VALIDATION REPORT

DAQING OILFIELD CO., LTD.

VALIDATION OF THE

NANBA ASSOCIATED GAS PROCESSING PLANT AND THE AUXILIARY ENGINEERING

REPORT NO.CHINA-VD/6264/2012

REVISION NO.01

BUREAU VERITAS CERTIFICATION

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Client:	Client ref.:
Daqing Oilfield Co., Ltd.	Mr. Zhu Lin

Summary:

Bureau Veritas Certification has conducted the validation of Nanba Associated Gas Processing Plant and the Auxiliary Engineering, owned by Daqing Oilfield Co., Ltd., which is located at the Sanan Oilfield in Daqing City, Heilongjiang Province, People's Republic of China, on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design document and additional background documents; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification Requests, Corrective Actions Requests, and Forward Actions Requests (CLs, CARs and FARs), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology AM0009 version 06.0.0 and meets all relevant UNFCCC requirements for the CDM and the relevant host country criteria. Bureau Veritas Certification thus requests the registration of the project as a CDM project activity.

Report No.:	Subject Group:
COUNTRY-VD/6264/2012	CDM

Project title:

Nanba Associated Gas Processing Plant and the Auxiliary Engineering

Work carried out by:

Mr. (Ernesto) Tan Wenbin - Team Leader

Mr. Feng Jun - Technical Specialist

Internal Technical Review carried out by:

Mr. (Robin) Wang Jing

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Work approved by:

Flavio Gomes

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Abbreviations

BVCH	Bureau Veritas Certification Holding SAS
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CL	Clarification Request
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalent
DOE	Designated Operational Entity
FAR	Forward Action Request
GHG	Green House Gas(es)
MoV	Means of Validation
MP	Monitoring Plan
PDD	Project Design Document
PLF	Plant Load Factor
PP	Project Participant
PPA	Power Purchase Agreement
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

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1. INTRODUCTION

~~Daqing Oilfield Co., Ltd. (hereafter called "the PP") has commissioned Bureau Veritas Certification to validate its CDM project Nanba Associated Gas Processing Plant and the Auxiliary Engineering (hereafter called "the Project") located at the Sanan Oilfield in Daqing City, Heilongjiang Province, People's Republic of China.~~

This report summarizes the findings of the validation of the Project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1. Objective

The objective of a validation is to provide a through and independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan, and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design, as documented, is sound and reasonable, and meets the applicable CDM requirements and the identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

1.2. Scope

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against the requirements of paragraph 37 of the CDM M&Ps, the applicability conditions of the selected methodology and guidance issued by the Board.

The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3. Validation Team

The assessment team and internal technical reviewer team consist of the following personnel:

FUNCTION	NAME	TA 10.2	TASK PERFORMED*
Team Leader	Mr. (Ernesto) Tan Wenbin	☐	☒**DR** ☒**SV** ☒**RI** ☐**TR**
Team Member	N/A	☐	☐**DR** ☐**SV** ☐**RI** ☐**TR**
Technical Specialist	Mr. Feng Jun	☒	☒**DR** ☒**SV** ☐**RI** ☐**TR**
Internal Technical Reviewer (ITR)	Mr. (Robin) Wang Jing	☒	☐**DR** ☐**SV** ☐**RI** ☒**TR**
Specialist supporting ITR	N/A	☐	☐**DR** ☐**SV** ☐**RI** ☐**TR**

*DR = Document Review; SV = Site Visit; RI = Report issuance; TR = Internal Technical Review

2. METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation protocol was customized for the project, according to the version 02.0 of the Clean Development Mechanism Validation and Verification Standard, issued by CDM Executive Board at its 65th meeting on 25/11/2011 (/37/). The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The completed validation protocol is enclosed in Appendix A to this report.

2.1. Review of Documents

The Project Design Document (PDD) submitted by Beijing MD Energy Technology Co., Ltd (the Consultant) and additional background documents related to the project design and baseline were reviewed.

Furthermore, cross checks were made between information provided in the PDD and information from sources other than those used, the DOE's sectoral or local expertise and, independent background investigations.

To address Bureau Veritas Certification corrective action and clarification requests, Beijing MD Energy Technology Co., Ltd revised the PDD and resubmitted it on 19/10/2012.

The validation conclusions presented in this report relate to the project as described in the PDD version 02.2.

2.2. Follow-up Interviews

From 26/08/2012 to 29/08/2012, Bureau Veritas Certification performed a site visit and interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Daqing Oilfield Co., Ltd. and Beijing MD Energy Technology Co., Ltd were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Daqing Oilfield Co., Ltd. (the Project Owner)	➢ Project background information and CDM consideration. ➢ Project technology, operation and maintenance. ➢ Project approval and implementation status.

	➢ Project management and monitoring plan. ➢ Stakeholder consultation process. ➢ Common practice in the area. ➢ Government policies related to the project activity.
Local Stakeholders	➢ Project background information ➢ Stakeholder comments ➢ Social and environmental impact of the project
Local government representatives	➢ Project development background information ➢ Local sector policies and financial policies ➢ Common practice in the area ➢ Project approval status (incl. approvals for Feasibility Study Report and Environmental Impact assessment)
Beijing MD Energy Technology Co., Ltd (the Consultant)	➢ Applicability of selected methodology. ➢ Baseline determination. ➢ Emission reductions calculation. ➢ Emission reduction monitoring plan.

2.3. Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the validation is to resolve issues that require further elaboration, research or expansion prior to Bureau Veritas Certification's positive conclusion on the project design.

A Corrective Action Request (CAR) is raised, if one of the following situations occurs:

(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable, verifiable and additional emission reductions;

(b) The applicable CDM requirements have not been met;

(c) There is a risk that emission reductions cannot be monitored or calculated.

A Clarification Request (CL) is raised, if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

A Forward Action Request (FAR) may also be raised during validation, to identify issues related to project implementation that require review during the first verification of the project activity.

To guarantee the transparency of the validation process, the issues raised, the responses provided by the project participants, the means of validation of such responses and references to any resulting changes in the PDD or supporting annexes are documented in the Validation Protocol in Appendix A.

2.4. **Internal Technical Review**

The validation report underwent an Internal Technical Review (ITR) before requesting registration of the project activity.

The ITR is an independent process performed to examine thoroughly that the process of validation has been carried out in conformance with the requirements of the validation scheme as well as internal Bureau Veritas Certification procedures.

The Team Leader provides a copy of the validation report to the reviewer, including any necessary validation documentation. The reviewer reviews the submitted documentation for conformance with the validation scheme. This will be a comprehensive review of all documentation generated during the validation process.

When performing an Internal Technical Review, the reviewer ensures that:

- The validation activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM rules and requirements.
- The review encompasses all aspects related to the project which includes project design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, review of the stakeholder comments and responses, closure of CARs and CLs during the validation exercise, review of sample documents.

The reviewer may raise Clarification Requests to the validation team and will discuss these matters with the Team Leader.

After the agreement of the responses to the Clarification Requests from the validation team as well as the PP(s), the finalized validation report is accepted for further processing such as uploading via the UNFCCC interface.

3. VALIDATION CONCLUSIONS

In the following sections, the conclusions of the validation are stated.

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are described in the Validation Protocol in Appendix A.

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the Project resulted in 10 CARs and 12 CLs.

The CARs and CLs were closed out based on adequate responses from the Project Participant(s) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure.

The number between brackets at the end of each section corresponds to the VVS paragraph.

3.1. **Approval (43-44)**

The letters of approval have been received and the following support documentation has been verified by Bureau Veritas Certification:

- The DNA of China has issued a Letter of Approval (Reference No. 4504) in 08/2012, authorizing Daqing Oilfield Co., Ltd., as the Project Participant and confirms that the Project contributes to China's sustainable development /3/.
- The DNA of Australia has issued a Letter of Approval (Reference No. AUSCDM120730MBL_NIGP on 15/08/2011, authorizing Macquarie Bank Limited as the Project Participant for the Project. /4/

Bureau Veritas Certification received this letters of approval from the project participants and does not doubt the letters' authenticity.

The letters of approval do not refer to a specific version of the validation report.

In accordance with para. 39 – 42/VVS, Bureau Veritas Certification considers that:

(a) Each letter confirms the Party is a Party to the Kyoto Protocol;

(b) Each letter confirms the participation is voluntary;

(c) In the case of the host Party, the letter confirms that the proposed project activity contributes to the sustainable development of the country;

(d) Each letter refers to the precise proposed project activity title in the PDD being submitted for registration.

(e) Each letter is unconditional with respect to the items above.

(f) Each letter has been issued by the respective Party's DNA and is valid for the proposed project activity under validation.

3.2. **Authorization (49)**

The participation for each project participant has been authorized by a Party of the Kyoto Protocol.

Bureau Veritas Certification concludes this by checking the Letter of Approval from the DNA of China /3/ and the Letter of Approval from the DNA of Australia /4/.

3.3. **Sustainable Development (52)**

The host Party's DNA has confirmed the contribution of the Project to the sustainable development of the host Party. Please refer to section 3.1 of this report.

3.4. **Modalities of Communications (58,61)**

Bureau Veritas Certification has performed due diligence on the MoC statement and validated the corporate identity of all project participants and focal points included in the Modalities of Communication (MoC) statement, as well as the personal identities, including specimen signatures and employment status, of their authorized signatories.

Bureau Veritas Certification confirms that the MoC statement complies with all relevant forms and requirements.

3.5. **Project Design Document (63)**

Bureau Veritas Certification hereby confirms that the PDD complies with the latest forms of the guidance documents for completion of PDD.

3.6. **Changes in the Project Activity (17)**

During the site visit, no physical changes pertaining to the project design was observed as compared to details mentioned in the webhosted PDD.

The major differences between the final version PDD and the webhosted PDD are listed in Table 2 below:

Table 2 Changes between the final PDD and the webhosted PDD

Item	PDD version 01.2 (Webhosted)	PDD version 02.2 (Final)	Validation Opinion
Specification of the part of Sanan Oilfield where the oil wells are involved in the Project.	Not clear	Specifies that all the oil wells involved in the Project belong to the Second Oil Production Plant of Sanan Oilfield	Bureau Veritas Certification can confirm it through onsite interview and checking the Feasibility Study Report (FSR). Refers to CAR-1.
Calculation of the project emissions from consumption of electricity	Not calculated	Calculation of the project emissions from consumption of electricity with the latest approved "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" version 01 is included.	Bureau Veritas Certification can confirm this revision of the calculation of the project emissions. Refers to CAR-10
Monitoring parameter of electricity consumption for calculating the project emissions from consumption	Not included	Included	Bureau Veritas Certification can confirm the inclusion of this parameter complies with the methodology. Refers to CAR-3.

IRR without CDM	4.84%	4.97%	The revision of the IRR without CDM is reasonable and conservative, since the cost of the consumption of dry gas is excluded from the OPEX. Refers to the CL-10.
Start date of the crediting period, length of crediting period, and annual average emission reductions	01/12/2012, 9.08 years and 303,290tCO_2e	01/01/2013, 9 years and 301,731 tCO_2e	They were revised since the submission date to request registration is later than 01/12/2012.

3.7. **Project Description (69)**

The Project is a newly built associated gas recovery and processing project located at the Sanan Oilfield in Daqing City, Heilongjiang Province, People's Republic of China, which has geographical coordinates of gas processing plant at 125°00′54.9″E (125.0153°E), 46°33′00.5″ N (46.5501°N).

The associated gas comes from the oil wells of the Second Oil Production Plant of Sanan Oilfield and is separated from the crude oil during the phase separation process in the 370 metering rooms, 50 transferring stations and 3 combined stations. The oil field development of the Second Oil Production Plant of Sanan Oilfield does not apply and will not apply the gas-lift technology, and there is no and will be no gas injection infrastructure at the project site /26/. The Project will construct the associated gas recovery system, and associated gas processing and transport infrastructure, including gas collection facilities, booster station, processing plant and transportation pipelines, etc. The recovered associated gas will be collected by the associated gas recovery system and transported to the gas processing plant. The associated gas processing plant applies the deep cooling treatment technology to process the recovered associated gas. After recovery, pre-processing, compression, dehydration, condensate-separation etc., the associated gas will be separated into dry gas and condensate. The dry gas will be transferred to the end-users via the transportation system. The condensate will be transferred to storage tank and then eventually sold to the end users. The daily recovery and processing capacity of the Project is 900,000Nm3/d. The Project will process 17,344×$10^4$$Nm^3$ associated gas and produce 13,875×$10^4$$Nm^3$ dry gas and 3.64×10^4t condensate annually on average.

Bureau Veritas Certification has checked the Feasibility Study Report /7/ , which was developed by the qualified design entity with a Level A certification /9/, and found that the quantity of the oil production and the associated gas will vary during the operation period and sharply decrease in the last several years of the operation period. As per the Feasibility

Study Report /7/, oil production is projected with the help of a reservoir engineering studies, reflecting the rock and fluid properties in the oil reservoir. The quantity of recovered gas is a function of the associated gas production which produced in the Second Oil Production Plant of Sanan Oilfield. Considering that the oil reserves are limited and the development of the oil field has been started for more than fifty years, Bureau Veritas Certification can confirm this general decreasing tendency of the oil production target and the quantity of the recovered gas which is related to the geological conditions. Bureau Vertias Certification also checked the historical quantity /10/ and the expected quantity /11/ of the oil production target and the quantity of the associated gas, and can confirm the data of the quantity of the associated gas recovered by the Project in the Feasibility Study Report, listed in the following Table 3, are appropriate and credible with its sectoral expertise. Then the yearly quantities of recovered gas are credible and valid to be used to calculate the financial indicators and the emission reductions.

Table 3 Expected yearly quantities of recovered gas

Years	Volume of total recovered gas (10^4Nm^3)	Years	Volume of total recovered gas (10^4Nm^3)
2012	24,607		
2013	26,384	2013	26,384
2014	28,528	2014	28,528
2015	24,599	2015	24,599
2016	19,801	2016	19,801
2017	15,912	2017	15,912
2018	12,273	2018	12,273
2019	9,309	2019	9,309
2020	6,923	2020	6,923
2021	5,104	2021	5,104
Total	173,440	Total	148,833
Annual average	17,344	/	/

The validation did not reveal any information indicating that the Project can be seen as a diversion of official development assistance (ODA) funding towards the host country.

The processes undertaken by Bureau Veritas Certification to validate the accuracy and completeness of the project description include conducting a physical site inspection, reviewing

available designs and feasibility studies, conducting comparison analysis with equivalent projects.

Bureau Veritas Certification hereby confirms that the project description in the final PDD is accurate and complete in all respects.

3.8. Baseline and Monitoring Methodology

3.8.1. Applicability of the selected Methodology (77)

The Project uses the approved consolidated baseline and monitoring methodology AM0009 version 06.0.0– "Recovery and utilization of gas from oil wells that would otherwise be flared or vented" /36/.

The applicability of the selected methodology is justified and assessed as follows:

- The Project is to recover and utilise the associated gas from oil wells in the Second Oil Production Plant of Sanan Oilfield that will be vented prior to the implementation of the Project activity to process into dry gas and condensate.
- The recovered gas after the pre-treatment (compression and phase separation) in stationary equipment is transported to gas processing plant to process into dry gas and condensate. Dry gas is delivered to the end-users via gas pipeline and the condensate is transferred for storage and then eventually sold to the end users.
- The Project is limited only to recover the associated gas that would otherwise be vented on site, without affecting oil production of the oil wells.
- The oil field does not and will not apply the technology of gas-lift in the oil production system. No gas is injected into the oil reservoir.
- All the oil wells the recovered gas comes from are currently in operation and producing oil. The associated gas is dissolved in the oil and is separated from the oil extracted from the oil wells currently in operation and producing oil.
- The electricity consumption of the project supplied by Northeast China Power Grid.
- The identified baseline scenario of the project is the continuation of current practice of venting the associated gas without prior processing and the continued operation of the existing oil and gas infrastructure without processing of any recovered associated gas and without any other significant changes. No gas-lift system is utilized under the project.

