explosion-proof reducing joint
83)	Supporting channel steel
84)	Explosion-proof joint
87)	Galvanized round steel
88)	Substation monitoring system
89)	Wire-passing box
IV	Electric System
1)	Electrical hardware fittings
2)	Rod segment and iron accessory
3)	Earthing material
4)	Chassis and tie bed concrete and steel
5)	Corrosion control material

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4

6)	Other auxiliary materials	
V	Heating, Ventilation and Air Conditioner	
1)	Seamless steel pipe	
2)	Low-pressure fluid transmission welded steel pipe	
4)	Straight tee	
5)	Malleable iron fitting	
6)	90° equal-diameter elbow	
7)	Reducing tee	
8)	Straight tee	
9)	Reducer	
10)	Union	
11)	Leakage screwed plug	
VI	Water Supply and Drainage and Fire Fighting	
1)	Pipe materials and fittings	
2)	Seamless steel pipe	
3)	PPR water supply pipe	
4)	90° long-radius elbow	
5)	Straight tee	
6)	Butt-weldedolet	
7)	PPR water supply pipe fitting	
8)	Cold water type	
9)	Tee	
10)	Reducing tee	
11)	Bushing	
12)	Adapter with steel pipe	
13)	Hot water type	
14)	90°elbow	
15)	Reducing tee	
16)	Union	
17)	Ordinary water tap	
18)	Drainage works	
19)	Pipe materials and fittings	
20)	High-density polyethylene hollow wrapped drainage pipe	



1	Process
1	Process unit
1)	Seamless steel pipe for high pressure boiler
2)	Seamless steel pipe for liquid service
3)	Stainless steel seamless pipe for liquid service
4)	Welded stainless steel pipe (06Cr19Ni10)
5)	Welded steel pipe
6)	Butt-welded steel pipe flange with raised face
7)	Butt-welded steel pipe flange with ring joint face
8)	Flat-welded steel flange with jacket
9)	Butt-welded flange with raised face
10)	Butt-welded steel pipe flange with raised face
11)	Cover for flat-welded steel flange with jacket
12)	Cover for steel pipe flange with raised face
13)	90° steel plate welded long-radius elbow
14)	90° seamless long-radius elbow
15)	45° seamless elbow

### III. List of Materials for Oil Field Processing plant or CPF

21)	Rigid polyvinyl chloride drainage pipe
22)	Seamless steel pipe
23)	Reinforced concrete septic tank
24)	Waste water manhole
25)	Reinforced concrete oil separation tank
26)	UPVC drainage pipe fitting
27)	Cross
28)	Purging opening
29)	Water seal type floor drain
30)	Trap
31)	Pipe materials and fittings
32)	Butt-welded olet
33)	Butt-welded steel pipe flange with raised face
35)	Spiral wrapped gasket with inner ring and positioning ring (18-8-flexible graphite)

WS

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16)	Concentric reducer
17)	Eccentric reducer
18)	Straight tee
19)	Reducing tee
23)	Spiral wound gasket (with inner ring and positioning ring)
24)	Octagonal metal ring gasket for ring-joint face flange
25)	Spiral wrapped gasket
26)	Flat faced spectacle blind
27)	Restriction orifice
28)	Hopper
29)	Single-thread nipple
30)	Pipe cap
31)	Butt-weldedolet
32)	Insulation aluminum sheet
33)	Composite silicate pipe shell
34)	Composite silicate plate
35)	Rigid polyurethane foam pipe shell
36)	Rigid polyurethane foam plate
37)	Flame retardant mastic
38)	Medium-alkali woven plain glass cloth
39)	304 stainless steel wire
40)	304 stainless steel banding tape
41)	Self drilling/tapping 304 stainless steel screw
42)	Mating primer for PE adhesive tape
43)	PE adhesive tape
44)	Anti-corrosion of surface pipelines and equipment
45)	Polyamide solidification epoxy
46)	Epoxy micaceous iron oxide intermediate paint
47)	Polyurethane finish
48)	Organosilicon heat-resistant primer
49)	Insulation gasket unit
50)	Electrical tracing band
51)	Power supply junction box

MS

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52)	3-way tee junction box
53)	End junction box
54)	Silicone foam inhibitor
55)	Porcelain ball
56)	Active carbon
57)	Inert porcelain ball
58)	Metallic stuffing    Stainless steel conjugate ring
59)	Seamless steel pipe (20# steel)
60)	Steel plate
61)	Channel steel
62)	Round steel
63)	Angle steel
64)	Semi-finished hexagon nut
65)	Pipe bracket
66)	Textile air hose
67)	Textile water hose
68)	Steel wire armored steam hose
69)	Gas supply system for lab
70)	High-pressure cylinder
71)	Bend
72)	Carbon steel electrode
73)	Solder wire
74)	Valve support
II	Instrument
1)	Carbon steel plate
2)	Galvanized sheet iron
3)	Angle steel
4)	Channel steel
5)	Perforated angle iron
6)	Flat steel
7)	Round steel
8)	Baseplate
9)	Column tie bar

WS

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10)	Column head	
11)	Fastener	
12)	Hexagon-headed bolt	
13)	Hexagon nut	
14)	Spiral wrapped gasket	
15)	Ring joint face octagonal metal ring gasket	
18)	Metal expansion bolt	
20)	Seamless steel pipe	
21)	Galvanized water-gas steel pipe	
22)	Seam steel pipe	
23)	Pipe fittings for instrument air	
24)	Butt-welded tee	
25)	Reducer	
26)	Elbow	
27)	Galvanized internal/external threaded pipe joint	
28)	Galvanized pipe joint for cable trough	
29)	Pull box for water-gas pipe	
30)	Rear-cover straight pull box	
31)	Rear-cover tee pull box	
32)	Incubator	
33)	Heat insulation cotton	
34)	Composite silicate insulation pipe shell	
35)	Glass-cloth single cut tape	
36)	Galvanized iron wire	
37)	Asphalt felt paper and paint	
38)	Insulation aluminum sheet for pipeline	
39)	Cable tray	
40)	Horizontal tee	
41)	Horizontal cross	
42)	Reducer	
43)	Equal-diameter vertical upward bend	
44)	Equal-diameter vertical upward bend	
45)	Head	



46)	PTFE thread seal tape
47)	PVC insulation tape
48)	Self-adhesive tape
49)	PVC sheathed crimping for lug
50)	Lug
51)	Needle-shaped joint
54)	Stainless steel
55)	Epoxy primer with rust
56)	Epoxy finish coat with rust
III	Communication
1)	Program-controlled telephone exchange system
2)	AC power line
3)	DC power line
4)	Battery connecting line
5)	Earthing wire
6)	Angle steel
7)	Expansion bolt
10)	Terminal
11)	Telephone wiring and LAN
12)	Switch
13)	Optical transceiver
14)	Modular wire rack
15)	8-core optical fiber splice fusion tray
16)	24-core rack type optical fiber wire rack
17)	Optical cable fiber jumper
18)	Cat-6 patch cable
19)	Voice jumper
20)	Impact tool
21)	RJ45 pliers
22)	Horizontal cable arrangement ring
23)	Cat. 6 twisted pair
24)	Cable junction box
25)	Indoor wall-mounted junction box

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26)	Armored local cable
27)	Local cable
28)	Armored signal cable
29)	8-core single-mode armored optical cable
30)	Double-port panel
31)	Bottom box
32)	Double-port metallic information floor jack
33)	Single-port metallic information floor jack
34)	Single-port metallic telephone floor jack
35)	Cat. 6 socket module
36)	Telephone terminal box
37)	Plastic copper-core telephone line
38)	Integrated wiring cabinet
39)	Weak-current distribution box
40)	Automatic telephone
41)	Network tester
42)	Crystal plug
43)	Telephone terminal
44)	RJ11 pliers
45)	Digital telephone
46)	Wire-passing box
47)	PA/GA
48)	Explosion-proof flexible pipe
49)	Galvanized angle steel
50)	Supporting angle steel
51)	Galvanized steel pipe
52)	Galvanized steel pipe joint
56)	Installation bracket of loudspeaker
57)	Anticorrosive painting in grey
59)	Flexible pipe
60)	Industrial Television System
61)	Monitoring system in unit area
62)	Column of rotating camera

63)	Column of rotating camera
64)	Galvanized steel plate
65)	Galvanized steel pipe
66)	Earthing flat steel
67)	Installation accessories of waterproof and explosion-proof box
68)	Explosion-proof pull box
69)	Explosion-proof union
70)	Channel type through tray
71)	Channel type vertical downward bend
72)	Channel type vertical upward bend
73)	Channel type horizontal elbow
74)	Channel type horizontal tee
75)	Channel type horizontal cross
76)	Channel type reducer
77)	Direct sheet
78)	Bracket arm
79)	Terminal tray head
80)	Through-plate joint
81)	Explosion-proof reducing joint
82)	Supporting angle steel
83)	Supporting channel steel
84)	Explosion-proof joint
87)	Galvanized round steel
88)	Substation monitoring system
89)	Wire-passing box
IV	Electric System
1)	Galvanized steel pipe
2)	Earthing flat steel
3)	Round steel
4)	Angle steel earth electrode
5)	Grounded manhole
6)	Support for cable trench
7)	Single street lamp (with base, light source and ballast, etc.)