The methodology AM0009 version 06.0.0 refers to the latest approved version of

• "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" (hereinafter called "Tool-FossilFuel") version 02;

• "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" version 01;

• "Tool for the demonstration and assessment of additionality" (hereinafter called "Tool-Additionality") version 06.1.0;

The “Tool to calculate baseline, project and/or leakage emissions from electricity consumption” version 01 refers to the “Tool to calculate the emission factor for an electricity system” (hereinafter called “Tool-Grid EF”) version 02.2.1.

Bureau Veritas Certification hereby confirms that the selected baseline and monitoring methodology, tools and other methodology component is previously approved by the CDM Executive Board, and is applicable to the Project, which, complies with all the applicability conditions therein.

3.8.2. Project Boundary (86-87)

Bureau Veritas Certification has validated the project boundary by:

(a) Assessing the relevant documents including Feasibility Study Report (FSR).

(b) Observing the physical site and equipment used in the process.

The spatial extent of the project boundary is clearly defined in line with the methodology AM0009 version 06.0.0 as:

- The project oil reservoir and oil wells where the associated gas is collected;
- The site where the associated gas was vented in the absence of the project activity;
- The gas recovery, pre-treatment, transportation infrastructure, including where applicable, compressors;

The greenhouse gases and emission sources included in the project boundary are combustion of fossil fuels at end-users that are produced from non-associated gas or other fossil sources and energy use for the recovery, pre-treatment, transportation, and if applicable, compression/decompression, transportation of the recovered gas.

Bureau Veritas Certification hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity. Bureau Veritas Certification did not identify any emission sources that will be affected by the implementation of the proposed project activity and which are expected to contribute more than 1% of the overall expected average annual emissions reductions, and are not addressed by the selected approved methodology.

3.8.3. Baseline Identification (94-95)

In the PDD, the baseline scenario is determined properly as: The associated gas is vented to the atmosphere directly and the operation of the existing oil and gas infrastructure is continued.

The procedure contained in the methodology to identify the most reasonable baseline scenario has been correctly applied. Bureau Veritas Certification is able to confirm that approach of the baseline scenario identification procedure and the elimination of the unfeasible scenarios are fully in line with the procedure outlined in the methodology AM0009 version 06.0.0, and the listed alternatives are credible and complete. Bureau Veritas Certification can confirm that all the project oil wells do not apply and will not apply the gas-lift technology in the oil production, since there is no and will be no gas injection infrastructure at the project site, and no gas-lift gas

is utilized in the project activity through onsite inspection and document review /26/ and with its sectoral expertise.

Step 1: Identify plausible alternative scenarios

The project activity involves three components. Plausible alternative scenarios should include alternatives for the following components:

Plausible alternative baseline scenarios for the associated gas:

G1: Release of the associated gas into the atmosphere at the oil production site (venting);

G2: Flaring of the associated gas at the oil production site;

G3: On-site use of the partial amount of associated gas to meet on-site energy demand and rest of the gas are either vented (G1) or flared (G2);

G4: Injection of the associated gas into an oil or gas reservoir;

G5: The proposed project activity without being registered as a CDM project activity;

G6: Recovery, transportation and utilization of the associated gas as feedstock for manufacturing of useful products.

The alternative G2 (Flaring) is eliminated because of the safety reason. According to Code for Fire Protection Design of Petroleum and Natural Gas Engineering (GB50183-2004) /48/, the stable materials must be supplied for the flare system for safety purpose. There are 370 metering rooms, 50 transferring stations and 3 combined stations located at the Second Oil Production Plant of Sanan Oilfield for separating the associated gas from the crude oil. If install a flare system at each oil transferring station and combined station for flaring the associated gas, the required materials of the flare system such as N_2, cannot be provided steadily at such a large area of the Second Oil Production Plant. Therefore the associated gas from Oil transferring stations of the Second Oil Production Plant of Sanan Oilfield was vented to the atmosphere directly without flaring.

The alternative G3 (meeting energy demands / venting / flaring) includes the on-site use of the partial amount of associated gas to meet on-site energy demands and rest of the gas are either vented (G1) or flared (G2). In the existing scenario prior to the implementation of the project activity, all the associated gas was vented to the atmosphere. /7/ Bureau Veritas Certification can confirm that on-site energy demand for the second Oil Production Plant of Sanan Oilfield is reasonably identified as electricity consumption with its sectoral expertise. Bureau Veritas Certification has checked the power industry standard DL/T5174-2003 /50/ and can confirm that this standard requires that the natural gas fired in the power plant shall conform to the provision of the standard GB50251-2003 /51/, which requires that the hydrogen sulphide (H_2S) content of the gas should be no higher than 20mg/m^3. Bureau Veritas Certification has cross-checked the Feasibility Study Report (FSR) developed by Daqing Oilfield Engineering Co., Ltd. in 08/2010 /7/ and Measurement results of the contents of the associated gas by Petroleum Industry Center for Quality Supervision and Inspection of Crude Oil and Petroleum Products /12/, and found that the concentration of H_2S in the recovered associated gas is 75mg/m^3 higher than the

threshold of 20mg/m^3, and the associated gas cannot be used to meet on-site energy demands. The alternative G3 is eliminated reasonably.

The alternative G4 (injection) is eliminated as all the project oil wells do not apply and will not apply the gas-lift technology, and there is no and will be no gas injection infrastructure at the project site /26/.

The alternative G6 (feedstock for manufacturing) is eliminated since the recovered gas cannot be used as feedstock for manufacturing useful products. Without pre-processing, the high content of CO_2 in the associated gas makes it technically impossible to transport and compress the gas into a gas pipeline. Furthermore, CO_2 and other impurities such as H_2S in the associated gas can poison the catalyst. If using the associated gas as feedstock for manufacturing of useful products, the associated gas need to be recovered, processed and purified such as dehydration, desulphurization and separation, as well as more transportation equipments /47/, and the Project will be constructed as a prerequisite. Therefore, this option is not feasible.

Then the alternatives G1 and G5 are plausible alternative scenarios.

Plausible alternative baseline scenarios for oil and gas infrastructure:

P1: Construction of a processing plant for the purpose of processing the recovered gas, in the same way as in the project activity, without being registered as a CDM project activity;

P2: Construction of a processing plant of a lower capacity than under the project activity, which processes only non-associated gas and does not process recovered gas;

P3: Supplying recovered gas to an existing gas processing plant and constructing the necessary infrastructure, without being registered as a CDM project activity;

P4: Continuation of the operation of the existing oil and gas infrastructure without any other significant changes;

P5: Supplying recovered gas to a gas pipeline without prior processing and without being registered as a CDM project activity.

The alternative P2 is eliminated since there is no natural gas supply in the project boundary, and it is infeasible to construct a processing plant which processes only non-associated gas and does not process recovered gas as there is no non-associated gas feedstock onsite. Bureau Vertias Certification can confirm this reality through checking the FSR of the Project /7/, onsite inspection, onsite interviewing the representatives of local government /Intv-10//Intv-11/ and the local experts /Intv-6//Intv-7/.

The alternative P3 is eliminated there is no existing gas processing plant at the second Oil Production Plant of Sanan Oilfield which can process the associate gas. Bureau Vertias Certification can confirm this reality through checking the FSR of the Project /7/, onsite inspection, onsite interviewing the representatives of local government /Intv-10//Intv-11/ and the local experts /Intv-6//Intv-7/.

The alternative P5 is eliminated since it does not comply with the industry standard Run criterion of natural gas pipeline (SY/T 5922-2003) /49/ and the national standard for Natural Gas (GB17820-1999) /52/. Bureau Veritas Certification has checked the data of the gas composition of the associated gas in the FSR of the Project /7/ and found that the concentration of the hydrogen sulphide (H_2S) does not comply with the standards, and the associated gas cannot be supplied to gas pipeline without prior processing.

Then the alternatives P1 and P4 are plausible alternative scenarios.

Plausible alternative baseline scenarios for the use of gas-lift could include, *inter alia*:

O1: Gas from the same source as under the project activity and in the same quantity as under the project activity is used for the gas-lift system;

O2: Gas from a different source than under the project activity but using the same quantity of gas-lift gas as under the project activity is used for the gas-lift system;

O3: Gas from the same source as under the project activity, but using a different quantity of gas-lift gas, is used for the gas-lift system;

O4: Gas from a different source than under the project activity and in a different quantity than under the project activity, is used for the gas-lift system;

O5: No gas-lift system is utilized.

Since no gas-lift gas is utilized in the project activity /26/, the scenario O5 is the baseline scenario and the other alternatives O1~O4 are eliminated.

In compliance with the methodology, the PDD presents all the realistic and possible combinations of components. The identified combinations (G1+P4) and (G5+P1) are transparently described and be illustrated in the Table B4-1 and schematic diagrams in the Figure B4-1 and Figure B4-2 of the section B.4 of the PDD.

Alternative 1 (G5+P1): To implement the project activity without being registered as a CDM project activity.

Alternative 2 (G1+P4): The associated gas is vented to the atmosphere directly and the operation of the existing oil and gas infrastructure is continued, and no gas-lift system is utilized, and no gas-lift system is utilized.

Step 2: Evaluate legal aspects

Bureau Veritas Certification can confirm that both ***Alternative 1*** and ***Alternative 2*** are in compliance with the relevant laws and regulations.

Step 3: Evaluate the economic attractiveness of alternatives

According to the conclusion of demonstration of the additionality of the section B.5 of the PDD, the post-tax project IRR of the Alternative 1 is 4.97%, lower than the benchmark. Hence the Alternative 1 is financially unattractive to the investor and is excluded. The Alternative 2, which is the existing situation prior to the project activity, * is economically the most attractive course of action and considered as the baseline scenario.

The validation of the IRR calculation in the PDD is demonstrated in the section 3.9 below.

Step 4: Common practice analysis

The common practice analysis is applied in the section B.5 of the PDD following the guidance for the common practice analysis in the latest approved version of the "Tool for the demonstration and assessment of additionality". This is demonstrated in the section 3.9 below.

Therefore, Bureau Veritas Certification hereby confirms that:

(c) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;

(d) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;

(e) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;

(f) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;

(g) The approved baseline methodology has been correctly applied to identify the most plausible baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed project activity.

3.8.4. Algorithms and/or Formulae used to determine Emission Reductions (99-100)

The steps taken and the equations and parameters applied in the PDD to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected methodology including applicable tool(s).

* Since no investment will be fulfilled, the NPV will be zero and the IRR is regarded as the benchmark.

3.8.4.1. Baseline emissions (BE_y)

The methodology AM0009 version 06.0.0 provides a simplified and conservative calculation of emission reductions, assuming that the use of recovered gas displaces the use of methane – the fossil fuel with the lowest direct CO_2 emissions. The PDD calculate the BE_y in compliance with the methodology as follows:

$$BE_y = V_{F,y} \cdot NCV_{RG,F,y} \cdot EF_{CO2,Methane}$$

Where:

BE_y = Baseline emissions in year y, (tCO_2e)

$V_{F,y}$ = Volume of total recovered gas measured at point F, in year y, (Nm^3)

$NCV_{RG,F,y}$ = Average net calorific value of recovered gas at point F in year y, (TJ/Nm^3)

$EF_{CO2,Methane}$ = CO_2 emission factor for methane (tCO_2/TJ)

3.8.4.2. Project emissions (PE_y)

The PDD calculate the project emissions according to the methodology as follows:

$$PE_y = PE_{CO2,\,fossilfuels,y} + PE_{CO2,elec,y}$$

Where:

PE_y = Project emissions in year *y,* (tCO_2e)

$PE_{CO2,fossilfuels,y}$ = CO_2 emissions due to consumption of fossil fuels for the recovery, pre-treatment, transportation, and if applicable, compression of the recovered gas up to the point F in year *y* (tCO_2e)

$PE_{CO2,elec,y}$ = CO_2 emissions due to the use of electricity for recovery, pre-treatment, transportation and if applicable, compression of the recovered gas up to the point F in year *y* (tCO_2e)

Project emissions from the consumption of fossil fuels

As per the methodology, according to the latest approved version 02 of the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion, $PE_{CO2,fossilfuels,y}$ is calculation as follows:

$$PE_{CO2,\,fossilfules,y} = \sum_j PE_{FC,j,y} = \sum_j \sum_i FC_{i,j,y} \times COEF_{i,y}$$

Where:

$PE_{CO2,fossilfuels,y}$ = CO_2 emissions due to consumption of fossil fuels for the recovery, pre-treatment, transportation, and compression of the recovered gas up to the point F in year *y* (tCO_2e)

$PE_{FC,j,y}$ = CO_2 emissions of fossil fuels consumption in process *j* in year *y,* (tCO_2/yr)

$FC_{i,j,y}$ = The quantity of fuel type *i* combusted in process *j* during the year *y* (mass or volume unit/yr)

$COEF_{i,y}$ = The CO_2 emissions coefficient of fuel type *i* in year *y* (tCO_2/mass or volume unit)

i = The fuel types combusted in process *j* during the year *y*

The option B in the Tool-FossilFuel to calculate the CO_2 emission coefficient $COEF_{i,y}$ is applied in the PDD, which is appropriate because of the data availability of the optiona A. The $COEF_{i,y}$ is calculated based on net calorific value and CO_2 emission factor of the generated dry gas, using the following approach:

$$COEF_{i,y} = NCV_{NG,y} \times EF_{CO2,NG,y}$$

Where:

$COEF_{i,y}$ = The CO_2 emissions coefficient of fuel type i in year y (tCO_2/mass or volume unit)

i = The fuel types combusted in process j during the year y

$NCV_{NG,y}$ = The weighted average net calorific value of the generated dry gas (natural gas) in year y (TJ/mass or volume unit);

$EF_{CO2,NG,y}$ = The weighted average CO_2 emission factor of the generated dry gas (natural gas)in year y (tCO_2/TJ)

Project emissions from consumption of electricity

As per the methodology, according to the latest approved version 01 of "Tool to calculate baseline, project and/or leakage emissions from electricity consumption", $PE_{CO2,elec,y}$ is calculation as follows:

$$PE_{CO2,ele,y} = PE_{EC,y} = \sum_j EC_{PJ,j,y} \times EF_{EL,j,y} \times (1 + TDL_{j,y})$$

Where:

$PE_{EC,y}$ = CO_2 emissions due to the use of electricity for the recovery, pre-treatment, transportation, and compression of the recovered gas up to the point in year y (tCO_2e)

$EC_{PJ,j,y}$ = Quantity of electricity consumed by the project activity source j in year y (MWh/y);

$EF_{EL,j,y}$ = Emission factor for electricity generation for source *j* in year *y* (tCO_2/MWh).

$TDL_{j,y}$ = Average technical transmission and distribution losses for providing electricity to source *j* in year *y*;

j = Sources of electricity consumption in the project.

According to the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion", $TDL_{j,y}$=20%.

The combined margin emission factor of the applicable electricity system is calculated, using the procedures in the version 02.2.1 of the "Tool to calculate the emission factor for an electricity system",

$EF_{EL,j,y} = EF_{grid,CM,y}$

Therefore,

$$PE_{CO2,ele,y} = \sum_j EC_{PJ,j,y} \times EF_{grid,CM,y} \times (1 + TDL_{j,y})$$

Where:

$PE_{CO2,elec,y}$ = CO_2 emissions due to the use of electricity for pre-treatment, transportation and if applicable, compression of the recovered gas before point F in year y (tCO_2e)

$EC_{PJ,j,y}$ = The quantity of electricity consumed by the project activity source j in year y (MWh/y);

$EF_{grid,CM,y}$ = The emission factor for electricity generation for source *j* in year *y* (tCO_2/MWh).