8)	LED lamp
9)	Lift type high pole lamp
10)	Junction box
11)	Cable tray
12)	Horizontal elbow
13)	Horizontal tee
14)	with such connection accessories as cover plate and bolt
15)	Reducing joint
16)	Angle adjusting strap
17)	Terminal head
18)	Street lamp base
19)	Sealing material for cable trench
20)	Terminal box
21)	Terminal box for main transformer
22)	Tension insulator string
23)	Suspension insulator string
24)	Steel-cored aluminum twisted wire
25)	Tension clamp
26)	Suspension clamp
27)	Copper-aluminium transition device clamp
28)	"T" type clamp
29)	Device clamp
30)	Cable terminal
31)	Copper clad steel grounding electrode
32)	Copper clad steel grounding flat belt
33)	Copper clad steel grounding main line
34)	Stranded copper wire
35)	Street lamp
36)	Low flood light
37)	Wire protection pipe PVC
38)	Cable protection pipe
39)	Channel steel
40)	Cable connecting terminal



41)	CS195 + fire-proof composite sheet
42)	and relevant auxiliary materials
V	Heating, Ventilation and Air Conditioner
1)	Spiral submerged arc welded steel pipe for low-pressure fluid transmission
2)	Seamless steel pipe for liquid service
3)	Stainless steel seamless pipe for liquid service
4)	90° long-radius elbow
5)	Concentric reducer
6)	Eccentric reducer
7)	Straight tee
8)	Reducing tee
9)	Spectacle blind
10)	Butt-welded steel pipe flange with raised face
11)	Butt-welded flange with raised face
12)	Cover for butt-welded steel pipe flange with raised face
14)	Spiral wrapped gasket with inner ring and positioning ring
15)	Spiral wrapped gasket for flange
16)	Butt-welded olet
17)	Composite silicate insulation tube package (inner diameter × thickness)
19)	Organosilicon heat-resistant primer
20)	Protective layer
21)	Aluminum sheet
22)	Profile steel
23)	Steel plate
24)	Low-pressure fluid transmission welded steel pipe
25)	Pipe fitting
26)	Steel elbow
27)	Steel tee
28)	Steel reducer
29)	Pipe clamp
30)	Round steel
31)	Galvanized steel plate
32)	Profile steel

33)	Angle steel
34)	Industrial canvas
VI	Plumbing
1)	Seamless steel pipe for liquid service
2)	Seamless steel pipe for high pressure boiler
3)	PE winding hollow structure wall pipe
4)	Rigid polyvinyl chloride (PVC-U) drainage pipe
6)	Steel butt-welding seamless pipe fittings
7)	90° long-radius elbow
8)	Straight tee
9)	Concentric reducer
10)	Flange
11)	Butt-welded steel pipe flange with raised face
13)	Spiral wrapped gasket with inner ring and positioning ring
14)	PE adhesive tape corrosion-proof layer
15)	Mating primer for PE adhesive tape
16)	PE adhesive tape
17)	Indoor sprinkler
18)	Brick round waste water manhole
19)	Brick outdoor soil and water seal wells
20)	Reinforced concrete oil separation tank
21)	Reinforced concrete septic tank
22)	Wooden insulation manhole cover
23)	Light nodular cast iron manhole cover
24)	Heavy nodular cast iron manhole cover
25)	Light nodular cast iron bearing
26)	Heavy nodular cast iron bearing

# EXHIBIT---I -3

## LIST OF ITEMS TO BE IMPORTED FREE OF CUSTOMS DUTIES --

### Equipment List for drilling and completions +IT

No	Equipment	Type, model	Measure (set, pcs, t)	Quantity
<b>I. Equipment for drilling and completions</b>				
<i>Wireline Logging Equipment</i>				
1	Logging Unit	OSLC	EA	1
2	Hepta Cable	7-46 XS	EA	1
3	Mono Cable	1-23	EA	1
4	Blow Out Preventer	BOP-M	EA	1
5	Dog House	Doghouse	EA	1
6	Radio Active Containers	RC	EA	1
7	Explosives containers	EC	EA	2
8	WHE-5K	WHE-5K	EA	1
9	Resistivity Tool – induction	AIT-M	EA	1
10	Spontaneous Potential	SP	EA	1
11	Lithology Density Tool	PEX-TLD	EA	1
12	Compensated Neutron Tool	PEX-HGNS	EA	1
13	Microlog	PEX-MCFL	EA	1
14	Spectral Gamma Ray Tool	HNGS	EA	1
15	Formation Testing	MDT-SP	EA	1
16	Formation Imaging	FMI	EA	1
17	Full Wave Sonic	DSI	EA	1
18	Inclinometer Tool	GPIT	EA	1
19	CBL-VDL	DSLIT	EA	1
20	Casing Collar Location	CAL-Y	EA	1
21	Shooting Gamma Ray Tool	PGGT	EA	1
22	Production Logging Tool (Pressure, Temperature, Water Hold-up, Gradio manometer, Flowmeter)	PSP	EA	1
23	Bridge Plug Setting Tool	CPST	EA	1
24	Logging Head with Head Tension for Hepta Cable	LEH-QT	EA	2
25	Free Point Indicator tool	FPIT	EA	1
26	Wireline Fishing Tools	SFT-157	EA	1
27	Junk Basket	JB	EA	1
29	Pipe Recovery	Pipe Recovery	SET	1
30	Storage and Maintenance Workshop	A-60	EA	1
<i>Mud Logging Equipment</i>				
1	Mud Logging Unit	LE-11	EA	1
2	Standard Mud Logging Unit Equipment	U-12	SET	1
3	Fluid Analysis Equipment		SET	1
4	Drilling Sensors Depth	- LS 10	SET	1

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WS



	Hook Position/Weight on Bit Rotary Speed Rotary Torque)	LS 12 LS 13 LS 14		
5	Mud Parameters			
	Mud Density IN & OUT	LS 31	EA	2
	Mud Temperature IN & OUT	LS 33	EA	2
	Mud Conductivity IN & OUT (Optional)	LS 34	EA	2
	Mud Flow IN (calculated) & OUT (Paddle Type)	LS 37	EA	1
	Pump Stroke Counter (SPM)	LS 15	EA	3
	Pump Pressure	LS 12	EA	1
	Casing Pressure (Optional)	LS 12	EA	1
	Cementing Unit Pressure (Optional)	LS 12	EA	1
	Mud Pit Level (Sonic)	LS 36	EA	6
	Trip Tank Sensor	LS 35	EA	1
6	Gas Detection			
	Infra Red CO2 Gas Detector		EA	1
	SMART H/C detectors		EA	1
	H2S Sensors with alarms	LS 50	EA	2
7	Gas Detection Main			
	Degasser GZ21 – QGM Type		EA	1
	GFF Fast Chromatograph and Total Gas Detector	HE 26	EA	1
	H2 Generator		EA	1
	Air Compressor		EA	1
8	Data Acquisition		SET	1
	On-Line Data Acquisition System: One Real Time data acquisition computer (gNA) One Real Time data Monitoring computer (RTM) One Server network computer (SVX) One Real time Graphic computer (RTG) Real time display units		EA	1 1 1 1 1 2
	Off-Line station: (TDX) Explosion proof video repeater, 14” color monitor (drill floor) Remote Stations in Company offices (CM & WSG) VDU Repeaters 15” ( CM, TP, WSG) Offline Printer (HP70) Color Printer for Real Time Data Print Out vs Depth and vs Time		EA	1 1 2 3 1 1
<b>Drill Stem Test Equipment and Slickline</b>				



1	Retrievable Packer with Hold Down	FLXP/PIPK	EA	1
2	Safety Joint	SJB	EA	1
3	Hydraulic Jar	JAR	EA	1
4	Pressure Control Tester Valve	PCTV	EA	1
5	Pressure Operated Reference Tool	PORT	EA	1
6	Multi-cycle Circulating Valve	MCVL	EA	1
7	Single-shot Hydrostatic Operated Tool	SHRV	EA	1
8	Gauge Carrier	DGA	EA	1
9	Quartz Gauges	WCQR/WTQR	EA	1
10	Tubing Fill Test Valve	TFTV	EA	1
11	Pump-through Flapper Safety Valve	PFSV	EA	1
12	Radioactive Marker Sub	RAM	EA	1
13	Slip Joint	SLPJ	EA	3
14	Crossovers		SET	1
15	Workshop		EA	1
16	Flowhead	FHD	EA	1
17	Slickline unit	Double drum	EA	1
18	Slickline tool kit	Standard and Memory	EA	1
19	Slickline workshop	Skid mounted	EA	1
<b>Coring Equipment</b>				
17	Coring Heads		EA	6
18	Coring Barrels		EA	2
19	Coring workshop		EA	1
<b>Mud Laboratory Testing Equipment</b>				
1	Marsh Funnel		EA	2
2	Mud Cups		EA	2
3	Mud balance Conventional		EA	1
4	Pressurized Mud Balance		EA	1
5	6 speed Viscometer (VG Meter)		EA	1
6	Thermo Cup		EA	1
7	API Fluid Press		EA	1
8	HTHP Filter Press		EA	1
9	pH Meter & Buffer Solutions		EA	1
10	MBT Test Kit		EA	1
11	PHPA Test Kit		EA	1
12	Garret Gas train		EA	1
13	CO2 drager tubes (box - 10)		EA	3
14	H2S drager tubes (box - 10)		EA	3
15	50 cc Mud Retort		EA	1
16	Sand Content Set		EA	2
17	Magnetic Stirrer		EA	1
18	Hot Plate		EA	1
19	Poratable Analytical Balance		EA	1
20	Hamilton Beach Mixer		EA	1
21	Transformer 230 v , 50 hz/ hz		EA	1
<b>Other Materials</b>				
1	10 ml Graduated cylinder		EA	6
2	2 ml Syringe		EA	6
3	5 ml Syringe		EA	6
4	1 ml Graduated pipettes		EA	10

6	5 ml Graduated pipette		EA	10
7	10 ml Graduated pipette		EA	10
8	250 ml Erlenmeyer flask		EA	6
9	50 ml Graduated cylinder		EA	8
10	100 ml Beaker		EA	4
11	250 ml Beaker		EA	4
12	Stirring rod (glass)		EA	6
13	Titration vessel/Dish 100 t 150 ml		EA	6
14	Digital Stop Watch		EA	2
15	Thermometer (reading 220 °F)		EA	4
16	Thermometer (reading 500 °F)		EA	4
17	Wire brush (Small)		EA	4
18	Wire brush (Large)		EA	4
19	Spatula for 50 cc retort		EA	4
20	Cork Screw		EA	2
<b>Measurement while Drilling (MWD) and Directional Drilling Equipment</b>				
	Mud Motors			
1	9-1/2" OD Mud Motor - Medium speed High Torque, suitable for kickoff and drilling with PDC Bit & TCR Bit (For 12-1/4" to 17-1/2" Hole)	A962M5640XP	EA	2
2	6-3/4" OD Mud Motor -Medium Speed High Torque, suitable for kickoff and drilling with PDC Bit & TCR Bit (For 8-1/2" Hole)	A675M7850XP	EA	2
	Sleeve Stabilizers for Mud Motors			
3	17-3/8" Sleeve Stabilizer for 9-1/2" Motor	IBS	EA	1
4	12-1/8" Sleeve Stabilizer for 9-1/2" Motor	IBS	EA	2
5	8-3/8" Sleeve Stabilizer for 7" Motor	IBS	EA	1
	MWD			
6	12-1/4" - 17-1/2" hole	SlimPulse	EA	1
7	8-1/2" hole	SlimPulse	EA	1
	Directional Tools			
8	9-1/2" Non-magnetic Drill Collars		EA	2
9	9-1/2" Short Non-magnetic Drill Collars		EA	1
10	6-1/2" Non-magnetic Drill Collars		EA	2
11	6-1/2" Short Non-magnetic Drill Collars		EA	1
	IB Under gauge String Stabilizer (spiral) for 17-1/2" hole			
12	17-1/2" or 17-1/4" Blade OD Stabilizer	IBS	EA	1
13	17" Blade OD Stabilizer	IBS	EA	1
	IB Under gauge String Stabilizer (spiral) for 12-1/4" hole			
14	12-1/8" Blade OD Stabilizer	IBS	EA	2



15	12" Blade OD Stabilizer	IBS	EA	2
	IB Under gauge String Stabilizer (spiral) for 8-1/2" hole			
16	8-1/4" Blade OD Stabilizer	IBS	EA	2
17	8-1/8" Blade OD Stabilizer	IBS	EA	2
	Orientating Mule Shoe Sub			
18	9-1/2" Orientating Mule Shoe Sub		EA	1
19	6-1/2" Orientating Mule Shoe Sub		EA	1
20	Cross-over sub as required to Make-up Bidders Tool to Rig BHA (9-1/2" Drill Collars with 7-5/8" Regular connection will be used in 17-1/2" & 12-1/4" hole and 6-1/4" Drill Collar with 4" IF connection will be used in 8-1/2" hole)		SET	1
21	Logging Unit for real time data acquisition with accessories and spare parts	LLU	EA	1
22	Downhole MWD tool	MWD	EA	4
23	Logging while drilling tools	LWD	EA	8
24	Rotary Steerable tools	Powerdrive	EA	4
<b>Well Testing Equipment</b>				
1	High Pressure Piping	1502	SET	1
2	Low Pressure Piping	602	SET	1
3	Choke Manifold	FMF	EA	1
4	Oil Manifold	MFD	EA	1
5	Gas Manifold	MFD	EA	1
6	Separator	SEP	EA	1
7	Transfer Pump	PMP	EA	1
8	Data Header	FHH	EA	1
9	Storage Tank	VST/FGTS	EA	1
10	Heater	IHT/STX	EA	1
11	Emergency Shut Down	ESD	EA	1
12	Surface Safety Valve	SSV	EA	1
13	Chemical Injection Pump	PMP/TXT	EA	1
14	Data Acquisition System	STAN	SET	1
15	Multi Phase Testing unit	Phasetester	EA	2
<b>Cementing Equipment</b>				
1	Automatic Density Control Cement unit Skid/Tailor mounted powered by twin diesel Engine with two pumps. Pressure rating : Minimum 10,000 psi	CPS 361	EA	1
2	Pressurized cement storage silo Capacity: Minimum 1000 cu ft c/w transfer hoses etc.	Standard land	EA	3
3	Cement cutting bottle with table Capacity : 50 cu ft.,	Standard land	EA	1
4	Compressor Capacity : Minimum 250 cu ft/min	Standard land	EA	1
5	Recirculating mixer c/w Surge tank, ( Minimum 75 cu ft. Capacity)	Included in Pump	EA	1

6	Batch mixer tank capacity :100 bbl	Standard land skid	EA	1
7	Cementing head (Plug loading head and manifold) for 13-3/8" and 9-5/8" casing	Standard land	SET	1
8	Quick-Latch Coupler to fit 13-3/8" BTC, 9-5/8" BTC and 7" BTC Casing	Standard land	SET	1
9	Pressurized mud balance	Standard rig specification	EA	1
<b>Liner Hanger Running Equipment</b>				
1	7" HYDRAULIC RUNNING TOOL		EA	1
2	CMTD TOP DRIVE CEMENT MANIFOLD		EA	1
3	CMSB CEMENT MANIFOLD		EA	1
<b>Tubing Conveyed Perforation Equipment</b>				
1	Hydraulic Delay Firing Head	HDF	EA	1
2	Bar Hydrostatic Firing Head	BHF	EA	1
3	Bull Nose	-	EA	1
4	Debris Sub	DS	EA	1
5	Intercarriers		SET	1

II LIST OF ITEMS TO BE IMPORTED FREE OF CUSTOMS DUTIES---for IT and/or IT service		
No	Item Name	Detail
1	Satellite link and LAN	
1.1	Leasing Inmarsat Services	for the preliminary and remote site mail, data communications, voice telephony
1.2	VSAT system construction	In Afghanistan capital and camp build 2 satellite ground stations and master stations
1.3	Office network construction	See the following list
	Afghanistan capital Office network construction	Afghanistan capital office LAN cabling and LAN construction.
	Afghanistan camp network construction	Afghanistan camp office LAN cabling and LAN construction.
2	IP phone	



2.1	Construction of IP phone system in Afghanistan	Constructing IP phone system in Afghanistan, providing free internal calls and external 30 routes calling at the same time
3	Video Conference system construction in Afghanistan	See following list
3.1	Construction of video conference meeting room in Afghanistan	Building Afghanistan video conference rooms, providing ordinary conference of 20 persons capacity and video conferencing services.
3.2	Afghanistan video conferencing software	Purchasing V2 video conferencing system software, to provide 50 concurrency conference capacity and HD conferencing support service
4	Conference system construction in Afghanistan	Building Dubai video conference rooms, providing ordinary conference of 20 persons capacity and video conferencing services.
4.1	Basic Application	
	Basic application construction of Afghanistan	To establish domain controller, mail server, anti-virus system, instant messaging system for daily office services in Afghanistan.
4.2	Office Supplies, IT consumables Purchasing	See schedule
	Printer	50 sets of multi-function printer
5	Color Printer	5 sets of color printer
5.1	Desktop computers	200 sets of desktop computer
5.2	Laptop	100 sets of laptop
6	Consumables Purchasing	Cartridge consumables, Desktop UPS, backup of computer backup wearing parts, hard drives, memory, mouse, CD-ROM, headphones, mobile hard disk, U disk, tape, and equipment maintenance costs