$TDL_{j,y}$ = Average technical transmission and distribution losses for providing electricity to source *j* in year *y*;

j = Sources of electricity consumption in the project.

The Project will import electricity from the Northeast China Power Grid, and the applicable electricity system is Northeast China Power Grid. The calculation of the combined margin emission factor of Northeast China Power Grid is described in the section 3.8.4.4 below.

3.8.4.3. Leakage (LE_y)

Leakage emission is calculated as follows:

$$LE_y = LE_{FC,y} + LE_{EC,y}$$

Where:

LE_y	=	Leakage emissions in year *y,* (tCO_2e)
$LE_{FC,y}$	=	Leakage emissions due to fossil fuels consumption after point Fin figure B3-2 in year *y* (tCO_2e)
$LE_{EC,y}$	=	Leakage emissions due to electricity consumption after point Fin figure B3-2 in year *y* (tCO_2e)

Leakage emissions due to fossil fuel consumption

After point F, the project does not consume fossil fuel. Therefore, no Leakage emission from the consumption of fossil fuel is considered. Bureau Veritas Certification can confirm that there are no Leakage emissions due to fossil fuel consumption through onsite inspection and document review /7/.

Leakage emissions due to electricity consumption

As required by the methodology, according to the latest approved version 01 of the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption", $LE_{EC,y}$ is calculation as follows:

$$LE_{EC,y} = \sum_j EC_{LE,l,y} \times EF_{EL,l,y} \times (1 + TDL_{l,y})$$

Where:

$LE_{EC,y}$ = Leakage emissions due to electricity consumption after point F in year y (tCO_2e)

$EC_{LE,l,y}$ = Net increase in electricity consumed of source *l* in year y (MWh/y);

$EF_{EL,l,y}$ = Emission factor for electricity generation for source *l* in year *y* (tCO_2/MWh).

$TDL_{l,y}$ = Average technical transmission and distribution losses for providing electricity to source *l* in year *y*;

l = Leakage source of electricity consumption.

According to the latest approved version 01 of the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption", $TDL_{l,y}$=20%.

The combined margin emission factor of the applicable electricity system is calculated, using the procedures in the version 02.2.1 of the "Tool to calculate the emission factor for an electricity system" (hereinafter called "Tool-Grid EF"),

$EF_{EL,j,y} = EF_{grid,CM,y}$

Therefore,

$$LE_{EC,y} = \sum_j EC_{LE,j,y} \times EF_{grid,CM,y} \times (1 + TDL_{l,y})$$

Where:

$LE_{EC,y}$ = Leakage emissions due to electricity consumption after point F in figure B3-2 in year y (tCO_2e)

$EC_{LE,j,y}$ = Net increase in electricity consumed of source *l* in year y (MWh/y);

$EF_{grid,CM,y}$ = The emission factor for electricity generation for source *j* in year *y* (tCO_2/MWh).

$TDL_{l,y}$ = Average technical transmission and distribution losses for providing electricity to source *l* in year *y*;

l = Leakage source of electricity consumption..

The Project will import electricity from the Northeast China Power Grid, and the applicable electricity system is Northeast China Power Grid. The calculation of the combined margin emission factor of Northeast China Power Grid is described in the section 3.8.4.4 below.

3.8.4.4. Grid Emission Factor

The emission factor of Northeast China Power Grid ($EF_{grid,CM,y}$) is calculated as six steps according to the Tool to calculate the emission factor for an electricity system version 02.2.1.

In addition, the calculation in the PDD refers to the latest Notification on Determining Baseline Emission Factor of China's Grid dated 20/10/2011 /61/ which is most recent information available at the time of CDM-PDD submission to Bureau Veritas Certification for validation.

Bureau Veritas Certification has checked the Notification on Determining Baseline Emission Factor of China's Grid dated 20/10/2011 and can confirm that the emission factor calculation is in accordance with data in the China Electric Power Yearbook from 2008-2010 and China Energy Statistical Yearbook from 2008-2010, and also complies with requirement the Tool-Grid EF. According to the Notification on Determining Baseline Emission Factor of China's Grid dated 20/10/2011, the simple OM emission factor ($EF_{grid,OM,y}$) of Northeast China Power Grid is calculated as 1.0852 tCO_2e/MWh. Similarly, the build margin emission factor ($EF_{grid,BM,y}$) of the Northeast China Power Grid is calculated as 0.5987 tCO_2e/MWh.

According to the "Tool-Grid EF", the default weights ω_{OM} = 0.5 for Operating Margin and ω_{BM} = 0.5 for build Margin are adopted.

Therefore, the combined baseline emission factor is determined ex-ante and will remain fixed during the fixed crediting period, viz.

$EF_{grid,CM,y}$ =1.0852×0.5 +0.5987×0.5=0.84195 tCO_2e/MWh

3.8.4.5. Emission reductions (ER_y)

Emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

ER_y = Emission reductions in year *y,* (tCO_2e)

BE_y = Baseline emissions in year *y,* (tCO_2e)

PE_y = Project emissions in year *y,* (tCO_2e)

LE_y = Leakage emissions in year *y,* (tCO_2e)

Bureau Veritas Certification has checked the data used to ex-ante calculate the emission reductions in the PDD and the emission reductions calculation spreadsheet /2//33/ and can confirm that the data is consistent with the data source. Since the annual recovered gas vary during the crediting period, the calculated emission reductions vary during the crediting period. Bureau Veritas Certification can confirm that it is appropriate and reasonable. Given the data provided, the expected annual average emission reductions are calculated to be 301,731 tCO_2e.

Bureau Veritas Certification hereby confirms that:

(a) All assumptions and data used by the project participants are listed in the PDD, including their references and sources;

(b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;

(c) All values used in the PDD are considered reasonable in the context of the proposed project activity;

(d) The baseline methodology and corresponding tool(s) have been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;

(e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

3.9. **Additionality (104)**

As required by the selected methodology, the additionality of the Project has been demonstrated by applying Tool for the demonstration and assessment of additionality Version 06.1.0.

3.9.1. Prior consideration of the Clean Development Mechanism (112)

The timeline of the Project has been validated as in Table 4 below:

Table 4 Timeline of the Project

Date	Events	Reference
08/2010	Feasibility Study Report (FSR) was developed	/7/
10/2010	Environmental Impact Assessment Report was developed.	/5/
25/11/2010	The project owner made decision to seek support from the CDM supports considering that the project is financially unattractive without CDM incomes based on the conclusion of the FSR.	/13/
08/12/2010	Environmental Impact Assessment Report was approved.	/6/
23/03/2011	The notification of prior consideration of CDM was submitted to the UNFCCC. Bureau Veritas Certification notices that the project title on the notification of the commencement of the project activity and the intention to seek CDM status is “Southern of Daqing Oilfield Associated Gas Recovery and utilization Project”, not consistent with the project title in the PDD “Nanba Associated Gas Processing Plant and the Auxiliary Engineering”. However Bureau Veritas Certification can confirm both the two project titles refer to the same project by checking the project location, project owner, project description in this notification and the PDD.	/14/
12/04/2011	Feasibility Study Report was approved.	/8/
12/04/2011	The purchase contract of regenerable adsorption type of dryer was signed.	/15/
28/04/2011	The notification of prior consideration of CDM was submitted to the	/16/

Date	Events	Reference
	China DNA.	
09/05/2011	CDM consulting contract was signed between the project owner and the consultant	/17/
12/05/2011	The construction contract (Part 1) was signed.	/18/
12/05/2011	The construction contract (Part 2) was signed.	/19/
20/05/2011	The construction started.	/20/
25/05/2011	The purchase contract of centrifugal compressor was signed.	/21/
28/05/2011	The construction contract (recovery system) was signed.	/22/
17/08/2011	The purchase contract of screw refrigeration compressor was signed.	/23/
30/09/2011	ERPA was signed.	/24/
29/05/2012	The project started commissioning.	/25/
26/07/2012	The PDD was published for global stakeholder comments.	UNFCCC†

Bureau Vertias Certification has checked the FSR and can confirm that the FSR of the Project was completed in 08/2010 /7/ by Daqing Oilfield Engineering Co., Ltd.. In the FSR, the Project IRR is lower than the benchmark of 12% without revenue from CDM, and the CDM consideration was involved in the FSR. Then the PP, Daqing Oilfield Co., Ltd. decided to invest the project and seek additional financial support from CDM to make the proposed project feasible based on the conclusion of the FSR on 25/11/2010 /13/.

The purchase contract of regenerable adsorption type of dryer was signed on 12/04/2011 Bureau Veritas Certification can confirm that it is the earliest date at which either the implementation or construction or real action of the project activity begins, and the identification of the project activity start date in the PDD is appropriate. This is the earliest of the dates at which the implementation or construction or real action of the Project began and has been identified as the project start date. This is in accordance with the CDM glossary /43/.

According to the evidence gathered, the PP sent a prior consideration on 23/03/2011 to UNFCCC and notice on 28/04/2011 to China DNA (Host Party) using the standardized F-CDM-Prior Consideration form respectively /14//16/. Taking into consideration that the Project starting date is 12/04/2011, it has been verified that both the notice of “commencement of the activity and intention of seek the CDM status” has been sent to the required Parties within 180d terms. Hence, Bureau Veritas Certification can confirm that CDM was seriously considered in the decision to implement the Project.

Bureau Veritas Certification hereby confirms that the proposed project activity complies with the requirements related to the prior consideration of the CDM.

† http://cdm.unfccc.int/Projects/Validation/DB/UZEKWF4NNHEIIZR6JXM6EYMQZHB4YI/view.html

3.9.2. Identification of Alternatives (116)

The plausible and credible alternatives to the Project were identified as per AM0009 version 06.0.0 in the section B.4 of the PDD.

Two plausible alternatives are identified:

Alternative 1: To implement the project activity without being registered as a CDM project activity.

Alternative 2: The associated gas is vented to the atmosphere directly and the operation of the existing oil and gas infrastructure is continued.

Both Alternative 1 and Alternative 2 are in compliance with the relevant laws and regulations.

3.9.3. Investment Analysis (123)

Analysis method

In accordance with the selected methodology AM0009 version 06.0.0, the PDD use the approach to assess economic attractiveness by determining an expected Internal Rate of Return (IRR).

Benchmark

A Project-IRR of 12% (post-tax) was employed by the Project as a benchmark, according to the *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation version 2008* /46/. Bureau Veritas Certification has assessed the suitability of the benchmark and found that it is widely applied in China's oil and gas production industries. This benchmark reference is also chosen by the registered similar project of China with reference number 2908: "Tarim Oilfield Associated Gas Recovery and Utilization Project". Therefore, Bureau Veritas Certification concludes that the benchmark is suitable for the Project.

Bureau Veritas Certification considers that the type of benchmark applied is suitable for the type of financial indicator presented; it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark.

Data source

The input values are taken from FSR, which was compiled Daqing Oilfield Engineering Co., Ltd. except for the rate of residual value. The FSR was finalized in 08/2010 and approved on 12/04/2011. The FSR does not consider the residual value of the fixed assets when calculating the IRR. However, the PDD calculates the IRR in accordance with the IRR benchmark reference *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation version 2008*, which is appropriate and this parameter is available when the CDM decision was made by the PP. Besides, the FSR includes the consumption of dry gas in the OPEX, while the consumption of dry gas is excluded from the OPEX in the investment analysis of the PDD, and Bureau Veritas Certification can confirm this is appropriate and conservative.

In addition, given the short period of time between the FSR and the decision to proceed with the Project, Bureau Veritas Certification was therefore confident that it is unlikely in the context of the underlying Project that the input values would have materially changed, which is in line with the report **Para. (a) 122/VVS**.

In accordance with **Para. (b) 122/VVS**, Bureau Veritas Certification has compared the input values of IRR calculation in financial analysis in the PDD and the FSR, and confirms that all the input parameters used in the financial analysis are consistent with the approved FSR.

Input value

Bureau Veritas Certification has checked the IRR determination in the PDD and can confirm that the PDD calculates the IRR using the applicable parameters in the methodology AM0009 version 06.0.0.

With regard to **Para. (c) 122/VVS**, Bureau Veritas Certification has reviewed the Project IRR calculation sheet and cross-checked the major input values using local knowledge as well as sectoral and financial expertise and confirms that:

(a) The **total static investment** (capital expenditure, **CAPEX**) in the approved FSR is 628,920,000 RMB.

- Bureau Veritas Certification has checked the approved FSR /7/ which was finalized by a qualified design institute with a certification of Level A /9/, and can confirm that the static investment consists of the investment in the recovery system and transportation pipelines and the investment in the processing plant, which complies with the methodology which defines the capital expenditure for all oil and gas infrastructure needed in the relevant scenario, such as gas recovery facilities, pipelines, and gas processing plant.
- The Project construction was finished and started operation. Bureau Veritas Certification has checked the total static investment with several signed purchase contracts of main equipments and contracts of construction /15//18//19//21//22//23/, and found that the total value of the contracts have summed up to 635,654,000RMB, which is 1.07% higher than the expected total static investment used in the investment analysis. Those chosen contracts do not include all the expenditure of the Project, and Bureau Veritas Certification can confirm that the actual total static investment is more than its estimation in FSR, and Bureau Veritas Certification can confirm that the estimated total static investment in the FSR used in the investment analysis in the PDD is appropriate and conservative.

(b) Quantity of recovered associated gas

- As described in the section 3.7 of this validation report, Bureau Veritas Certification can confirm that the yearly varying quantities of recovered gas during the operation period are credible and valid, and the sharp decreasing trend of the recovered gas in the last several years of the operation period is reasonable. The quantity of recovered associated is calculated in the FSR with the expected oil production

target and the gas-oil ratio and Bureau Veritas Certification has checked documented evidence /7//11/ and can confirm the data of the expected yearly quantity of recovered associated gas are consistent between the evidences.

(c) Overall **projected production of associated gas**, including **sale volume of dry gas and condensate**

- The projected production of associated gas includes the dry gas and the condensate, which complies with the FSR. Bureau Veritas Certification has checked the FSR which is finalized by a qualified design institute with a certification of Level A /9/, and can confirm that the quantities of the yearly produced dry gas and condensate are consistent with the approved FSR. In the FSR, the yearly production of dry gas and condensate is calculated with the yearly recovered associated gas and the gas contents as per the material balance analysis and vary during the operation period, which is reasonable. Bureau Veritas Certification can also confirm that the calculated results of the production of dry gas and condensate are reasonable by checking the quantities and contents of the recovered gas, the produced dry gas, and the produced condensate.

(d) Sale price of condensate and dry gas

- The **sale price of dry gas** is 0.98RMB/Nm^3 (excluding VAT), which is sourced from the FSR. Bureau Veritas Certification can confirm that the determination of the price of dry gas sourced from the FSR complies with the benchmark reference *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* version 2008 /46/. Bureau Veritas Certification has also checked the price regulation issued by the NDRC /54/, the actual signed contract of the sales of dry gas /27/ and the sales invoice of the dry gas /28/, and can confirm that the price regulated by the NDRC and the actual price of the dry gas is also 0.98RMB/Nm^3 (excluding VAT). Therefore Bureau Veritas Certification can confirm that the price of the dry gas used in the investment analysis in the PDD is appropriate.

- The **sale price of condensate** is 2,702RMB/t (excluding VAT), which is sourced from the FSR, where the sale price of condensate is determined as per the benchmark reference *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* version 2008 /46/. Bureau Veritas Certification has checked the benchmark reference *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* version 2008 /46/ where the sale price of condensate is required to be fixed in the investment analysis and is the same as that in the FSR. Bureau Veritas Certification has also checked the actual signed sales contract of condensate /29/ and the sales invoice of the condensate /30/, and can confirm that the actual price of the condensate is also 2,702RMB/t (excluding VAT). Therefore Bureau Veritas Certification can confirm that the price of the condensate used in the investment analysis in the PDD is appropriate.