6.1	Radio(Interphone)	
	Radio of Afghanistan field	Set up radio stations in the working site and set up two sets of relay stations.
7	Communication tower	Building 25 meters high communication tower
	Communication tower	Building 25 meters high communication tower
	Digital Mobile Communication Cluster System	
	Digital Mobile Communication Cluster System	Set up a data cluster in Afghanistan camp, to achieve mobile access, mobile Internet, wireless coverage and other functions.
	Intelligent Security	
7.1	Video monitoring	Building Video monitoring system in Afghanistan camps and the internal perimeter of the construction area , to achieve all-round monitoring, dynamic tracking, motion capture, intelligence analysis, linkage alarm monitoring protection.
7.2	Cable vibration border protection	Camps in Afghanistan set the vibrating fiber optic perimeter protection, achieve to intrusion detection, alarm linkage

## EXHIBIT---I-4

**LIST OF ITEMS TO BE IMPORTED FREE OF  
CUSTOMS DUTIES--for gas collecting and processing  
System (Type model and Quantity will be subject to detail  
Engineering later on)**

**I. List of Equipment for Internal Gathering & Transmission system**

<b>I</b>	<b>Internal gathering &amp; transmission part</b>
<b>1</b>	Incoming/outgoing valve vault of internal gathering & transmission system or valve vault of internal gathering line
1)	Sulfur-resistant pneumatic-hydraulic ball valve
2)	Sulfur-resistant manual ball valve
3)	Sulfur-resistant throttle globe blow valve
4)	Manual ball valve
<b>2</b>	<b>Single-well station</b>
1)	Venting separator
2)	Sulfur-resistant internal threaded globe valve
3)	Sulfur-resistant pulse shuttle-type check valve
4)	Sulfur-resistant manual ball valve
5)	Sulfur-resistant throttle globe blow valve
6)	Sulfur-resistant spring loading full-opening safety valve
7)	Flame arrester
8)	Rupture disk
<b>3</b>	<b>Gas gathering unit</b>
1)	Sulfur-resistant electric ball valve
2)	Sulfur-resistant pneumatic ball valve
3)	Sulfur-resistant manual ball valve
4)	Sulfur-resistant double-acting throttle globe valve
5)	Sulfur-resistant jacket-type drain valve
6)	Sulfur-resistant check valve

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7)	Sulfur-resistant spring loading full-opening sulfur-resistant safety valve
8)	Manifold
9)	Pig receiver
10)	Horizontal gas-liquid separator
11)	Sump oil tank
12)	Expander
4	Pre-processing plant 1/pre-processing plant 2
1)	Alternate metering separator
2)	3-phase separator
3)	Sulfur-resistant air cooler
4)	Pig launcher
5)	Flare KO drum
6)	Flare skid
7)	Corrosion inhibitor tank
8)	Corrosion inhibitor injection skid
9)	Immersed pump
10)	Vent cap
11)	Instrument air skid
12)	Corrosion probe system
13)	Corrosion coupon equipment
14)	Electronic positioning pig with rubble bowl
15)	Pig signal transmitter
16)	Pig positioning receiver
17)	Pig pass indicator
18)	Special charger
19)	Pig
20)	Rubble bowl matched with pig
5	Anti-corrosion
1)	Potential transmitter
6	Instrument
1)	Bimetallic-type thermometer
2)	Thermal resistor
3)	Sulfur-resistant pressure gauge





4)	Sulfur-resistant shockproof pressure gauge
5)	SST pressure gauge
6)	Sulfur-resistant advanced valve-type orifice plate throttle device
7)	Sulfur-resistant orifice plate throttling device
8)	Orifice plate throttling device
9)	Rotameter
10)	Rotor water gauge
11)	Side-mounted magnetic floater lever meter
12)	Top-mounted magnetic floater liquid level meter
13)	Sulfur-resistant transparent glass plate level meter
14)	Transparent glass plate level meter
15)	Float type level transmitter
16)	Radar level transmitter
17)	Analyzer
18)	Online H <sub>2</sub> S analyzer
19)	Toxic gas detector
20)	Audible and visual alarm
21)	Fire alarm button
22)	Dual-flange differential pressure transmitter
23)	Pressure transmitter
24)	Pneumatic control valve
25)	Pneumatic cut-off ball valve
26)	Signal distributor
27)	SPD
28)	DCS control system
29)	Cable and wire
30)	Cable tray
31)	Explosion-proof junction box
32)	Explosion-proof isolating and sealing cable connector
33)	Instrument pipe valve
34)	Pipe fitting and pipe joint
35)	Socket welded gate valve
36)	Internal threaded gate valve

37)	Flange globe valve with relief valve downstream
38)	Internal threaded globe valve with relief valve downstream
39)	Internal threaded globe valve
40)	Socket type globe valve
7	Communication
1)	Route of optical fiber cable
2)	Optical transmission system of gas gathering trunk
3)	Video optical transmission system of single well
4)	Radio transmission system of single well
5)	Microwave communication system
6)	Radio cluster audio system
7)	CCTV system of pre-processing plant
8)	Intrusion alarm system of pre-processing plant
9)	Automatic fire alarm system of pre-processing plant
10)	Telephone wiring and computer network of pre-processing plant
11)	CCTV system of RTU valve vault
8	Electrical
1)	Power distribution unit
2)	Integrated automatic system of substation
3)	Full enclosed oil-immersed transformer
4)	LV power distribution unit
5)	LV dense bus bridge
6)	DC power supply
7)	UPS
8)	EPS
9)	Distribution box for lighting
10)	Power distribution box
11)	Explosion-proof electrodeless lamp
12)	Armored fire retardant cable
13)	Non-armored fire retardant cable
14)	Explosion-proof power distribution box
15)	Power cable
16)	Explosion-proof floodlight

17)	Explosion-proof plaster
18)	Jumper
8	Water supply & drainage and fire fighting
1)	Frequency conversion water supply equipment for production and fire fighting
2)	UV water purifier
3)	Double eccentric turbine driven butterfly valve
4)	Soft seal gate valve
5)	Internal threaded ball valve
6)	Relief valve
7)	Underground waste water treatment unit
8)	Electrical horizontal fire pump
9)	Outdoor industrial hydrant
10)	Outdoor fire hose cabinet
11)	Multifunctional water pump control valve
12)	Pressure retaining valve/ relief valve
13)	Fire fighting tools
14)	Wheeled ammonium phosphate extinguisher
15)	Portable ammonium phosphate extinguisher
16)	Portable carbon dioxide extinguisher
17)	Cabinet heptafluoropropane extinguishing equipment
18)	CDII-6D electrical hoist
II	Export
1	Export valve vault
1)	Pneumatic-hydraulic ball valve (welded for connection)
2)	Manual ball valve (welded for connection)
3)	Manual ball valve
4)	Double-acting throttle globe valve
2	Gas export terminal station
1)	Pig receiver
2)	Venting pipe
3)	Pneumatic-hydraulic ball valve (welded for connection)
4)	Manual ball valve (welded for connection)
5)	Throttle globe valve



6)	Throttle globe blow valve (with supporting flange and fastener)
7)	Valve barrel type drain valve (with supporting flange and fastener)
3	Anti-corrosion
1)	Potential transmitter
4	Instrument
1)	Pressure gauge
2)	Safety instrument (including flammable gas detector and fire alarm button)
3)	Intelligent transmitter
4)	Dial instrument
5)	Cable and wire
6)	Instrument pipe valve
7	Communication
1)	Route of optical fiber cable
2)	Optical transmission system
3)	Microwave communication system
4)	Radio cluster audio system
5)	CCTV system of RTU valve vault
8	Electrical
1)	Explosion-proof power distribution box
2)	Power distribution box
3)	10/0.4kV pole-mounted substation
4)	Online UPS
5)	Power cable
6)	Explosion-proof union joint
7)	Explosion-proof isolating and sealing box
8)	Explosion-proof seal filler
9)	Insulated copper core earth wire
10)	Explosion-proof junction box
11)	Explosion-proof LED lamp
12)	Explosion-proof distribution box
13)	Explosion-proof power distribution box
14)	Power cable
15)	Explosion-proof union joint



16)	Explosion-proof isolating and sealing box
17)	Explosion-proof seal filler
18)	Insulated copper core earth wire
19)	Solar photovoltaic cell
20)	9720Wp, including combiner box, installation support and other accessories
21)	Maintenance-free valve-regulated sealed lead-acid battery
22)	Split control cabinet
23)	Insulated copper core earth wire
24)	Explosion-proof electrodeless lamp
9	Water supply & drainage and fire fighting
1)	Wheeled ammonium phosphate extinguisher
2)	Portable ammonium phosphate extinguisher
3)	Portable carbon dioxide extinguisher
4)	Fire fighting tools
5)	Mainly including fire blanket, fire bucket and fire axes,
6)	fire shovel and fire sand

## II. List of Equipment of CPF

I	Process
1	Desulfurization and decarbonization unit
1)	Absorber
2)	Regenerator
3)	Flash tower
4)	Sheet and tube heat exchanger
5)	Blowing-type air cooler
6)	Heat exchanger of lean/rich liquid (plate type heat exchanger)
7)	Thermosiphon reboiler
8)	Separator
9)	Flash vessel
10)	Condensate tank
11)	Reflux tank
12)	Solution vessel

13)	Solution preparing vessel
14)	Nitrogen water sealed tank
15)	Filter separator
16)	Mechanical filter
17)	Activated carbon filter
18)	Lean liquid circulation pump
19)	Rich liquid energy recovery turbine
20)	Centrifugal pump
21)	Submerged pump
22)	Lifting facilities (including traveling crane and electric hoist)
23)	Full lift safety valve
24)	Ball valve (including cryogenic ball wall and jacketed ball valve)
25)	Gate valve (including cryogenic gate valve)
26)	Globe valve (including cryogenic globe wall and sampling valve)
27)	Multifunction self-reflux valve
28)	Check valve (including jacketed check valve)
29)	Butterfly valve
30)	Plug valve
31)	Pipe filter (including basket-type filter and Y-type filter)
2	Dehydration unit
1)	Molecular sieve dehydration tower
2)	Heater
3)	Coalescer
4)	Dust filter
5)	Regeneration gas compressor
3	Hydrocarbon dew point control unit
1)	Wrapped-tube heat exchanger
2)	Cryogenic separator with efficient internal
3)	Expander
4	Sulfur recovery unit
1)	Main combustion furnace
2)	Primary and secondary reheaters
3)	Tail gas incinerator (including stack)

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4)	Stage 1, 2 and 3 reactors
5)	Waste heat boiler
6)	Primary, secondary, tertiary and quaternary sulfur coolers
7)	Liquid sulfur trap
8)	Stage 1, 2, 3, 4 and 5 liquid sulfur seals
9)	Main fan and tail gas incinerator fan
10)	Liquid sulfur pump
11)	Liquid sulfur pond
12)	Degassing tank
13)	Tail gas chimney
14)	Burner of main combustion furnace
15)	Burner of primary reheater
16)	Burner of secondary reheater
17)	Burner of tail gas incinerator
18)	Steam ejector
19)	Universal bellow compensator
20)	Tee switching valve
21)	SV-500 sampling valve
22)	Flame arrester
5	Condensate stabilization unit
1)	Condensate stabilization tower
2)	Acid water stripper
3)	Three-phase separator with efficient internal
6	Amine liquid purification unit
1)	Amine liquid purification system
7	Gas export unit
1)	Pig launcher
2)	Manifold
3)	Pneumatic-hydraulic ball valve
4)	Electric ball valve
5)	Pneumatic ball valve
6)	Electric throttle globe blow valve
7)	Manual throttle globe blow valve

8)	Pilot safety valve
9)	Electronic positioning pig with rubble bowl
10)	Pig signal transmitter
11)	Pig positioning receiver
12)	Pig pass indicator
13)	Special charger
14)	Pig
15)	Rubble bowl is matched with pig.
8	Condensate export unit
1)	Pigging valve
2)	Pig (with paraffin cutting function)
9	Process and heating system pipeline
1)	Steam water trap
II	Instrument
1	Central control room
1)	Configuration of computer control system
(1)	Main configuration of central control room system
a	Configuration of computer control system in central control room
	Data server (redundant configuration and rack installation)
	Communication server (redundant configuration and rack installation)
	Operator station (with console), configured with double displays
	Auxiliary console of SIS
	PCS engineer station (with console), configured with single display
	SIS engineer station (with console), configured with single display
	Laser printer
	Color inkjet printer
b	Configuration of computer control system in cabinet room of central control room
	Server cabinet
	With foldable rack, 17" LCD and track ball keyboard
	Power cabinet of system
	Configuration of PCS control station of the third train of units:
	PCS cabinet



	Intermediate terminal cabinet of PCS
	Redundant controller of PCS
	Power module of PCS
	Communication module of PCS
	I/O capacity of PCS control system
	I/O capacity of control system
	Configuration of SIS control station of the third train of units:
	SIS cabinet
	Intermediate terminal cabinet of SIS
	SIS controller (SIL3)
	SIS power module (SIL3)
	SIS communication module (SIL3)
	I/O capacity of control system (SIL3)
	Configuration of PCS control station of the fourth train of units:
	PCS cabinet
	Intermediate terminal cabinet of PCS
	Redundant controller of PCS
	Power module of PCS
	Communication module of PCS
	I/O capacity of PCS control system
	Configuration of SIS control station of the fourth train of units:
	SIS cabinet
	Intermediate terminal cabinet of SIS
	SIS controller (SIL3)
	SIS power module (SIL3)
	SIS communication module (SIL3)
	I/O capacity of control system (SIL3)
(2)	Main configuration of cabinet rooms of the first and second trains of units
a	Engineer station (with console), configured with single display
b	Power cabinet of system
c	Configuration of PCS control station of the first train of units:
	PCS cabinet
	Intermediate terminal cabinet of PCS

	Redundant controller of PCS
	Power module of PCS
	Communication module of PCS
	I/O capacity of PCS control system
	I/O capacity of control system
d	Configuration of SIS control station of the first train of units:
	SIS cabinet
	Intermediate terminal cabinet of SIS
	SIS controller (SIL3)
	SIS power module (SIL3)
	SIS communication module (SIL3)
	I/O capacity of control system (SIL3)
e	Configuration of PCS control station of the second train of units:
	PCS cabinet
	Intermediate terminal cabinet of PCS
	Redundant controller of PCS
	Power module of PCS
	Communication module of PCS
	I/O capacity of PCS control system
f	Configuration of SIS control station of the second train of units:
	SIS cabinet
	Intermediate terminal cabinet of SIS
	SIS controller (SIL3)
	SIS power module (SIL3)
	SIS communication module (SIL3)
	I/O capacity of control system (SIL3)
g	Main configuration of cabinet rooms of the fifth and sixth trains of units
	Engineer station (with console), configured with single display
	Power cabinet of system
	Configuration of PCS control station of the fifth train of units:
	PCS cabinet
	Intermediate terminal cabinet of PCS
	Redundant controller of PCS

	Power module of PCS
	Communication module of PCS
	I/O capacity of PCS control system
h	Configuration of SIS control station of the fifth train of units:
	SIS cabinet
	Intermediate terminal cabinet of SIS
	SIS controller (SIL3)
	SIS power module (SIL3)
	SIS communication module (SIL3)
	I/O capacity of control system (SIL3)
i	Configuration of PCS control station of the sixth train of units:
	PCS cabinet
	Intermediate terminal cabinet of PCS
	Redundant controller of PCS
	Power module of PCS
	Communication module of PCS
	I/O capacity of PCS control system
j	Configuration of SIS control station of the sixth train of units:
	SIS cabinet
	Intermediate terminal cabinet of SIS
	SIS controller (SIL3)
	SIS power module (SIL3)
	SIS communication module (SIL3)
	I/O capacity of control system (SIL3)
k	Gas gathering unit, A&N station, flare and vent system
	Main configuration of PCS control station
	IO cabinet of PCS
	Redundant controller of PCS
	Power module of PCS
	Communication module of PCS
	I/O capacity of PCS control system
l	RS485 communication interface
	Main configuration of SIS control station of utilities:

	IO cabinet of SIS
	SIS controller (SIL3)
	SIS power module (SIL3)
	SIS communication module (SIL3)
	I/O capacity of control system (SIL3)
	Main configuration of cabinet room of utilities
	Engineer station (with console), configured with single display
	Power cabinet of system
(3)	Configuration of PCS control station of utilities units:
a	PCS cabinet
b	Intermediate terminal cabinet of PCS
c	Redundant controller of PCS
	Power module of PCS
	Communication module of PCS
	I/O capacity of PCS control system
	RS485 communication interface
(4)	Main configuration of cabinet room of boiler plant
	Data server
	Operator station (with console), configured with double displays
	Engineer station (with console), configured with double displays
	Also served as operator station
	PCS cabinet
	Intermediate terminal cabinet of PCS
	Redundant controller of PCS
	Power module of PCS
	Communication module of PCS
	I/O capacity of PCS control system
	RS485 communication interface
(5)	Main configuration of sulfur solidification operation room
	Operator station (with console)
	IO cabinet of PCS
	Controller of PCS
	Power module of PCS