- There is one project in China, Tarim Oilfield Associated Gas Recovery and Utilization

Project, registered on the UNFCC, with the UNFCCC ref. No. 2908 ‡. Bureau Veritas Certification studied the PDD and the IRR calculation spreadsheet of this project and found that the sale prices of the dry gas and condensate used in the investment analysis of the project ref. 2908 are respectively 0.41RMB/m^3 and 1,436RMB/t (including VAT), while the sale prices of dry gas and condensate used in the Project are much higher than the prices in the project ref. 2908, which is appropriate and conservative.

(e) Bureau Veritas Certification confirms that it conform to the calculation methods in the FSR that the **OPEX** (operational expenditure) is calculated with two parts of operational expenditure associated with the (1) processing plant and (2) Recovery system and transportation system. Bureau Veritas Certification has checked the information of the FSR and can confirm that all the values of the parameters used in the investment analysis in the PDD are consistent with the FSR. Bureau Veritas Certification has crosschecked these values of the parameters with other sources and can confirm that these values of the parameters used to calculate the OPEX in the PDD are appropriated, referring to the following Table 5. Bureau Veritas has also checked the calculation of the OPEX in the IRR calculation spreadsheet and can confirm that the calculation of the OPEX is correct.

Table 5 Data crosscheck of the OPEX

	Data in the PDD (IRR calculation spreadsheet) / FSR	Data for crosscheck	Cross-checking source
Unit Price of 4 A molecular sieve (RMB/t, excluding VAT)	23000	23000	Purchasing invoice of 4 A molecular sieve /63/
Unit Price of Lubricant oil (RMB/t, excluding VAT)	50000	50775	Purchasing invoice of lubricant oil /64/
Unit Price of Methanol (RMB/t, excluding VAT)	3500	3498.29	Purchasing invoice of methanol /65/
Unit Price of Electricity (RMB/kWh, excluding VAT)	0.5747	0.5747	Interim Methods and Standard for the Determination of Economic Assessment Parameters in 2010 of Daqing Oilfield Co., Ltd. /66/
		0.6381	Receipt of electricity purchase in 06/2012 /67/ The price of purchased electricity used in the

‡ http://cdm.unfccc.int/Projects/DB/RWTUV1249652203.75/view

			investment analysis in the PDD is lower than the actual price of purchased electricity, which is conservative.
Unit Price of Water (RMB/t, excluding VAT)	4.75	4.75	Purchasing invoice of water /68/ and Interim Methods and Standard for the Determination of Economic Assessment Parameters in 2010 of Daqing Oilfield Co., Ltd. /66/
No. of Staff	491 Including 51 for process plant and 440 for recovery system and transportation system	491 Including 51 for process plant and 440 for recovery system and transportation system	Sheet of the payroll of the Project in 07/2012 /69/ Financial Audit Report of Daqing Oilfield Co., Ltd.[§]. /70/
Salary (10^4RMB/a/person)	9	0.75506 for a month corresponding to 9.0607 for a year	Sheet of the payroll of the Project in 07/2012 /69/
Ratio for Welfare	51%	49%~56%	Basic welfare: 14%, sourced from Implementation Regulations of the Enterprise Income Tax Law of the People's Republic of China /71/ Medical insurance: 6%, sourced from Basic Medical Insurance Management for the Urban Employees in Daqing City /72/ Pension: 20%, sourced from Notice on Amelioration of the Basic Pension Regulations of Enterprise Employees /73/ Unemployment Insurance: 2%, sourced from Regulations on Unemployment Insurance in Heilongjiang Province /74/ Work-related Injury Insurance: 2%, sourced from Work-related Injury Insurance Regulations /75/

[§] The Project has started operation, and there are actual values including 51 for process plant and 440 for recovery system and transportation system for crosschecking. Bureau Veritas Certification has checked the 2012 Financial Audit Report of Daqing Oilfield Co., Ltd., which is a data source from a third party, and can confirm that the actual values are consistent with the estimation in the Feasibility Study Report used for calculating the IRR.

			Housing fund: 5%~12%, sourced from Instruction Opinion of Certain Specific Questions about Housing Common Reserve Fund /76/
Rate of repair & maintenance cost	3%	2.5%~3.5%	Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation version 2008 /46/
Rate of factories management cost (10^4RMB/a/person)	1.3	0.8~1.5	Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation version 2008 /46/
Rate of security fund cost	0.24%	0.24%	Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation version 2008 /46/
Rate of miscellaneous management cost (10^4RMB/a/person)	3.2	2.8~3.5	Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation version 2008 /46/
Rate of sales cost	1%	0.5%~2%	Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation version 2008 /46/

Note: Since the Project started commissioning on 29/05/2012 and the duration from the commissioning of the Project to finalization date of this report is far less than a whole year, it is not appropriate to crosscheck the consumption quantities of materials and the power including 4A molecular sieve, lubricant oil, methanol, water, electricity with the actual consumption data. However, Bureau Veritas Certification has checked the FSR developed by the qualified design institute with a certification Level A issued by the Ministry of Housing and Urban-Rural Development of the People's Republic of China /9/, and can confirm that the consumption quantities of the materials and power is determined as per the processing quantity of the associated gas and rated power of related installed equipments.. Therefore Bureau Veritas Certification can also confirm that it is appropriate and reasonable that the consumption quantities of the materials and power vary every year resulting from the varying processing quantity of associated gas. This has also been confirmed by the local specialist /Intv-6//Intv-7/ during the onsite interview.

(f) The **operation period** (project lifetime in the IRR calculation spreadsheet) of 10 years were selected reasonably following the requirements of the benchmark reference *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* version 2008 and Para.3 of *Guidelines on the Assessment of Investment Analysis* version 05 /46//44/. Besides, Bureau Veritas Certification has checked the FSR and found that the quantity of the oil production target and the associated gas will sharply decrease in the last several years of the operation period, and Bureau Vertias Certification can confirm it is appropriate to apply 10 years of operation period in the IRR calculation. Bureau Veritas Certification has noticed that the net cash flow in the last three years of the operation period is negative since the decrease of the production

of dry gas and condensate. However, if the post-tax project IRR was calculated within the construction period and the early 7 years of the operation period, the result would be 8.12%, still lower than the benchmark.

(g) A post-tax benchmark is applied for the investment analysis of the Project. Bureau Veritas Certification has checked the IRR calculation sheet /31/ and confirms that the interest has been taken into account in the calculation of income tax. The interest rate (5.94%) used in the investment analysis in the PDD is the same one as prevailing commercial interest rate in China obtained from People's Bank of China /55/. In addition, the debt-equity ratio estimated in the FSR complies with the benchmark reference *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* version 2008 /46/ and was approved by local government. Therefore, Bureau Veritas Certification confirms that the interest payable has been taken into account in the calculation of income tax and deem appropriate.

(h) The **residual value rate** of 3% was in compliance with relevant regulation in China, i.e. *Enterprise Income Tax Law Implementation Regulations of People's Republic of China* (The People's Republic of China State Council Order No. 512) /56/ and the IRR benchmark reference *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* version 2008 /46/. The residual value rate is not sourced from the FSR where this rate is 0%. However Bureau Veritas Certification can confirm that the applied residual value rate of 3% is appropriate in the investment analysis of the PDD and in compliance with the above references.

(i) Bureau Veritas Certification has checked the IRR calculation sheet /31/ and confirms that depreciation has been deducted in estimating gross profits on which tax is calculated, and be added back to net profits for the purpose of calculating the financial indicator. The depreciation period 10 years is in line with the national regulation /56/. Bureau Veritas Certification confirms that the depreciation calculated complies with *Economic Evaluation Method and Parameters for Project Construction* (version 3) /53/.

(j) Bureau Veritas Certification has also verified values of various taxes through crosschecking against the taxation rules conducted by local government and found to be fully consistent.

- The **income tax** of 25% complies with Enterprise Income Tax Law of China which is effective from 01/01/2008 /57/. Bureau Veritas Certification has checked the calculation of the income tax of the IRR calculation and can confirm that the calculation of the income tax complies with the method included in the Enterprise Income Tax Law of China /57/.
- As to the VAT

  The **VAT rates** of the dry gas and condensate are respectively 13% and 17%, which complies with the national regulation on the VAT /58/. The calculation of VAT of the sales of dry gas and condensate is fully consistent with the FSR and the current financial system of the project owner Daqing Oilfield Co., Ltd.

The education surtax of 3% complies with the Interim Provision on Education Tax Law /59/ and the Rate of city maintenance and construction tax of 7% for enterprises complies with the National City Tax Law /60/.

Indicator Calculation

Based on the input values from the FSR that are valid and applicable at the time of investment decision, the Project IRR without CDM revenues is 4.97%, which is lower than the benchmark. It shows that the Project is not financially attractive in the absence of CDM benefits.

Bureau Veritas Certification has reviewed the IRR calculation spreadsheet /31/ and confirms that the calculation and presentation are consistent with the "Guidelines on the assessment of investment analysis" version 05. The data sources as well as the analysis approach are reliable and in accordance with local accounting regulations or international best practice.

Sensitivity Analysis

Variables including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues were taken as uncertainty factors for sensitive analysis to determine under what conditions variations in the result would occur, and the likelihood of these condition:

- CAPEX
- OPEX
- Sale price of condensate
- Sale price of dry gas
- Sale volume of condensate
- Sale volume of dry gas

According to Economic Evaluation Method and Parameters for Project Construction 3rd edition, issued by NDRC and Ministry of Construction of P.R. China on 03/07/2006 /53/ and the FSR /7/, the parameters CAPEX, Sale price of condensate, Sale volume of condensate, Sale price of dry gas, Sale volume of dry gas, and OPEX are taken as uncertain factors in sensitivity analysis, and ±10% variation of above factors was applied in the sensitivity analysis. With the ±10% variation of above factors, the IRR will not reach the benchmark.

Furthermore, a critical assessment was presented in the PDD to show to what extent the IRR of the project could reach the benchmark. As a result, in the following scenarios the IRR will reach the benchmark:

- The CAPEX decreases by about 15.12%, or
- The OPEX decreases by 13.63%, or
- The Sale price of condensate increases by about 19.86%, or
- The Sale price of dry gas increase by about 14.32%, or

- The Sale volume of condensate increase by about 19.86%, or
- The Sale volume of dry gas increase by about 14.32%, or

However, Bureau Veritas Certification confirms that these four parameters are not likely to fluctuate over the above ranges for the following reasons:

- **CAPEX**: Bureau Veritas Certification has checked the total static investment (CAPEX) with several signed purchase contracts of main equipments and contracts of construction /15//18//19//21//22//23/, and found that the total value of the contracts have summed up to 635,654,000RMB, which is 1.07% higher than the expected total static investment used in the investment analysis. Bureau Veritas Certification can confirm that the static total investment is not likely to decrease by 15.12%.
- **OPEX:** The OPEX comprise materials and power expense including 4A molecular sieve, lubricant oil, methanol, water, and electricity, repair & maintenance cost, factories management cost, security fund cost, miscellaneous management cost, sales cost, and employee salary and welfare, which mainly relate to the index of the average wage and purchasing price index of raw material, fuel and power in China. As the indexes show that the index of the average wage and purchasing price index of raw material, fuel and power in China have been on the rise for the resent years /62/, it is unlikely that the OPEX could decrease by 13.63%.
- **Sale prices of condensate and dry gas:** The sales prices of condensate and dry gas are sourced from the FSR which was finalized by a qualified design institute with a certification of Level A /9/, where the sale prices are determined as per the benchmark reference *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* version 2008 /46/. Bureau Veritas Certification has checked the actual sales prices of condensate and dry gas indicated on the sales contracts of the condensate and dry gas /27//29/, the sale prices are fixed during the whole project lifetime of the proposed project. Bureau Veritas Certification can also confirm that the sale prices of dry gas and condensate used in the Project are much higher than the prices in the project ref. 2908, which is appropriate and conservative. Therefore it is not possible for the sale prices of the products to increase by 19.86% or 14.32%.
- **Sale volume of condensate and dry gas**: Since the projected production of condensate and dry gas is calculated with the recovered associated gas by the qualified design institute with a certification of Level A /9/ using material balance, which is dependent on the geological conditions and the oil development plan of the oil field, the production is unlikely to fluctuate away the designed yearly values on a high level. Bureau Veritas Certification concludes that the sale volume of condensate and dry gas is unlikely increased by 19.86% or 14.32% over the whole operation period.

Bureau Veritas Certification considers that the range of variations is reasonable in the project context. The analysis provided a cross-check on the suitability of the assumptions used in the development of the investment analysis. The conclusion that the project activity is unlikely to be financially attractive is robust to reasonable variations in the critical assumptions.

Bureau Veritas Certification hereby confirms that the underlying assumptions regarding investment analysis are appropriate and the financial calculations are correct.

3.9.4. Barrier Analysis (127)

The Barrier analysis was not applied for the Project.

3.9.5. Common Practice Analysis (130)

The Common practice analysis was addressed as per **Step 4** of "*Tool-Additionality*" and latest rules issued by EB.

The Project is a newly built associated gas recovery and process project with a daily capacity of 900,000Nm3/d applying the deep cooling processing technology in Heilongjiang. Thus the Project belongs measure (b) defined in the "Tool-Additionality", i.e. Switch of technology with or without change of energy source (including energy efficiency improvement as well as use of renewable energies). Therefore, the four steps provided in the "Tool-Additionality" were employed to conduct common practice analysis for the Project.

Step1: All plants that with capacity 450,000Nm3/d to 1,350,000Nm3/d (+/-50% of 900,000Nm3/d) have been identified.

Step 2: All plants that with capacity 450,000Nm3/d to 1,350,000Nm3/d (+/-50% 900,000Nm3/d) within Heilongjiang, which have started commercial operation before the start date of the Project have been identified. Registered CDM project activities and projects activities undergoing validation shall not be included in this step.

Bureau Veritas Certification has checked other sources and can confirm that the Heilongjiang Province where the Project is located is different from the other parts of the host country (China) in natural resources conditions, investment climate, and natural climate. Crude oil production of Heilongjiang Province rank first in China [**], while there are 15 provinces in China which do not product crude oil and 9 provinces produce less than 10% of the crude oil production of Heilongjiang Province among the total 34 provinces [††]. Heilongjiang Province is located 121°11′E~135°05′E; 43°25′N~53°33′N [**] while China is located 73°E~135°E; 43°N~53°N [‡‡], which means that Heilongjiang Province is located the most northeast in China. Temperature in Heilongjiang Province is the lowest in China. The annual average temperature in Heilongjiang Province is around 0°C [**] while the annual average temperature in China is around 9.4°C [§§], and winter is the longest in Heilongjiang Province. The enormous difference in temperature leads to more difficulties in the oil production, phase separation and gas and oil transportation. For example, the fluid in the gas or oil pipelines is likely to be frozen under the low temperature. The investment climate is also different in different provinces. The construction projects have to be approved by the provincial governments before construction, while the different provincial governments may encourage different type of projects and issue different policies to certain

[**] http://www.hlj.gov.cn/zjlj/wzzk/
[††] http://www.askci.com/news/201111/161735149047.shtml
[‡‡] http://baike.baidu.com/view/10340.htm
[§§] http://www.chinanews.com/gn/2013/01-16/4493631.shtml

industries. The economy development level is also much different from other parts of China. Growth rate of GDP in Heilongjiang is 12.3% in 2011 which is much higher than the value in in China (9.3%). Secondary industry constitutes 50.3% of the gross products in Heilongjiang in 2011, which is much higher than this value in China (46.6%) /62/.