	Communication module of PCS
	I/O capacity of PCS control system
	RS485 communication interface
(6)	Redundant communication network of computer control system (including route switch, optical transceiver, RS485 terminal server, redundant control network, optical equipment, etc.)
	Main software of the system (including software packages satisfying the normal operation of the system, e.g. database software, communication software, system configuration software, operation station software, engineer station (with console) software, report form preparation software, etc.)
(7)	Configuration of fire and gas (F&G) system
	Main configuration of F&G system of central control room
	Engineer/operator station (with console), configured with double displays
(8)	Alarm panel of F&G system
	Redundant communication network of computer control system (including route switch, optical transceiver, RS485 terminal server, redundant control network, optical equipment, etc.)
(9)	Main software of the system (including software packages satisfying the normal operation of the system, e.g. database software, communication software, system configuration software, operation station software, engineer station (with console) software, report form preparation software, etc.)
(10)	System cabinet
	Redundant controller of F&G system (SIL3)
	Power module of F&G system (SIL3)
	System communication module (SIL3)
	IO cabinet of F&G system
	I/O capacity of F&G system
(11)	Main configuration of F&G systems in cabinet rooms of the first and second trains of units
	Remote IO cabinet of F&G system
	With 220VAC power module and communication module SIL3

	I/O capacity of F&G system
(12)	Main configuration of F&G systems in cabinet rooms of the fifth and sixth trains of units
	Remote IO cabinet of F&G system
	With 220VAC power module and communication module SIL3
	I/O capacity of F&G system
(13)	Main configuration of F&G system in cabinet room of utilities unit
	Remote IO cabinet of F&G system
	With 220VAC power module and communication module SIL3
	I/O capacity of F&G system
(14)	Main configuration of F&G system in sulfur solidification operation room
	Remote IO cabinet of F&G system
	With 220VAC power module and communication module SIL3
	I/O capacity of F&G system
2)	Safety instrument
(1)	Portable combustible gas and toxic gas detector
(2)	Toxic gas detector (H <sub>2</sub> S)
(3)	SO <sub>2</sub> gas detector
(4)	Combustible gas detector
	Measuring range: 0-100% LEL (CH <sub>4</sub> )
	Measuring range: 0-100% LEL (C <sub>2</sub> H <sub>2</sub> )
	Measuring range: 0-100% LEL (C <sub>3</sub> H <sub>8</sub> )
	Measuring range: 0-100% LEL (H <sub>2</sub> )
(5)	Explosion-proof audible and visual alarm
	Sound pressure level: 110dB(A).
(6)	Explosion-proof manual alarm button
2	Process unit
1)	Bimetallic-type thermometer
2)	Thermistor
3)	Sulfur-resistant pressure gauge
4)	Sulfur-resistant shockproof pressure gauge
5)	Stainless steel pressure gauge
6)	Sulfur-resistant advanced valve-type orifice plate throttle device

7)	Sulfur-resistant orifice plate throttle device
8)	Orifice plate throttle device
9)	Rotameter
10)	Rotor water gauge
11)	Side-mounted magnetic floater lever meter
12)	Top-mounted magnetic floater liquid level meter
13)	Sulfur-resistant transparent glass plate level meter
14)	Transparent glass plate level meter
15)	Float type level transmitter
16)	Radar level transmitter
17)	Analyzer
18)	On-line H <sub>2</sub> S analyzer
19)	Toxic gas detector
20)	Audible and visual alarm
21)	Fire alarm button
22)	Double-flange differential pressure transmitter
23)	Pressure transmitter
24)	Pneumatic control valve
25)	Pneumatic cutoff ball valve
26)	Signal distributor
27)	Surge protector
28)	DCS
29)	Cable and wire
30)	Cable tray
31)	Explosion-proof junction box
32)	Explosion-proof isolating and sealing cable connector
33)	Instrument valves
34)	Pipe fittings and pipe joints
35)	Socket welded gate valve
36)	Inside screw gate valve
37)	Flange globe valve with relief valve behind valve
38)	Internal thread globe valve with relief valve behind valve
39)	Internal thread globe valve

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40)	Socket type globe valve
III	Auxiliary production facility
1	Sulfur solidification and loading facility
1)	Liquid sulfur tank
2)	Complete set of sulfur solidification unit
3)	Automatic weighing, bagging and palletizing production line
2	Flare and vent system
1)	High pressure flare
2)	Low pressure flare
3)	Explosion-proof internal-flame-spread ignition disc
4)	High altitude ignition device
5)	Flame monitor
6)	Pilot lamp
7)	Flare stack
3	Condensate tank farm
1)	Internal floating roof tank
2)	Spherical tank
3)	Condensate automatic water trap
4)	Screw pump
5)	Shielding pump
4	Lab
1)	gas chromatography system
2)	plasma emission spectrometer
3)	Antek MultiTek VLLS cracking-UV fluorescent method analyzer
4)	mirror type water dew point analyzer
5)	Hydrocarbon dew point analyzer
6)	intelligent micro water analyzer
7)	automatic potentiometric titrimeter
8)	semi-automatic titrimeter
9)	Benchtop muffle furnace
10)	ion chromatograph
11)	Densimeter
12)	Air sampler

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13)	Noise spectroanalyzer
14)	Full-automatic atmospheric petroleum product distillation range determination apparatus
15)	K-F Coulomb micro water determination apparatus
16)	Saturated steam pressure determination apparatus of petroleum product
17)	Petroleum product densimeter
18)	Mechanical impurity determination apparatus of petroleum product
19)	Flash point determination apparatus of petroleum product
20)	Cu sheet corrosion determination apparatus of petroleum product
21)	Full-automatic kinematic viscosity tester
22)	Precise digital display constant temperature water bath kettle
23)	Liquid petroleum sampler
24)	Super-Nuova series heating plate and mixer
25)	Digital display carbon and nitrogen elements analyzer
26)	Liquid sampler
27)	Refrigerator
28)	Electronic temperature controlled heater
29)	Precise timing temperature rise blowing-type drying oven
30)	Quartz arsenic determination apparatus
31)	Portable high-speed grinder
32)	Swing type special oscillator
33)	opening type multi-temperature-area tubular furnace
34)	Industrial sulfur organic substance determination apparatus
35)	Standard sampling steel cylinder (stainless steel and aluminum alloy)
36)	Du Pont sampling bag
37)	Microwave digestion system
38)	Multi-use electric furnace with electronic temperature regulation
39)	Dry-type diaphragm vacuum pump
40)	Air blower
41)	Electronic stopwatch
42)	Calculator and clock
43)	Conventional glassware for assay and analysis
44)	Ultrasonic cleaner

45)	Glass instrument fast drier
46)	Multi-purpose high-speed centrifuge
47)	Oil concentration analyzer
48)	Wet-type gas flowmeter
49)	Box resistance furnace
50)	Aneroid pressure gauge DYM4-1
51)	Biologic photographic microscope
52)	Multi-split environment-friendly electric jacket
53)	Multi-split electric mixer
54)	High pressure steam sterilizer
55)	Orsat gas analyzer
56)	Experiment table (side table)
57)	Experiment table (central table)
58)	Instrument table
59)	Microscopy table
60)	Lifting workbench
61)	Shockproof balance table
62)	Chemicals cabinet
63)	Vessel cabinet
64)	Data cabinet
65)	Vertical eye washer
66)	Chemical protective goggles
67)	Protective gauze mask
68)	Earplug
69)	Half-face mask
70)	Chemical protective gloves Nitraf
71)	H <sub>2</sub> S gas detector ToxiVision
72)	iTX-iSP multi-gas detector
73)	sheif812A chemical canister cabinet on non-toxic seat
74)	Captair Midcap Filtair
75)	1346 Grade II pipeless fume hood
76)	AVPD804 chemical storage cabinet + inorganic + organic filter
IV	Water treatment/water supply and drainage system

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1	Waste water treatment unit/produced water treatment and reinjection system
1)	Electrode flotation and filter
2)	UV water purifier
3)	MBR reactor skid-mounted equipment
4)	RO skid-mounted equipment
5)	Sedimentation and oil removal tank
6)	Oil-water cyclone separator
7)	Sludge dehydration skid-mounted equipment
8)	Portable ammonium phosphate extinguisher
9)	Fire apparatus cabinet
V	Maintenance workshop
1)	First-aid repair equipment
2)	Equipment of maintenance workshop
3)	Equipment of cylinder storage room
4)	Engineering rescue vehicle
5)	Truck with crane
VI	Fire fighting system
1	Fire water pipe network system in plant area
1)	Hydrant and monitor dual-purpose outdoor aboveground industrial fire hydrant
2)	Outdoor aboveground fire hydrant
3)	Outdoor fire hose cabinet
4)	Wheeled ammonium phosphate dry powder extinguisher
5)	Portable ammonium phosphate dry powder extinguisher
VII	Electric appliance
1	Power supply and distribution system
1)	Explosion-proof single street lamp
2)	Armored fire retardant cable
3)	Non-armored fire retardant cable
4)	Armored fire retardant control cable
5)	Explosion-proof electric lift type high pole lamp
6)	Explosion-proof electric lift type high pole lamp
2	SS-451-459