Heilongjiang is a wide region, of which the area is 473,000 km^2 [***], which is wider than most of countries in the world. Since the natural resources conditions, investment climate, and natural climate vary between the different provinces, Heilongjiang is appropriately considered as the applicable geographical area appropriately.

The processing technologies of gas processing include the deep cooling technology and shallow cooling technology, which can be confirmed by the local experts' opinion /78/. Bureau Veritas Certification can conclude that the deep cooling processing technology can be deemed different from the other technology, i.e. shallow cooling processing technology, in the following aspects:

Table 1 Difference between deep cooling and shallow cooling processing technology /78/

	Deep cooling	Shallow cooling
Temperature	-70°C and below -70°C	-15~-37°C
Main product	The condense temperature of the contents with higher molecular weight of the associated gas is lower than contents with lower molecular weight. The main purpose is to recover 70% of the ethane or more than 90% of the propane content in the associated gas. Main product is to produce condensate, and dry gas is the by-product.	The main purpose is to satisfy the dew point requirement for transportation. Therefore the shallow cooling only recovers 60% of the propane content in the associated gas. Main product is to produce dry gas, and condensate is the by-product.
Cooling processing	Two-stage expansion refrigeration; Expansion machine and auxiliary cooling agent refrigeration; J valve throttling and auxiliary cooling agent refrigeration (propane compress refrigeration or ammonia compress refrigeration) Also the applied equipments are	Propane compress refrigeration; Ammonia compress refrigeration; Hot-splitting refrigeration

[***] http://www.hlj.gov.cn/zjlj/wzzk/

	different from shallow cooling	

It is obviously that the shallow cooling processing technology delivers different output from the deep cooling processing technology. Besides, according to the Guidance on the construction of the Daqing Oilfield associated gas processing plants issued by the Development and Reform Commission of Daqing City /79/ ††† on 18/03/2010, the processing plants using shallow cooling treatment technology cannot be approved and are not allowed to construct, considering the component of associated gas in Daqing Oilfield and for the purpose of the energy efficiency improvement, which is a legal regulation and results in different investment climate in the date of investment decision. According to the methodological tool "Demonstration and assessment of additionality" /39/, the shallow cooling technology and deep cooling technology are deemed as different technologies.

The processing plants using shallow cooling technology is not included in N_{all}.

Bureau Veritas Certification has checked the data source and can confirm that there was no associated gas recovery and processing projects applying deep cooling treatment technology with capacity below 1,350,000Nm^3/d in Heilongjiang /77/ ‡‡‡.

Therefore,

N_{all} =0

Step 3: Within plants identified in step 2, those apply technologies different that the technology applied in the Project was identified.

Since N_{all} =0, then N_{diff} =0

Step 4: The factor F=1- N_{diff}/N_{all} = 0, not greater than 0.2; N_{all}-N_{diff} = 0, not greater than 3.

Conclusion:

According to the "Tool for the Demonstration and Assessment of Additionality" (version 06.1.0), if the factor F is greater than 0.2 and N_{all}-N_{diff} is greater than 3, then the proposed project activity is a "common practice".

Since F=0, and N_{all}-N_{diff} is not greater than 3, the Project is additional and not common practice within the applicable geographical area.

††† Although this is the regulation on the Daqing Oilfield, this is regulation can be deemed for the oil and gas production industry in the Heilongjiang Province, considering that the Daqing Oilfield is the only oilfield in Heilongjiang Province.

‡‡‡ There is also no project applying shallow cooling treatment technology to recovery the associated gas with the capacity from 45×10^4 Nm^3/d to 135×10^4 Nm^3/d in Heilongjiang Province.

3.10. **Monitoring Plan (133)**

The Project uses the approved consolidated monitoring methodology AM0009 version 06.0.0 and the following tools:

Tool to calculate project or leakage CO2 emissions from fossil fuel combustion (Version 02);

Tool to calculate baseline, project and/or leakage emissions from electricity consumption (Version 01);

Tool to calculate the emission factor for an electricity system (Version 02.2.1);

Tool for the demonstration and assessment of additionality (Version 06.1.0).

Applicability of this methodology is justified in PDD. Referring to the discussions on the applicability of the methodology in section 3.8.1 above, Bureau Veritas Certification considers that the selected monitoring methodology and the referred tools are applicable to the Project.

Data and Parameters Monitored

Bureau Veritas Certification confirms that it is appropriate to monitor the following parameters, as listed in the CDM-PDD, as well as their monitoring procedures and QA/QC procedures:

$V_{F,y}$ Volume of the total recovered gas measured at point F

Data should be continuously measured and monthly recorded using calibrated flow meter. The measured volume should be converted to the volume at normal temperature and pressure using the temperature and pressure at the time to measurement.

$NCV_{RG,F,y}$ Average net calorific value of recovered gas at point F

Measurements should be undertaken in line with national or international fuel standards. Gas samples should regularly be taken at point F in Figure B3-2 of the PDD and the molar composition of each gas sample should be determined through chemical analysis. Based on the molar composition, the Net Calorific Value on a volumetric basis should be determined for each sample in line with ISO 6976 or an equivalent standard for a combustion reference temperature of 25°C and the same metering reference condition used for parameter $V_{F,y}$. The average NCV during the period y is defined as the arithmetic average of NCVs for the samples taken during the same period. Sampling and compositional analysis and calculation of net calorific value at least monthly.

$FC_{NG,D,y}$ The quantity of dry gas combusted in processes before point F

Data should be continuously measured using calibrated flow meter and monthly recorded. Measurements should be taken at the point(s) where recovered gas exits the pre-treatment plant. The measured volume should be converted to the volume at normal temperature and pressure using the temperature and pressure at the time to measurement.

$NCV_{NG,y}$ Average net calorific value of natural gas combusted in processes before point F

Measurements should be undertaken in line with national or international fuel standards. Gas samples should regularly be taken at point F in Figure B3-2 of the PDD and the molar composition of each gas sample should be determined through chemical analysis. Based on the molar composition, the Net Calorific Value on a volumetric basis should be determined for each sample in line with ISO 6976 or an equivalent standard for a combustion reference temperature of 25°C and the same metering reference condition used for parameter $V_{F,y}$. The average NCV during the period y is defined as the arithmetic average of NCVs for the samples taken during the same period. Sampling and compositional analysis and calculation of net calorific value at least monthly.

$EF_{CO2,NG,y}$ CO_2 emission factor of natural gas before point F

During implementing verification period for the project, the latest IPCC-value is applied.

$EC_{PJ,j,y}$ Quantity of electricity consumed by the project activity source *j*

Data should be continuously measured using calibrated electricity meters and monthly recorded.

$EC_{LE,l,y}$ Net increase in electricity consumption of source *l*

Data should be continuously measured using calibrated electricity meter and monthly recorded.

Implementation of the Monitoring Plan

The operational and management structure that will be implemented by the project developer in order to monitor emission reductions and any leakage generated by the project activity is described in the Figure B7-1 in the monitoring plan. The responsibilities and institutional arrangements for data collection and archiving are clearly indicated in the monitoring plan. The monitoring plan describes the monitoring locations of the parameters, referring to the Figure B7-2 of the PDD. The QA/QC plan has been described in the monitoring plan. The accuracy of all the monitoring equipments has been provided in the monitoring plan. The monitoring equipments will be calibrated according to national standard.

The project developer provides comparative analysis of production data for oil and associated gas and the initial production target as per the information provided in survey used for defining the terms of the underlying oil production project. Bureau Veritas Certification has checked the Oilfield development plan of the Sanan Oilfield and oil and associated gas expectation dated 23/01/2010 /11/ and can confirm that the production target of Second Oil Production Plant of Sanan Oilfield listed in the section B.7.3 is consistent with

this documented evidences /7//11/. If the oil production differs significantly from the initial production target, then the project developer will specify corresponding reasons.

As per the “Standard for sampling and surveys for CDM project activities and programme of activities”, the requirements for sampling in the applicable methodology are having precedence. Hence sampling plan for NCV as described in methodology AM0009 version 06.0.0 is used. Bureau Veritas Certification concludes that this is appropriate.

By on-site interview with the PP, Bureau Veritas Certification confirms that the monitoring arrangements described in the monitoring plan are feasible within the project design, and the means of implementation of the monitoring plan are sufficient to ensure the emission reductions achieved by the Project can be reported ex post and verified. Bureau Veritas Certification is of the opinion that the monitoring plan complies with the requirements of the methodology.

3.11. **Environmental Impacts (137)**

The project participants conducted an analysis of the environmental impacts of the proposed project activity.

The environmental impact caused by the Project has been identified and analyzed in the PDD. By checking the approved environment impact assessment (EIA), Bureau Veritas Certification is able to ensure that the environment impact occurs mainly from aspects of air pollution, water pollution, noise pollution, solid pollution, and ecology impacts. All above impacts would be within an acceptable limit by implementing corresponding mitigation measures as per the statement of the EIA.

3.12. **Local Stakeholder Consultation (140)**

The project participants have completed a local stakeholder consultation process and that due steps were taken to engage stakeholders and solicit comments for the proposed project activity.

In 04/2011 before the Project was published for global stakeholders consultation, the PP introduced a survey of the Project to local stakeholders and invited comments from the local stakeholders prior to the publication of the PDD on the UNFCCC website. The survey was conducted through distributing 50 copies of questionnaires and 50 copies collected /32/. The local stakeholders consulted include local residents, government representatives.

During the on-site visit, Bureau Veritas Certification has conducted an interview with local stakeholders (in References the persons interviewed are listed) and confirms that the stakeholders impacted had been invited in a transparent manner.

Bureau Veritas Certification hereby confirms that comments that are relevant for the proposed project activity have been invited from local stakeholders, the summary of the comments received as provided in the PDD is complete, the project participants have taken due account of all comments received and have described this process in the PDD.

4. COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD using methodology AM0009 version 06.0.0 was webhosted on the UNFCCC for global stakeholders comments as per CDM requirements. The project was webhosted from 26/07/2012 to 24/08/2012.

No comments were received during this period.

5. VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the Nanba Associated Gas Processing Plant and the Auxiliary Engineering, which is located in at the Sanan Oilfield in Daqing City, Heilongjiang Province, People's Republic of China. The validation was performed on the basis of UNFCCC criteria for the CDM, and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) desk review of the project design document and additional background documents; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion.

The project correctly applies the approved consolidated baseline and monitoring methodology AM0009 version 06.0.0 and uses the latest tool for demonstration of the additionality.

The project is likely to result in reductions of GHG emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated annual emission reductions of 301,731tCO_2e during the fixed crediting period.

The review of the project design documentation and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and the relevant host country criteria. Bureau Veritas Certification thus requests registration of the project as a CDM project activity.

Mr. (Robin) Wang Jing	Mr. (Ernesto) Tan Wenbin
Internal Technical Reviewer	Team Leader
27/11/2012	27/11/2012

6. REFERENCES

Category 1 Documents:

Documents provided by project participants that relate directly to the GHG components of the project.

/1/ GSP PDD version 01.2 dated 23/07/2012 for global stakeholders consultation

/2/ PDD version 02.2 dated 19/10/2012

/3/ LoA from DNA of China (Host country) on 08/2012 (No. 4504)

/4/ LoA from DNA of Australia on 15/08/2011 (No. AUSCDM120730MBL_NIGP)

/5/ EIA report finished in 10/2010.

/6/ EIA Approval issued by Environmental Protection Bureau of Daqing City on 08/12/2010 (Code: QingHuanJianZi [2010]No.238)

/7/ Feasibility Study Report (FSR) developed by Daqing Oilfield Engineering Co., Ltd. in 08/2010

/8/ FSR approval by Development and Reform Commission Daqing City on 12/04/2011 (Code: QingFaGaiBeiAn[2011]No.2)

/9/ Project Design Certification of Level A of the Daqing Oilfield Engineering Co., Ltd. certified by the Ministry of Housing and Urban-Rural Development of the People's Republic of China

/10/ Historical oil production and quantity of associated gas of the Second Oil Production Plant of the Sanan Oilfield

/11/ Oilfield development plan of the Sanan Oilfield and oil and associated gas expectation dated 23/01/2010

/12/ Measurement results of the contents of the associated gas by Petroleum Industry Center for Quality Supervision and Inspection of Crude Oil and Petroleum Products

/13/ The PP's Decision to develop the project activity as a CDM project dated 25/11/2010, document No. QinYouFa [2010]15

/14/ The notification for the prior consideration of the CDM sent to UNFCCC, dated 23/03/2011

/15/ The purchase contract of regenerable adsorption type of dryer signed on 12/04/2011

/16/ The notification for the prior consideration of the CDM sent to China DNA, dated 28/04/2011

/17/ CDM consulting contract signed between the project owner and the consultant signed on 09/05/2011

/18/ Construction contract (Part 1) signed on 12/05/2011

/19/ Construction contract (Part 2) signed on 12/05/2011

/20/ Record of the construction commencement dated 20/05/2011

/21/ The purchase contract of centrifugal compressor signed on 25/05/2011

/22/ Construction contract (recovery system) signed on 28/05/2011

/23/ The purchase contract of screw refrigeration compressor signed on 17/08/2011

/24/ ERPA signed on 30/09/2011

/25/ Operation log of the Project

/26/ Surface engineering plan for the oilfield production capacity building of the Second Oil Production Plant of Sanan Oilfield

/27/ Signed contract of the sales of dry gas

/28/ The sales invoice of the produced dry gas of the Project (VAT invoice)

/29/ Signed contract of the sales of condensate dated 19/12/2011

/30/ The sales invoice of the produced condensate of the Project (VAT invoice)

/31/ IRR calculation spreadsheet of the Project

/32/ Evidence of 50 retrieved pieces of stakeholder survey questionnaires

/33/ Emission Reduction calculation spreadsheet

/34/ Modalities of Communication

/35/ Authorization to MoC signatures

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents used for cross-check.

/36/ Recovery and utilization of gas from oil wells that would otherwise be flared or vented- AM0009 version 06.0.0

/37/ Validation and Verification Standard version 02.0 dated 25/11/2011, EB65 Annex 4

/38/ Tool to calculate the emission factor for an electricity system version 02.2.1

/39/ Tool for the demonstration and assessment of additionality version 06.1.0

/40/ Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion version 02

/41/ Tool to calculate baseline, project and/or leakage emissions from electricity consumption version 01

/42/ Guidelines on the demonstration and assessment of prior consideration of the CDM version 04 (EB62, Annex 13)

/43/ Glossary of CDM terms version 06

/44/ Guidelines on the Assessment of Investment Analysis version 05 (EB62, Annex05)

/45/ http://politics.people.com.cn/GB/14562/3526253.html

/46/ *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* version 2008

/47/ http://center.cnpc.com.cn/bk/system/2007/04/20/001084519.shtml

/48/ Code for Fire Protection Design of Petroleum and Natural Gas Engineering (GB50183-2004)

/49/ Run criterion of natural gas pipeline (SY/T 5922-2003)

/50/ Power industry standard *DL/T5174-2003* with the application scopes for gas fired power plant, issued by the Department of Power of the State Economy and Trade Commission of the People's Republic of China on 18/03/2003

/51/ Standard GB50251-2003, Code for design of gas transmission pipeline engineering, issued by the Ministry of Construction of the People's Republic of China and General Administration Quality Supervision, Inspection and Quarantine of the People's Republic of China on 10/06/2003

/52/ National standard for Natural Gas (GB17820-1999)

/53/ Economic Evaluation Method and Parameters for Project Construction 3rd edition, issued by NDRC and Ministry of Construction of P.R. China on 03/07/2006

/54/ Notice on increasing the producers benchmark price of the natural gas produced off-shore issued by the national development and reform commission of China dated 31/05/2010, documented No. Fa Gai Dian [2010]211

http://www.sdpc.gov.cn/zcfb/zcfbtz/2010tz/t20100531_350432.htm

/55/ Benchmark lending rate published by The People's Bank of China: http://www.pbc.gov.cn/publish/zhengcehuobisi/631/2012/20120608192806720164601/20120608192806720164601_.html

/56/ Enterprise Income Tax Law Implementation Regulations of People's Republic of China issued by The People's Republic of China State Council, document code: Order No. 512

/57/ Enterprise Income Tax Law of China effective from 01/01/2008

/58/ The Interim Regulations of the People's Republic of China on Value Added Tax, Decree of the State Council of the People's Republic of China No. 538, dated 05/11/2008

/59/ The State Council's decision to revise 'provisional rules for charging education surtax' effective on 01/10/2005

/60/ Provisional rules for city construction surtax effective since 1985

/61/ Notification on Determining Baseline Emission Factor of China's Grid dated 20/10/2011

http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File2552.pdf

/62/ 2011 China Statistical Yearbook http://www.stats.gov.cn/tjsj/ndsj/

/63/ Purchasing invoice of 4 A molecular sieve

/64/ Purchasing invoice of lubricant oil

/65/ Purchasing invoice of methanol

/66/ Interim Methods and Standard for the Determination of Economic Assessment Parameters in 2010 of Daqing Oilfield Co., Ltd.

/67/ Receipt of electricity purchase in 06/2012

/68/ Purchasing invoice of water

/69/ Sheet of the payroll of the Project in 07/2012

/70/ 2012 Financial Audit Report of Daqing Oilfield Co., Ltd. issued by the Daqing Yuansheng United Accountant Firm

/71/ Implementation Regulations of the Enterprise Income Tax Law of the People's Republic of China

http://www.gov.cn/zwgk/2007-12/11/content_830645.htm

/72/ Basic Medical Insurance Management for the Urban Employees in Daqing City

http://www.hlau.cn/um/renshi/index.php/2011-05-19-08-49-49/2011-06-07-07-05-35/47-2011-06-16-02-45-19.html

/73/ Notice on Amelioration of the Basic Pension Regulations of Enterprise Employees

http://www.gov.cn/xxgk/pub/govpublic/mrlm/200803/t20080328_32706.html

/74/ Regulations on Unemployment Insurance in Heilongjiang Province

http://www.hlj.gov.cn/mxgz/system/2007/07/03/000034673.shtml

/75/ Work-related Injury Insurance Regulations

http://law.51labour.com/lawshow-92583.html

http://www.xiangrikui.com/gongshangbaoxian/8333.html

/76/ Instruction Opinion of Certain Specific Questions about Housing Common Reserve Fund

http://www.dqgjj.gov.cn/Content.aspx?id=513

/77/ Statistic data from the Committee of Industry and information on technology of Heilongjiang Province, dated 16/05/2012

/78/ Description of the cooling technology of gas processing, issued by the Daqing Oilfield Engineering Co., Ltd., which developed the Feasibility Study Report of the Project.

/79/ Guidance on the construction of the Daqing Oilfield associated gas processing plants, issued by the Development and Reform Commission of Daqing City, document No. Qing Fa Gai Yi Jian [2010]21 dated 18/03/2010

Persons interviewed:

Persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

Daqing Oilfield Co., Ltd.

/Intv-1/	Mr. Qi Zhenlin	Vice General Management
/Intv-2/	Mr. Sun Yingjie	Director of Administration
/Intv-3/	Mr. Zhu Lin	Director of CDM Department
/Intv-4/	Mr. Xiong Liangfu	Vice Director of CDM Department
/Intv-5/	Ms. Li Xuchun	Technical Manager of CDM Department

Natural Gas Co., Ltd of Daqing Oil Field

/Intv-6/	Mr. Zhang Dan	Vice Plant Manager
/Intv-7/	Mr. Liang Shengxin	Vice Director

Beijing MD Energy Technology Co., Ltd

/Intv-8/	Mr. Zhao Ruihong	CTO
/Intv-9/	Ms. Feng Haiying	Project Manager

Development and Reform Commission of Daqing City

/Intv-10/	Mr. Fang Yu	Director

Environment Protection Bureau of Daqing City

/Intv-11/	Mr. Jiang Yongtang	Director

Local Stakeholders

/Intv-12/	Mr. He Xidong	Local resident
/Intv-13/	Mr. Li Xudong	Local resident

7. CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Mr. (Ernesto) Tan Wenbin	Bureau Veritas Certification, China	Team Leader, Climate Change Lead Verifier, He holds a bachelor degree in Geology and a master degree in Structural Geology. Before joining BV, he gained more than 2 years' technical experience in Petroleum Exploitation and Storage & Transportation sector, and more than 3 year's technical experiences in coal mining sector in P.R China. He obtained the certificate of CDM Lead Verifier and Lead Auditor for ISO 14001.
Mr. Feng Jun	Technical Specialist	Technical Specialist He holds a B.E of Mining Engineering of Department of Department of Mining Engineering, Taiyuan University of Technology and a Ph.D of Peking University. He gained 7 years directly experience of coal mining industry in China covering coal mining engineering, coal mining technological research, and coal mining management.
Mr. (Robin) Wang Jing	Bureau Veritas Certification, China	Technical Reviewer, Climate Change Lead Verifier. He holds a Bachelor Degree in Gas & Heating Engineering. He was a Gas Engineer with over 10 years' experiences in oil & gas sector and building technologies in P.R. China. Before joining BV in 2007, he gained two years of CDM audit experience in P.R China. He obtained the certificate of CDM Lead Verifier and Lead Auditor for ISO 14001. He has passed training course of ISO 14064.

APPENDIX A: CDM PROJECT VALIDATION PROTOCOL

Table 1 Validation requirements based on VVS version 02.0 (EB 65 Annex 4), PS version 01.0 (EB 65 Annex 5), PCP version 02.0 (EB 66 Annex 64), and Guidelines for completing the PDD form version 01.0 (EB 66 Annex 8)

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
Part I Cover Page					
(a) Is the title of the project activity provided?	PDD	-	Yes. Nanba Associated Gas Processing Plant and the Auxiliary Engineering	OK	OK
(b) Is the version number of the PDD indicated?	PDD	-	Yes. version: 02.2	OK	OK
(c) Is the completion date of the PDD provided in DD/MM/YYYY format?	PDD	-	Yes. 19/10/2012	OK	OK
(d) Are project participants indicated?	PDD	-	Yes. Daqing Oilfield Co., Ltd. and Macquarie Bank Limited	OK	OK
(e) Is the host party(ies) indicated?	PDD	-	Yes. P.R.China.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
(f) Is the sectoral scope and selected methodology(ies) indicated?	PDD	-	Yes. Sectoral Scope 10: Fugitive emission from fuels (solid, oil, gas) Methodology: AM0009 version 06.0.0	OK	OK
(g) Is the estimated amount of annual average GHG emission reductions indicated?	PDD	-	Yes. 301,731 tCO_2e annually	OK	OK
Part II PDD					
A. Description of project activity					
A.1 Purpose and general description of project activity					
A.1.1 Is a brief description of the project activity provided, including a summary of the scope of activities/ measures that are to be implemented within the project activity?	PDD PS	31(b)	It involves the installation of the associated gas processing and transport infrastructure including gas collection facilities, compressor units, processing plant and transportation pipelines. The project process 17,344*104Nm3 associated gas and produce 13,875*104Nm3 dry gas and 3.64*104t condensate annually. A brief description of the project activity is provided in the PDD. ~~CL-1 Please describe the~~	~~CL-1~~ ~~CAR-1~~	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			~~processing capacity of the project activity in the section A.1 of the PDD.~~ Bureau Veritas Certification can confirm that the designed processing capacity of the processing plant is consistent with the information in the FSR. This CL is closed. ~~CAR-1 It is found that the project recovers and utilizes the associated gas from not all the oil wells in the Sanan Oilfield of the Daqing Oilfield Co., Ltd. through onsite inspection, onsite interview, and document review. Please specify the part of Sanan Oilfield where the oil wells are involved in the Project.~~ Bureau Veritas Certification can confirm that all the oil wells involved in the Project belong to the Second Oil Production Plant of Sanan		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Oilfield through onsite interview and checking the FSR. This CAR is closed.		
A.1.2 Are the scenario existing prior to the start of project and baseline scenario indicated?	PDD	-	Yes. The scenario existing prior to the start of the implementation of the project activity is that the associated gas recovered by the Project will be vented to the atmosphere and the existing oil and gas infrastructure will continue operation without processing of any recovered associated gas and without any other significant changes.	OK	OK
A.1.3 Does it explain how the project activity will reduce GHG emissions or increase GHG removals?	PS	31(c)	Yes. The project will recover and utilise the associated gas that would otherwise be vented in the absence of the project activity to process into dry gas and condensate. Thus greenhouse gas (GHG) emission reductions will be generated by utilization of the recovered gas which displaces the use of other fossil fuel sources.	OK	OK

CHECKLIST QUESTION		Ref.	§	COMMENTS	Draft Concl	Final Concl
A.1.4	Is the estimated of annual average and total GHG emission reductions for the chosen crediting period provided?	PDD	-	Yes.	OK	OK
A.1.5	Is a brief description of how the project activity contributes to sustainable development provided?	PDD	-	Yes. The PDD provides the description of how the Project contributes to sustainable development: 1) Avoiding waste of energy in the Oilfield; 2) Improving energy efficiency by the recovery and utilization of the associated gas; 3) Reducing GHG emissions and air pollution from venting of associated gas; 4) Creating many permanent jobs during operation period and lots of short-term employment opportunities during the project construction.	OK	OK
A.1.6	In order to determine whether the description of the proposed project activity in the PDD is accurate,	VVS	65	Yes The physical site visit has been conducted	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
complete, and provides an understanding of the proposed CDM project activity, does the DOE conducted a physical site visit to assess the Project? If not, please justify.			on From 26/08/2012 to 29/08/2012 by Mr. Ernesto Tan Wenbin, Climate change lead verifier of Bureau Veritas Certification China, and Mr. Feng Jun, sectoral specialist of Bureau Veritas Certification China The audit purpose and methodology were briefed in the opening meeting participated by the following persons. Daqing Oilfield Co., Ltd. Mr. Qi Zhenlin Vice General Management Mr. Sun Yingjie Director of Administration Mr. Zhu Lin Director of CDM Department Mr. Xiong Liangfu Vice director of CDM Department Ms. Li Xuchun Technical Manager of CDM Department		

CHECKLIST QUESTION		Ref.	§	COMMENTS	Draft Concl	Final Concl
				Beijing MD Energy Technology Co., Ltd Mr. Zhao Ruihong CTO Mr. Feng Haiying Project Manager		
A.1.7	For all other proposed CDM project activities not referred to in VVS paragraphs 65-66, does the DOE undertaken the validation of project description by reviewing available designs and feasibility studies and should conduct comparison analysis with equivalent projects, as appropriate.	VVS	67	N/A.	OK	OK
A.1.8	If the proposed CDM project activity involves the alteration of an existing installation or process, does the project description state the differences resulting from the project activity compared to the pre-project situation?	VVS	68	N/A. The Project does not involve the alteration of an existing installation or process.	OK	OK
A.2	Location of project activity					
A.2.1	Is the host party(ies) indicated?	PDD	-	Yes.	OK	OK
A.2.2	Is region/state/province etc. indicated?	PDD	-	Yes.	OK	OK
A.2.3	Is City/Town/Community etc. indicated?	PDD	-	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
A.2.4 Are the details of physical location of the project activity provided?	PDD	-	Yes. The gas processing plant geographical coordinates of the project's site is 125°00′54.9″E, 46°33′00.5″ N, i.e. 125.0153°E, 46.5501°N	OK	OK
A.3 Technologies and measures					
A.3.1 Are there a list and the arrangement of the main manufacturing/ production technologies, systems and equipment involved?	PDD	-			
A.3.1.1 Is the information about the age and average lifetime of the equipment based on manufacturer's specifications and industry standards, and existing and forecast installed capacities, load factors and efficiencies included in the description?	PDD	-	~~CL-2 Please describe the other main equipments installed in the Project in the section A.3 of the PDD.~~ Bureau Veritas Certification has checked the revised PDD and can confirm that the added information of the main equipments is consistent with their purchase contracts. This CL is closed. Sufficient information is provided in the section A.3 of the PDD. Technical lifetime of the equipments of	~~CL-2~~	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Regenerable adsorption type of dryer and Screw refrigeration compressor is 20 years as per the manufacturer's specifications. Required information is included in the PDD.		
A.3.1.2 Are the monitoring equipments and their location in the systems included in the description?	PDD	-	~~CL-3 Please describe monitoring equipements in the section A.3 of the PDD.~~ Bureau Veritas Certification can confirm this revision of the PDD. This CL is closed. The monitoring equipments and their location in the systems are included in the PDD.	~~CL-3~~	OK
A.3.2 Are energy and mass flows and balances of the systems and equipment included in the project activity provided?	PDD	-	Yes.	OK	OK
A.3.3 Are the types and levels of services provided by the systems and equipment that are being modified and/or installed under the project activity and their relation, if any, to other manufacturing/ production equipment and systems outside the project	PDD	-	Yes. Gas processing plant is outside the project boundary as per the methodology.	OK	OK

CHECKLIST QUESTION		Ref.	§	COMMENTS	Draft Concl	Final Concl
	boundary provided?					
A.3.4	Does the description clearly explain how the same types and levels of services provided by the project activity would have been provided in the baseline scenario?	PDD	-	Yes. The associated gas recovered by the Project will be vented to the atmosphere and the existing oil and gas infrastructure will continue operation without processing of any recovered associated gas and without any other significant changes in the baseline scenario.	OK	OK
A.3.5	Is a list of facilities, systems and equipment in operation under the existing scenario prior to the implementation of the project activity provided?	PDD	-	N/A. The associated gas recovered by the Project would be vented to the atmosphere in the baseline scenario.	OK	OK
A.3.6	Is a list of facilities, systems and equipment in the baseline scenario provided?	PDD	-	N/A. The associated gas recovered by the Project would be vented to the atmosphere in the baseline scenario.	OK	OK
A.3.7	Is a description of how technologies and measures and know-how to be used are transferred to the Host Party(ies) included?	PDD	-	Yes. There is no technology transferred from developed countries involved in this project activity.	OK	OK
A.4	Party(ies) and project participant(s)					

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
A.4.1 Are following information provided in a tabular format?					
A.4.1.1 List of project participants and parties	PDD	-	Yes.	OK	OK
A.4.1.2 Identification of Host Party	PDD	-	Yes. P.R.China is the Host Party.	OK	OK
A.4.1.3 Indication whether the Party wishes to be considered as project participant	PDD	-	Yes. The Parties do not wish to be the PP of the Project.	OK	OK
A.5 Public funding of project activity					
A.5.1 Is it indicated whether the project activity receives public funding from Annex I Parties?	PDD	-	Yes. No public funds from countries in Annex I are involved in the proposed project.	OK	OK
A.5.2 In case where public funding from Annex I Parties is involved, are followings provided? A.1.1 (a) Information on Parties providing public funding A.1.2 (b) Attached in Appendix 2: the affirmation obtained from such Parties that such funding does not result in a diversion of official	PS	34	N/A.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
development assistance, is separate from, and is not counted towards the financial obligations of those Parties					
B. Application of selected approved baseline and monitoring methodology					
B.1 Reference of methodology					
B.1.1 Is the selected methodology (ies) indicated with exact reference (number, title and version)?	PDD	-	Yes.	OK	OK
B.1.2 Are the baseline and monitoring methodologies selected by the project participants the valid versions of those approved by the Board?	VVS	70	Yes. AM0009 version 06.0.0 has been applied.	OK	OK
B.1.3 Are there any tools and other methodologies to which the selected methodology indicated?	PDD	-	Yes. The following applied tools have been indicated in the selected methodology: Tool to calculate the emission factor for an electricity system (version 02.2.1), Tool for the demonstration and assessment of additionality (version 06.1.0), Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion	OK	OK