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1)	Oil-immersed power transformer
2)	Power distribution unit
3)	Disconnecter for incoming line
4)	Arrester disconnector for incoming line
5)	Power carrier device
6)	110V incoming line arrester
7)	Iron tower for lightning rod
8)	Computer Integrated Automatic System
9)	Complete set of SF6 gas leak monitoring and alarm equipment
10)	Single-beam electric crane in GIS Room
11)	Maintenance power box
12)	10kV power distribution unit (air insulated, with vacuum circuit breaker)
13)	10kV ATE grouped capacitor compensation cabinet
14)	High frequency switch DC power supply unit
15)	Power distribution box/lighting distribution box
16)	35kV power cable
17)	10kV power cable
18)	110kV steel-cored aluminum twisted wire LGJ-240
19)	LV armored power cable
20)	LV non-armored power cable
21)	Control cable
22)	Earthing cable
23)	Insulated wire
24)	Indoor cable chilling shrinkable head
25)	Outdoor cable chilling shrinkable head
26)	Outdoor cable medium chilling shrinkable head
27)	Indoor cable thermal shrinkable head
3	Process unit
1)	Explosion-proof distribution box
2)	Power cable
3)	Explosion-proof floodlight
4)	Explosion-proof plaster
5)	Jumper



VIII	Communication
1)	Optical communication system
2)	Microwave communication system
3)	Trucked radio voice system
4)	Program-controlled telephone exchange system
5)	LAN and integrated wiring system
6)	Explosion-proof PA/GA
7)	CCTV monitoring system
8)	Intrusion detection system
9)	Automatic fire alarm system
10)	Power carrier communication
IX	Heating, Ventilation and Air Conditioner
1	Boiler plant
1)	Gas steam boiler
2)	Boiler blower
3)	Boiler induced fan
4)	Steel chimney
5)	Mechanical filter
6)	Desalted water unit
7)	Chemical cleaning unit
8)	Desalination water tank
9)	Desalination water pump/deaerator pump for process unit
10)	Atmospheric thermal deaerator
11)	Condensate tank
12)	Brine Blowdown Pond
13)	Boiler Blowdown Pond
14)	Exchange heating unit for heating
15)	Secondary stream cooler
16)	Continuous sewage drain expander
17)	Periodic sewage drain expander
18)	Cooler
2	HVAC
1)	Copper and aluminum radiator

2)	Indoor unit of frequency conversion multi-split air conditioner room
3)	Outdoor unit of frequency conversion multi-split air conditioner room
4)	Dedicated air conditioner
5)	Washroom ventilator
6)	Fresh air unit
X	Utilities
1	A&N station
1)	Plant air vessel
2)	Purified gas Vessel
3)	Micro-oil Screw Air Compressor unit
4)	Heatless Regenerative Adsorption Dryer
5)	PSA and Nitrogen Generating System Skid
6)	Glass indicating head
2	Fuel gas system
1)	Fuel gas distribution vessel
XI	Corrosion control
1)	Potential transmitter

### III. List of Materials of Internal Transmission

I	Process
II	Instrument
III	Communication
IV	Electric System
V	Heating, Ventilation and Air Conditioner
VI	Water Supply and Drainage and Fire Fighting

### IV. Summary of CPF Materials

I	Process
1	Processing units
2	Terminal equipment of condensate exporting pipeline

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1)	Elbow
2)	Carbon steel electrode
3)	Welding wire
4)	Valve support
3	Gas exporting facility
1)	UEO Straight seam submerged arc welded steel pipe X70/L485
2)	Seamless steel pipe L245
3)	Seamless steel pipe L360
4	Gas pipe in living camp
1)	Sign stake
2)	Steel sleeve
3)	Plugging material
4)	Insulation rubber coat
5)	Brick
6)	Bituminous hemp fibers
7)	Cement mortar
8)	Rubber coat
9)	Power cable
10)	Grass pane
II	Instrument
III	Communication
IV	Electrical
V	Heating, Ventilation and Air Conditioner
VI	Water supply and drainage
1)	Seamless steel pipe for liquid transportation
2)	Seamless steel pipe for HP boiler
3)	Polyethylene-wrapped hollow structure wall pipe
4)	Rigid polyvinyl chloride (PVC-U) drainage pipe
5)	Pipe fitting
6)	Steel butt-welding seamless pipe fitting
7)	90° long radius bend
8)	Straight tee
9)	Concentric reducer

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10)	Flange
11)	Steel pipe welding neck flange with raised face
12)	Stud bolt (nut)
13)	Metal spiral gasket with inner rings and positioning ring
14)	PE adhesive tape corrosion-proof layer
15)	Mating primer for PE adhesive tape
16)	PE adhesive tape
17)	Indoor sprinkler
18)	Bricked round sewage manhole
19)	Bricked outdoor water seal well
20)	Reinforced concrete oil separation tank
21)	Reinforced concrete septic tank
22)	Wood insulated well lid
23)	Light ductile cast iron well lid
24)	Heavy ductile cast iron well lid
25)	Light ductile cast iron support
26)	Heavy ductile cast iron support

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## **EXHIBIT---I -5**

### **LIST OF ITEMS TO BE IMPORTED FREE OF CUSTOMS DUTIES---for living and service system**

I. Drilling site living facilities 钻井施工现场生活设施

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## Equipment List for Standard Operations

No	Equipment	Type, model	Measure (set, pcs, t)	Quantity
<b>I. Equipment for drilling and completions</b>				
<i>Wireline Logging Equipment</i>				
1	Logging Unit	OSLC	EA	1
2	Hepta Cable	7-46 XS	EA	1
3	Mono Cable	1-23	EA	1
4	Blow Out Preventer	BOP-M	EA	1
5	Dog House	Doghouse	EA	1
6	Radio Active Containers	RC	EA	1
7	Explosives containers	EC	EA	2
8	WHE-5K	WHE-5K	EA	1
9	Resistivity Tool – induction	AIT-M	EA	1
10	Spontaneous Potential	SP	EA	1
11	Lithology Density Tool	PEX-TLD	EA	1
12	Compensated Neutron Tool	PEX-HGNS	EA	1
13	Microlog	PEX-MCFL	EA	1
14	Spectral Gamma Ray Tool	HNGS	EA	1
15	Formation Testing	MDT-SP	EA	1
16	Formation Imaging	FMI	EA	1
17	Full Wave Sonic	DSI	EA	1
18	Inclinometer Tool	GPIT	EA	1
19	CBL-VDL	DSLTL	EA	1
20	Casing Collar Location	CAL-Y	EA	1
21	Shooting Gamma Ray Tool	PGGT	EA	1
22	Production Logging Tool (Pressure, Temperature, Water Hold-up, Radio manometer, Flowmeter)	PSP	EA	1
23	Bridge Plug Setting Tool	CPST	EA	1
24	Logging Head with Head Tension for Hepta Cable	LEH-QT	EA	2
25	Free Point Indicator tool	FPIT	EA	1
26	Wireline Fishing Tools	SFT-157	EA	1
27	Junk Basket	JB	EA	1
29	Pipe Recovery	Pipe Recovery	SET	1
30	Storage and Maintenance Workshop	A-60	EA	1
<i>Mud Logging Equipment</i>				
1	Mud Logging Unit	LE-11	EA	1
2	Standard Mud Logging Unit Equipment	U-12	SET	1
3	Fluid Analysis Equipment		SET	1
4	Drilling Sensors Depth Hook Position/Weight on Bit Rotary Speed Rotary Torque)	- LS 10 LS 12 LS 13 LS 14	SET	1
5	Mud Parameters			
	Mud Density IN & OUT	LS 31	EA	2

	Mud Temperature IN & OUT	LS 33	EA	2
	Mud Conductivity IN & OUT (Optional)	LS 34	EA	2
	Mud Flow IN (calculated) & OUT (Paddle Type)	LS 37	EA	1
	Pump Stroke Counter (SPM)	LS 15	EA	3
	Pump Pressure	LS 12	EA	1
	Casing Pressure (Optional)	LS 12	EA	1
	Cementing Unit Pressure (Optional)	LS 12	EA	1
	Mud Pit Level (Sonic)	LS 36	EA	6
	Trip Tank Sensor	LS 35	EA	1
6	Gas Detection			
	Infra Red CO2 Gas Detector		EA	1
	SMART H/C detectors		EA	1
	H2S Sensors with alarms	LS 50	EA	2
7	Gas Detection Main			
	Degasser GZ21 – QGM Type		EA	1
	GFF Fast Chromatograph and Total Gas Detector	HE 26	EA	1
	H2 Generator		EA	1
	Air Compressor		EA	1
8	Data Acquisition		SET	1
	On-Line Data Acquisition System: One Real Time data acquisition computer (gNA) One Real Time data Monitoring computer (RTM) One Server network computer (SVX) One Real time Graphic computer (RTG) Real time display units		EA	1 1 1 1 1 2
	Off-Line station: (TDX) Explosion proof video repeater, 14" color monitor (drill floor) Remote Stations in Company offices (CM & WSG) VDU Repeaters 15" ( CM, TP, WSG) Offline Printer (HP70) Color Printer for Real Time Data Print Out vs Depth and vs Time		EA	1 1 2 3 1 1
<b>Drill Stem Test Equipment and Slickline</b>				
1	Retrievable Packer with Hold Down	FLXP/PIPK	EA	1
2	Safety Joint	SJB	EA	1
3	Hydraulic Jar	JAR	EA	1
4	Pressure Control Tester Valve	PCTV	EA	1
5	Pressure Operated Reference Tool	PORT	EA	1
6	Multi-cycle Circulating Valve	MCVL	EA	1
7	Single-shot Hydrostatic Operated Tool	SHRV	EA	1
8	Gauge Carrier	DGA	EA	1