CHECKLIST QUESTION		Ref.	§	COMMENTS	Draft Concl	Final Concl
				(Version 02), and Tool to calculate baseline, project and/or leakage emissions from electricity consumption (Version 01)		
B.1.4	Has specific guidance and/or clarifications provided by the Board with respect to the approved methodology and any applicable tools been applied?	VVS	71	Yes. The applied tools have been indicated in the selected methodology or tools.	OK	OK
B.1.5	Is there any deviation or clarification requested for the approved methodology?	VVS	78-81	No.	OK	OK
B.2	Applicability of methodology					
B.2.1	Is the selected baseline and monitoring methodology applicable to the project activity and that the selected version valid at the time of submission of the proposed project activity for registration?	VVS	73-75	Yes.	OK	OK
B.2.2	Does the project activity meet each of the applicability conditions of the approved methodology or other methodology component referred to therein?	PDD VVS	- 76	Refer to Table 2 of the Protocol below.	OK	OK

CHECKLIST QUESTION		Ref.	§	COMMENTS	Draft Concl	Final Concl
B.3	Project boundary					
B.3.1	Are the emission sources and GHGs included in the project boundary for the purpose of calculating project emissions and baseline emissions described using the table provided?	PDD	-	Yes. A table is provided.	OK	OK
B.3.2	Is a flow diagram of the project boundary presented, physically delineating the project activity?	PDD	-	Yes. A flow diagram is provided.	OK	OK
B.3.3	Does the flow diagram include the equipment, systems and flows of mass and energy described? In particular, is the emission sources and GHGs included in the project boundary and the data parameters to be monitored indicated in the diagram?	PDD VVS	- 82	~~CAR-2 Please indicate the emission sources and GHGs included in the project boundary and the data and parameters to be monitored in the diagram of the section B.3 of the PDD.~~ Bureau Veritas Certification has checked the revised PDD and can confirm that the emission sources and GHGs included in the project boundary and the data and parameters to be monitored are indicated in the diagram of the section B.3 of the PDD. This CAR is closed.	~~CAR-2~~	OK

CHECKLIST QUESTION		Ref.	§	COMMENTS	Draft Concl	Final Concl
				The flow diagram includes the equipment, systems and flows of mass and energy described. The emission sources and GHGs included in the project boundary and the data parameters to be monitored are indicated in the diagram.		
B.4	Establishment and description of baseline scenario					
B.4.1	Is an explanation how the baseline scenario is established in accordance with the selected baseline methodology provided?	PDD VVS	- 89	Yes.	OK	OK
B.4.2	When establishing the baseline scenario, and where "future anthropogenic emissions by sources are projected to rise above current levels due to the specific circumstances of the host Party", do the project participants follow the "Guidelines on the consideration of suppressed demand in CDM methodologies"?	PS	42	N/A.	OK	OK
B.4.3	Does the approved methodology that is selected by the proposed CDM project activity prescribe the baseline scenario and hence no further analysis is required?	VVS	113, 115	No.	OK	OK

CHECKLIST QUESTION		Ref.	§	COMMENTS	Draft Concl	Final Concl
B.4.4	If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVS	114	Yes. Credible alternatives to the project activity are identified as per the methodology.	OK	OK
B.4.5	Does the list of alternatives given in the PDD ensure that: (a) One of the options that the project activity is undertaken without being registered as a proposed CDM project activity (b) The list contains all plausible alternatives (c) The alternatives comply with all applicable and enforced legislation	VVS	114	Yes. Option that the project activity is undertaken without being registered as a proposed CDM project activity: G5+P1 All plausible alternatives are contained. Alternatives that comply with all applicable and enforced legislation are listed after alternatives that do not comply with all applicable and enforced legislation are excluded.	OK	OK
B.4.6	Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	PDD VVS	- 89	Yes.	OK	OK
B.4.7	Is the baseline identified for the proposed project activity the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed project	VVS	88	Yes. In absence of the proposed project activity, the associated gas is vented to the atmosphere directly and the operation of the	OK	OK

	CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
	activity?			existing oil and gas infrastructure will be unchanged, which is the baseline scenario.		
B.4.8	Does the selected methodology require use of tools (such as the "Tool for the demonstration and assessment of additionality" and the "Combined tool to identify the baseline scenario and demonstrate additionality") to establish the baseline scenario?	VVS	89	Yes. "Tool for the demonstration and assessment of additionality" is required.	OK	OK
B.4.9	Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVS	90	Yes.	OK	OK
B.4.10	Are the documents and sources referred to in the PDD correctly quoted and interpreted and are they crosschecked with other verifiable and credible sources, such as local expert opinion, if available?	PDD VVS	- 91	Yes. It is crosschecked with the opinion of the sectoral specialist and representatives from the local government.	OK	OK
B.4.11	Does the PDD provide a description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed project activity?	VVS	92	Yes.	OK	OK
B.4.12	Have all applicable CDM requirements been taken	VVS	93	Yes.	OK	OK

	CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
	into account in the identification of the baseline scenario for the proposed project activity?					
B.4.13	Has relevant national and/or sectoral policies and circumstances (type E+ or E-), such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector been taken into account?	VVS	93	Yes.	OK	OK
B.4.14	Is a transparent description of the baseline scenario provided?	PDD	-	Yes. The baseline scenario of the proposed project: The associated gas is vented to the atmosphere directly and continuation of the operation of the existing oil and gas infrastructure.	OK	OK
B.5	Demonstration of additionality					
B.5.1	Is the project activity demonstrated additional in accordance with the selected methodology (ies)?	PDD	-	Yes. The project activity is demonstrated with the evaluation of the economic attractiveness.	OK	OK
B.5.2	Where the procedure in the selected methodology(ies) and/or tool involves several steps, is it described how each step is applied and	PDD	-	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
is the outcome of each step transparently documented?					
B.5.3 Is the method selected to demonstrate additionality clearly indicated?	PDD	-	Yes. The benchmark analysis (Option III) is chosen to assess and demonstrate the additionality.	OK	OK
B.5.4 If investment analysis is used:					
B.5.4.1 Are all relevant assumptions and parameters used in the analysis listed?	PDD	-	Yes.	OK	OK
B.5.4.2 Is the latest version of the “Guidelines on the assessment of investment analysis” applied?	VVS	118	Yes. “Guidelines on the assessment of investment analysis” version 05 which is the latest version has been applied.	OK	OK
B.5.4.3 Is project activity one of the following cases in regards to investment analysis:	VVS	119			
B.5.4.3.1 The proposed project activity would produce no financial or economic benefits other than CDM-related income;	VVS	119(a)	N/A as the project activity will generate economic benefits from dry gas and condensate other than CERs income.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
B.5.4.3.2 The proposed project activity is less economically or financially attractive than at least one other credible and realistic alternative;	VVS	119(b)	N/A.	OK	OK
B.5.4.3.3 The financial returns of the proposed project activity would be insufficient to justify the required investment.	VVS	119(c)	Yes. Benchmark analysis is applied.	OK	OK
B.5.4.4 Has the accuracy of financial calculations carried out for investment analysis been verified as follows:	VVS	120			
B.5.4.4.1 Determine the suitability of the financial indicator selected by the project participants and conduct a thorough assessment of all parameters and assumptions used in calculating such financial indicators, and determine the accuracy and suitability of these parameters using available evidence and applying its expertise in relevant accounting practices	VVS	120(a)	Yes. The post-tax Project IRR is applied.	OK	OK
B.5.4.4.2 Cross-check the parameters against third-party or publicly available sources, such as	VVS	120(b)	Yes. The parameters used in the IRR calculation are required to be cross-checked	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
invoices or price indices			against third-party or publicly available sources.		
B.5.4.4.3 Review, as appropriate, feasibility reports, public announcements and annual financial reports related to the proposed project activity and the project participants	VVS	120(c)	Yes. FSR and its approval have been reviewed.	OK	OK
B.5.4.4.4 Assess the correctness of computations carried out and documented by the project participants; and	VVS	120(d)	Yes.	OK	OK
B.5.4.4.5 Assess, where applicable, the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions.	VVS	120(e)	Yes.	OK	OK
B.5.4.5 If benchmark analysis is used:					
B.5.4.5.1 Is the benchmark clearly indicated?	PDD	-	Yes. The post-tax Project IRR benchmark: 12%, which is sourced from *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* **version 2008**.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
B.5.4.5.2 Is the type of benchmark applied suitable for the type of financial indicator presented?	VVS	121(a)	Yes. The benchmark of post-tax Project IRR for the oil industry project is 12% as per *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* version 2008. The benchmark is commonly used in for the oil industry of China National Petroleum Corporation in China. Bureau Veritas Certification has checked PDD of the similar project "Tarim Oilfield Associated Gas Recovery and Utilization Project" with the UNFCCC CDM reference No. 2908, and found that the same benchmark was applied in the demonstration of the additionality of this project.	OK	OK
B.5.4.5.3 Does the risk premiums applied in determining the benchmark reflect the risks associated with the project type or activity?	VVS	121(b)	N/A.	OK	OK
B.5.4.5.4 Is it reasonable to assume that no investment would be made at a rate of return lower than the benchmark?	VVS	121(c)	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
B.5.4.6 If cost comparison is used:					
B.5.4.6.1 Are the scenarios compared described?	PDD	-	N/A.	OK	OK
B.5.4.7 If PPs rely on values from FSR:	VVS	122			
B.5.4.7.1 Has the FSR been the basis of the decision to proceed with the investment in the project?	VVS	122(a)	Yes. The FSR was finished in 08/2010, and the investment decision was made on 25/11/2010. The period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed.	OK	OK
B.5.4.7.2 Are the values used in the PDD and associated annexes fully consistent with the FSR? If inconsistencies occur, was the appropriateness of the values validated?	VVS	122(b)	Yes. The values used in the PDD and IRR calculation spreadsheet are sourced from the FSR. However, the FSR does not consider the residual value of the fixed assets when calculating the IRR, while the PDD calculates the IRR in accordance with the IRR benchmark reference *Economic Assessment Parameters for Construction*	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Projects of China National Petroleum Corporation version 2008, which is appropriate and this parameter is available when the CDM decision was made by the PP., which is sourced from the Economic Evaluation Method and Parameters for Project Construction (version 3)		
B.5.4.7.3 On the basis of its specific local and sectoral expertise, is confirmation provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision?	VVS	122(c)	Yes.	OK	OK
B.5.5 If barriers analysis is used:					
B.5.5.1 Is the "Guidelines for objective demonstration and assessment of barriers" followed?	PS	48	N/A.	OK	OK
B.5.5.2 Is it ensured that only the most relevant barriers selected?	PDD	-	N/A.	OK	OK
B.5.5.3 Is the credibility of the barriers justified with key facts and/or assumptions and the rationale?	PDD	-	N/A.	OK	OK
B.5.5.4 Is it ensured that issues that have a direct	VVS	125	N/A.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
impact on the financial returns of the project activity are not considered as barriers but assessed by investment analysis? This does not refer to either: (a) Risk related barriers (b) Barriers related to the unavailability of sources of finance for the project activity					
B.5.5.5 Were the barriers determined as real?	VVS	126(a)	N/A.	OK	OK
B.5.5.6 Were the barriers determined as preventing the implementation of the project activity but not the implementation of at least one of the possible alternatives?	VVS	126(b)	N/A.	OK	OK
B.5.6 Common Practice Analysis					
B.5.6.1 If the project type is first-of-its kind, do the project participants consider “Guidelines on additionality of first-of-its-kind project activities”?	VVS PS	128 49(a)	No.	OK	OK
B.5.6.2 If the project type is not first-of-its kind, has common practice analysis been conducted considering “Guidelines on common practice”?	VVS PS	128 49(b)	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
B.5.6.3 Was it assessed whether the geographical scope of the common practice analysis is appropriate for the assessment related to the project activity's technology or industry type?	VVS	129(a)	~~CL-4 Please indicate the applicable geographical area for the common practice analysis.~~ Bureau Veritas Certification can confirm that the Heilongjiang Province can be the applicable geographical area for the common practice analysis since the natural resources conditions, investment climate, and natural climate vary between the different provinces, which is appropriate. This CL is closed.	~~CL-4~~	OK
B.5.6.4 Was it determined to what extent similar and operational projects, other than CDM project activities, and have been undertaken in the defined region?	VVS	129(b)	Yes. The applicable output range as ±50% of the proposed project activity is from 450,000Nm3/d to 1,350,000Nm3/d.	OK	OK
B.5.6.5 Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region? Is it assessed whether there are essential distinctions between the proposed CDM project activity and the other	VVS	129(c)	Yes. Venting the associated gas is common practice in China. $N_{all} = 0$.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
similar activities?					
B.5.7 Prior consideration of the clean development mechanism					
B.5.7.1 If the project activity start date prior to the date of publication of the PDD for stakeholder comments, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	PDD VVS	- 105	The start date of the Project is prior to the date of publication of PDD. The CDM benefits were considered necessary in the decision to undertake the project as a proposed CDM project activity. The project developer decided to develop the Project as a CDM project considering that the Project is financially unattractive that without the income from selling CERs.	OK	OK
B.5.7.2 Is the start date of the project activity, reported in the PDD, the earliest date at which either the implementation or construction or real action of a project activity begins?	VVS	106	Yes. The date of purchase contract of regenerable adsorption type of dryer, 12/04/2011, is the earliest date at which either the implementation or construction or real action of a project activity begins, and this data is identified as the start date of the project activity. The identification of the start date of the project activity is appropriate and reasonable. ~~CL-5 Please provide other dates~~	~~CL-5~~	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			~~and related documented evidences of the implementation or construction or real action of the Project to justify the start date of the project activity.~~ Bureau Veritas Certification has checked the provided documents and the timeline list in the section B.5 of the revised PDD and can confirm that these events of the signature date of the equipment purchase contracts and construction contracts and the construction start date are taken in the determination of the start date of the Project, and Bureau Veritas Certification can confirm that the start date of the Project is reasonably identified. This CL is closed.		
B.5.7.3 If the project activity requires construction, retrofit or other modifications, is it ensured that the date of commissioning not considered as the project activity start date?	VVS	106	Yes. The date of commissioning is not considered as the project activity start date.	OK	OK
B.5.7.4 Is it a project activity with a start date on or after 02 August 2008, or before 02 August	VVS	106	It is a new project activity with a start date after 02 August 2008.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
2008?					
B.5.7.5 For a project activity with a start date on or after 02 August 2008, are the following provisions to be satisfied:					
B.5.7.5.1 Has the PP informed the Host Party DNA and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status within 180days of the project activity start date?	VVS	107	Yes. The PDD has been published for global stakeholder consultation on 26/07/2012 after the project activity start date. Furthermore, the PP informed the Host Party DNA and the UNFCCC secretariat by notification forms on 28/04/2011 and 23/03/2011 respectively, within 180days of the project activity start date 12/04/2011.	OK	OK
B.5.7.5.2 Do the project participants inform the secretariat of the progress of the project activity every subsequent two years after the initial notification, until the PDD regarding the project activity has been published for global stakeholder consultation or, a new baseline and monitoring methodology is proposed or a revision of an approved baseline and monitoring methodology is requested for the	PCP	9	Yes. The PP informed the Host Party DNA and the UNFCCC secretariat by notification forms on 28/04/2011 and 23/03/2011 respectively, within 180days of the project activity start date 12/04/2011. During the onsite interview, the PP claimed that in the notification to the UNFCCC of the commencement of the project activity and the intention to seek CDM status, the project	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
project activity before the start date?			title is "Southern of Daqing Oilfield Associated Gas Recovery and utilization Project", which is not consistent with the current project title, and provided the prior consideration of the CDM form. Bureau Veritas Certification has check the information of the prior consideration of the CDM form and information on the UNFCCC (http://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html), and can confirm that the project with the previous title ""Southern of Daqing Oilfield Associated Gas Recovery and utilization Project" and the project with the current title "Nanba Associated Gas Processing Plant and the Auxiliary Engineering" are the same project, since the other information such as the project location, geo-coordinates, project participant is the same.		
B.5.7.6 For a project activity with a start date before 02 August 2008, are the following elements to be satisfied:	VVS	108			