9	Quartz Gauges	WCQR/WTQR	EA	1
10	Tubing Fill Test Valve	TFTV	EA	1
11	Pump-through Flapper Safety Valve	PFSV	EA	1
12	Radioactive Marker Sub	RAM	EA	1
13	Slip Joint	SLPJ	EA	3
14	Crossovers		SET	1
15	Workshop		EA	1
16	Flowhead	FHD	EA	1
17	Slickline unit	Double drum	EA	1
18	Slickline tool kit	Standard and Memory	EA	1
19	Slickline workshop	Skid mounted	EA	1
<b>Coring Equipment</b>				
17	Coring Heads		EA	6
18	Coring Barrels		EA	2
19	Coring workshop		EA	1
<b>Mud Laboratory Testing Equipment</b>				
1	Marsh Funnel		EA	2
2	Mud Cups		EA	2
3	Mud balance Conventional		EA	1
4	Pressurized Mud Balance		EA	1
5	6 speed Viscometer (VG Meter)		EA	1
6	Thermo Cup		EA	1
7	API Fluid Press		EA	1
8	HTHP Filter Press		EA	1
9	pH Meter & Buffer Solutions		EA	1
10	MBT Test Kit		EA	1
11	PHPA Test Kit		EA	1
12	Garret Gas train		EA	1
13	CO2 drager tubes (box - 10)		EA	3
14	H2S drager tubes (box - 10)		EA	3
15	50 cc Mud Retort		EA	1
16	Sand Content Set		EA	2
17	Magnetic Stirrer		EA	1
18	Hot Plate		EA	1
19	Poratable Analytical Balance		EA	1
20	Hamilton Beach Mixer		EA	1
21	Transformer 230 v , 50 hz/ hz		EA	1
<b>Other Materials</b>				
1	10 ml Graduated cylinder		EA	6
2	2 ml Syringe		EA	6
3	5 ml Syringe		EA	6
4	1 ml Graduated pipettes		EA	10
6	5 ml Graduated pipette		EA	10
7	10 ml Graduated pipette		EA	10
8	250 ml Erlenmeyer flask		EA	6
9	50 ml Graduated cylinder		EA	8
10	100 ml Beaker		EA	4
11	250 ml Beaker		EA	4
12	Stirring rod (glass)		EA	6
13	Titration vessel/Dish 100 t 150 ml		EA	6
14	Digital Stop Watch		EA	2
15	Thermometer (reading 220 'F)		EA	4



16	Thermometer (reading 500 'F)		EA	4
17	Wire brush (Small)		EA	4
18	Wire brush (Large)		EA	4
19	Spatula for 50 cc retort		EA	4
20	Cork Screw		EA	2
<b>Measurement while Drilling (MWD) and Directional Drilling Equipment</b>				
	<b>Mud Motors</b>			
1	9-1/2" OD Mud Motor - Medium speed High Torque, suitable for kickoff and drilling with PDC Bit & TCR Bit (For 12-1/4" to 17-1/2" Hole)	A962M5640XP	EA	2
2	6-3/4" OD Mud Motor -Medium Speed High Torque, suitable for kickoff and drilling with PDC Bit & TCR Bit (For 8-1/2" Hole)	A675M7850XP	EA	2
	<b>Sleeve Stabilizers for Mud Motors</b>			
3	17-3/8" Sleeve Stabilizer for 9-1/2" Motor	IBS	EA	1
4	12-1/8" Sleeve Stabilizer for 9-1/2" Motor	IBS	EA	2
5	8-3/8" Sleeve Stabilizer for 7" Motor	IBS	EA	1
	<b>MWD</b>			
6	12-1/4" - 17-1/2" hole	SlimPulse	EA	1
7	8-1/2" hole	SlimPulse	EA	1
	<b>Directional Tools</b>			
8	9-1/2" Non-magnetic Drill Collars		EA	2
9	9-1/2" Short Non-magnetic Drill Collars		EA	1
10	6-1/2" Non-magnetic Drill Collars		EA	2
11	6-1/2" Short Non-magnetic Drill Collars		EA	1
	<b>IB Under gauge String Stabilizer (spiral) for 17-1/2" hole</b>			
12	17-1/2" or 17-1/4" Blade OD Stabilizer	IBS	EA	1
13	17" Blade OD Stabilizer	IBS	EA	1
	<b>IB Under gauge String Stabilizer (spiral) for 12-1/4" hole</b>			
14	12-1/8" Blade OD Stabilizer	IBS	EA	2
15	12" Blade OD Stabilizer	IBS	EA	2
	<b>IB Under gauge String Stabilizer (spiral) for 8-1/2" hole</b>			
16	8-1/4" Blade OD Stabilizer	IBS	EA	2
17	8-1/8" Blade OD Stabilizer	IBS	EA	2
	<b>Orientating Mule Shoe Sub</b>			
18	9-1/2" Orientating Mule Shoe Sub		EA	1
19	6-1/2" Orientating Mule Shoe Sub		EA	1
20	Cross-over sub as required to Make-up Bidders Tool to Rig BHA (9-1/2" Drill Collars with 7-5/8"		SET	1

	Regular connection will be used in 17-1/2" & 12-1/4" hole and 6-1/4" Drill Collar with 4" IF connection will be used in 8-1/2" hole)			
21	Logging Unit for real time data acquisition with accessories and spare parts	LLU	EA	1
22	Downhole MWD tool	MWD	EA	4
23	Logging while drilling tools	LWD	EA	8
24	Rotary Steerable tools	Powerdrive	EA	4
<b>Well Testing Equipment</b>				
1	High Pressure Piping	1502	SET	1
2	Low Pressure Piping	602	SET	1
3	Choke Manifold	FMF	EA	1
4	Oil Manifold	MFD	EA	1
5	Gas Manifold	MFD	EA	1
6	Separator	SEP	EA	1
7	Transfer Pump	PMP	EA	1
8	Data Header	FHH	EA	1
9	Storage Tank	VST/FGTS	EA	1
10	Heater	IHT/STX	EA	1
11	Emergency Shut Down	ESD	EA	1
12	Surface Safety Valve	SSV	EA	1
13	Chemical Injection Pump	PMP/TXT	EA	1
14	Data Acquisition System	STAN	SET	1
15	Multi Phase Testing unit	Phasetester	EA	2
<b>Cementing Equipment</b>				
1	Automatic Density Control Cement unit Skid/Tailor mounted powered by twin diesel Engine with two pumps. Pressure rating : Minimum 10,000 psi	CPS 361	EA	1
2	Pressurized cement storage silo Capacity: Minimum 1000 cu ft c/w transfer hoses etc.	Standard land	EA	3
3	Cement cutting bottle with table Capacity : 50 cu ft.,	Standard land	EA	1
4	Compressor Capacity : Minimum 250 cu ft/min	Standard land	EA	1
5	Recirculating mixer c/w Surge tank, ( Minimum 75 cu ft. Capacity)	Included in Pump	EA	1
6	Batch mixer tank capacity :100 bbl	Standard land skid	EA	1
7	Cementing head (Plug loading head and manifold) for 13-3/8" and 9-5/8" casing	Standard land	SET	1
8	Quick-Latch Coupler to fit 13-3/8" BTC, 9-5/8" BTC and 7" BTC Casing	Standard land	SET	1
9	Pressurized mud balance	Standard rig specification	EA	1
<b>Liner Hanger Running Equipment</b>				
1	7" HYDRAULIC RUNNING TOOL		EA	1
2	CMTD TOP DRIVE CEMENT MANIFOLD		EA	1
3	CMSB CEMENT MANIFOLD		EA	1
<b>Tubing Conveyed Perforation Equipment</b>				

1	Hydraulic Delay Firing Head	HDF	EA	1
2	Bar Hydrostatic Firing Head	BHF	EA	1
3	Bull Nose	-	EA	1
4	Debris Sub	DS	EA	1
5	Intercarriers		SET	1

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