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
B.5.7.6.1 Are evidence of their awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project provided?	VVS	108	N/A.	OK	OK
B.5.7.6.2 Are evidence that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation provided?	VVS	108-110	N/A.	OK	OK
B.5.7.6.3 Is an implementation timeline of the proposed CDM project activity provided?	PS	28(c)	N/A.	OK	OK
B.6 Emission reductions					
B.6.1 Explanation of methodological choices					
B.6.1.1 Does the PDD explain how the methods or methodological steps in the selected methodology, for calculating project emissions, baseline emissions, leakage emissions and emission reductions are applied?	PDD VVS	- 96	Yes.	OK	OK
B.6.1.2 In case the methodology(ies) include different scenarios or cases, does the PDD indicate and justify which scenario or cases applies to the	PDD	-	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
project activity?					
B.6.1.3 In case the methogology(ies) provide different options to choose from, does the PDD indicate and justify which option is chosen for the project activity?	PDD VVS	- 97	Yes.	OK	OK
B.6.1.4 In case the methodology (ies) allow different default values, does the PDD indicate and justify which of the default values have been chosen for the project activity?	PDD	-	Yes.	OK	OK
B.6.2 Data and parameters fixed ex ante					
B.6.2.1 If data and parameters will not be monitored throughout the crediting period of the proposed project activity but have already been determined and will remain fixed throughout the crediting period, are all data sources and assumptions: (a) Appropriate and correct? (b) Applicable to the proposed CDM project activity? (c) Resulting in a conservative estimate of the	PDD VVS	- 98	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
emission reductions?					
B.6.2.2 For each piece of data or parameter, are tables provided in accordance with the instructions?	PDD	-	Yes.	OK	OK
B.6.3 Ex ante calculations of emission reductions					
B.6.3.1 Is a transparent ex ante calculation of project emissions, baseline emissions (or, where applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology provided?	PDD	-	Yes.	OK	OK
B.6.3.2 Is the information how each equation is applied, in a manner that enables the reader to reproduce the calculation, provided?	PDD	-	Yes.	OK	OK
B.6.3.3 Is the information of additional background information and/or data provided in Appendix 4, including relevant electronic spreadsheets?	PDD	-	Yes.	OK	OK
B.6.3.4 Is a sample calculation for each equation used provided, substituting the values used in the equations?	PDD	-	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
B.6.4 Summary of the ex ante estimates of emission reductions					
B.6.4.1 Are the results of the ex ante estimation of emission reductions for all years of the crediting period, provided in a tabular format?	PDD	-	Yes.	OK	OK
B.7 Monitoring Plan					
B.7.1 Data and parameters to be monitored					
B.7.1.1 Is specific information on how the data and parameters that need to be monitored would actually be collected during monitoring included?	PDD	-	Yes. Specific information on how the data and parameters that need to be monitored would actually be collected during monitoring is included in the section B.7 of the PDD.	OK	OK
B.7.1.2 For each data or parameter, is the information completed, in a tabular format:					
B.7.1.2.1 The source(s) of data that will be actually used for the proposed project activity (e.g. which exact national statistics). Where several sources may be used, explain and justify which data sources should be preferred.	PDD	-	Yes.	OK	OK
B.7.1.2.2 Is an estimate of the data/ parameter that will be monitored during the crediting period	PDD	-	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
provided?					
B.7.1.2.3 Where data or parameters are to be measured, does it specify the measurement methods and procedures, standards to be applied, accuracy of the measurements, person/entity responsible for the measurements, and, in case of periodic measurements, the measurement intervals?	PDD	-	Yes.	OK	OK
B.7.1.2.4 Is a description of the QA/QC procedures including the calibration procedures, where applicable, provided?	PDD	-	Yes.	OK	OK
B.7.1.2.5 Is the purpose of data indicated?	PDD	-	Yes.	OK	OK
B.7.1.3 Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVS	131	Yes.	OK	OK
B.7.1.4 Does the monitoring plan contain all necessary parameters?	VVS	132(a)	~~CAR-3 The parameter of electricity consumption for calculating the project emissions from consumption of electricity is required to be included in the monitoring plan.~~ Bureau Veritas Certification can confirm that	~~CAR-3~~	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			the parameter $EC_{PJ,,j,y}$ is included in the revised PDD. This CAR is closed. All necessary parameters are contained in the monitoring plan, including $V_{F,y}$, $NCV_{RG,F,y}$, $FC_{NG,D,y}$, $NCV_{NG,y}$, $EF_{CO2,NG,y}$, and $EC_{PJ,,j,y}$ $EC_{LE,l,y}$		
B.7.1.5 Do the means of monitoring described in the plan comply with the requirements of the methodology including applicable tool(s)?	VVS	132(a)	Yes.	OK	OK
B.7.1.6 Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVS	132(b)	Yes.	OK	OK
B.7.1.7 Are the means of implementation of the monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified?	VVS	132(b)	Yes.	OK	OK
B.7.2 Sampling plan					
B.7.2.1 Are there any data and parameters monitored in section B.7.1 above to be determined by a	PDD	-	No.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
sampling approach?					
B.7.2.2 Is a description of the sampling plan provided in accordance with the recommended outline for a sampling plan in the "Standard for sampling and surveys for CDM project activities and programme of activities"?	PDD	-	N/A.	OK	OK
B.7.3 Other elements of monitoring plan					
B.7.3.1 Is the operational and management structure, that the project operator will implement in order to monitor emission reductions and any leakage generated by the project activity, described in the PDD?	PDD PS	- 56(a)	Yes.	OK	OK
B.7.3.2 Are the responsibilities for and institutional arrangements for data collection and archiving clearly indicated?	PDD PS	- 56(c)	Yes.	OK	OK
B.7.3.3 Does the monitoring plan include provisions to ensure that data monitored and required for verification and issuance be kept and archived electronically for two years after the end of the crediting period or the last issuance of CERs, whichever occurs later?	PS	56(b)	Yes. Section B.7.3 of the PDD: CDM project Manager will aggregate those data and then report them to Manager who will check and archive them, as well as manage the regular data back-up.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
B.7.3.4 Does the monitoring plan include uncertainty levels, methods and the associated accuracy level of measuring instruments to be used for various parameters and variables?	PS	56(e)	~~CAR-4 Please include the uncertainty levels or accuracy levels of measuring instruments to be used for the parameters.~~ Bureau Veritas Certification can confirm that the accuracy levels of the measuring instruments are included in the section B.7.3 of the revised PDD. This CAR is closed. ~~CAR-5 An emergency plan is necessary to ensure that the emission reductions achieved by/resulting from the Project will not be overestimated ex post.~~ Bureau Veritas Certification can confirm this revision of the PDD and the emergency plan is sufficient. This CAR is closed. The monitoring plan includes uncertainty levels, methods and the associated accuracy level of measuring instruments to be used	~~CAR-4~~ ~~CAR-5~~	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			for various parameters and variables		
B.7.3.5 Does the monitoring plan include specifications of the calibration frequency for the measuring equipments?	PS	56(f)	Yes. Measuring equipments should be calibrated as per relative standards.	OK	OK
C. Duration and crediting period					
C.1 Duration of project activity					
C.1.1 Start date of project activity					
C.1.1.1 Is the start date of the project activity stated, in the format of DD/MM/YYYY?	PDD	-	Yes. Start date: 12/04/2011	OK	OK
C.1.1.2 Does it describe how the start date has been determined and provide evidence to support this date?	PDD	-	Yes. The date of purchase contract of regenerable adsorption type of dryer, 12/04/2011, is the earliest date at which either the implementation or construction or real action of a project activity begins, and this data is identified as the start date of the project activity. ~~Pending on the CL-5.~~	~~Pending~~	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
C.1.2 Expected operational lifetime of project activity					
C.1.2.1 Is the expected operational lifetime of the project activity stated in years and months?	PDD	-	Yes. 10 years 0 month	OK	OK
C.2 Crediting period of project activity					
C.2.1 Type of crediting period					
C.2.1.1 Is the type of crediting period chosen for the project activity stated?	PDD	-	Yes. fixed crediting period	OK	OK
C.2.1.2 In case a renewable crediting period was chosen, does it indicate whether it is the first, second or third?	PDD	-	N/A	OK	OK
C.2.2 Start date of crediting period					
C.2.2.1 Is the start date of crediting period stated in the format of DD/MM/YYYY?	PDD	-	Yes. The start date of crediting period is 01/01/2013.	OK	OK
C.2.3 Length of crediting period					
C.2.3.1 Is the length of crediting period stated in years and months?	PDD	-	Yes. 9 years	OK	OK

CHECKLIST QUESTION		Ref.	§	COMMENTS	Draft Concl	Final Concl
D. Environmental impacts						
D.1	Analysis of the environmental impacts					
D.1.1	Is a summary of the analysis of the environmental impacts of the project activity and references to all related documentation provided?	PDD	-	The Project has no significant impacts on local environment and the EIA of the Project has been approved by the Environmental Protection Bureau of Daqing City on 08/12/2010 (Code: QingHuanJianZi [2010]No.238). ~~CL-6 Please describe the environmental impact from the factors noise pollutions, solid pollution, and impact on ecology in the section D.1 of the PDD.~~ Bureau Veritas Certification has checked the section D.1 of the revised PDD and can confirm that the environmental impact from the noise pollutions, solid pollution, and impact on ecology described in the section D.1 of the revised PDD is consistent with the EIA.	~~CL-6~~	OK

CHECKLIST QUESTION		Ref.	§	COMMENTS	Draft Concl	Final Concl
				This CL is closed.		
D.2	Environmental impact assessment					
D.2.1	If an environmental impact assessment is required, are conclusions and references to all related documentation provided?	PDD	-	Yes. EIA of the Project has been approved by the Environmental Protection Bureau of Daqing City on 08/12/2010 (Code: QingHuanJianZi [2010]No.238).	OK	OK
D.2.2	Have the project participants undertaken an analysis of environmental impacts activity, including transboundary impacts, and whether those impacts are considered significant by the project participants or the host Party?	VVS	134	Yes. The EIA report for the proposed project indicated that the proposed project would not bring significant impacts on environment.	OK	OK
D.2.3	If the host Party requires an environmental impact assessment, have the environmental impact assessment approved by local government?	VVS	135	Yes. The EIA was approved by local government.	OK	OK
E.	**Local stakeholder consultation**					
E.1	Solicitation of comments from local stakeholders					
E.1.1	Did the project participants complete a local stakeholder consultation process and that due steps were taken to engage stakeholders and solicit comments for the proposed project activity?	VVS	138	Yes. Local stakeholders of the Project are identified as local residents possibly impacted by the Project. No other groups. A local stakeholder consultation process and that due steps were taken to engage	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			stakeholders and solicit comments for the Project		
E.1.2 Is the process by which comments from local stakeholders have been invited provided?	PDD	-	Yes. On 25/03/2011 the notification on stakeholder consultation survey was posted at the gate of local village committee in which the project description and the date for the survey was provided. In order to collect the stakeholder survey, the project developer carried out a survey in 04/2011 among the potential stakeholders by the project developer.	OK	OK
E.2 Summary of comments received					
E.2.1 Are stakeholders that have made comments identified?	PDD	-	Yes. 50 questionnaires were sent out and 50 ones were collected.	OK	OK
E.2.2 Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVS	139 (a)	Yes.	OK	OK
E.2.3 Is the summary of comments provided complete?	PDD VVS	- 139 (b)	Yes.	OK	OK

CHECKLIST QUESTION		Ref.	§	COMMENTS		Draft Concl	Final Concl
E.3	Report on consideration of comments received						
E.3.1	Is information provided to demonstrate that all comments received have been considered?	PDD VVS	- 139 (c)	Yes. The local stakeholders are supportive of the Project, and there have been no comments to be taken in account that could affect the project design.		OK	OK
F.	**Approval and authorization**						
F.1	General						
F.1.1	Is it indicated whether the letter(s) of approval from Party(ies) available at the time of submitting the PDD to the validating DOE?	PDD	-	Yes. It is not available at the time of submitting the PDD to DOE for GSP.		OK	OK
F.2	Approval			China	N/A.		
F.2.1	Has the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval?	VVS	38	~~CAR-6 Letter of Approval from DNA of China has not been provided.~~ Bureau Veritas Certification has checked the LoA from DNA of China and this	~~CAR-7 Letter of Approval from DNA of Australia has not been provided.~~ Bureau Veritas Certification has	~~CAR-6~~ ~~CAR-7~~	OK

CHECKLIST QUESTION		Ref.	§	COMMENTS		Draft Concl	Final Concl
				CAR is closed.	checked the LoA from DNA of Australia and this CAR is closed.		
F.2.2	Does the letter of approval from DNA of each Party confirm that : (a) The Party is a Party of the Kyoto Protocol (b) The participation is voluntary (c) In the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country (d) Refers to the precise proposed CDM project activity title in the PDD being submitted for registration	VVS	39	~~Pending on CAR-6.~~ Yes. This LoA confirms this information.	~~Pending on CAR-7.~~ Yes. This LoA confirms this information.	~~Pending~~	OK
F.2.3	Is(are) the letter(s) of approval unconditional with respect to (F.2.2) above?	VVS	40	~~Pending on CAR-6.~~ Yes.	~~Pending on CAR-7~~ Yes.	~~Pending~~	OK
F.2.4	Has(ve) the letter(s) of approval been issued by the respective Party's DNA? If there is doubt with respect to (F.2.2) above, was it verified with the DNA that the letter of approval is valid for the	VVS	41,42	~~Pending on CAR-6.~~ Yes and not in doubt.	~~Pending on CAR-7~~ Yes and not in doubt.	~~Pending~~	OK

	CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
	proposed CDM project activity under validation?					
F.2.5	Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed CDM project activity to the sustainable development of the host Party?	VVS	51	~~Pending on CAR-6.~~ Yes.	~~Pending~~	OK
F.3	Authorization				~~Pending~~	
F.3.1	Has each project participant been authorized by at least one Party involved in a letter of approval?	VVS	45	~~Pending on CAR-6 and CAR-7.~~ Yes.	~~Pending~~	
F.3.2	Is the information in tabular form in the PDD consistent with the contact information for project participants provided?	VVS	46	~~Pending on CAR-6 and CAR-7.~~ Yes.	~~Pending~~	OK
F.3.3	Are any entities other than those approved as project participants included in the PDD?	VVS	47	~~Pending on CAR-6 and CAR-7.~~ No.	~~Pending~~	OK
F.3.4	Has the approval of participation issued from the relevant DNA? And if in doubt, was it verified with the DNA that the approval of participation is valid for the proposed CDM project participants?	VVS	48	~~Pending on CAR-6 and CAR-7.~~ Yes and not in doubt.	~~Pending~~	OK
Part III Others						

CHECKLIST QUESTION		Ref.	§	COMMENTS	Draft Concl	Final Concl
G. Appendixes of PDD						
G.1	Appendix 1: Contact information of project participants					
G.1.1	For each organization listed in section A.4 of PDD, is the table in PDD completed, with the following mandatory fields: Organization, City, postcode, Country, Telephone and Fax, e-mail and Name of contact person?	PDD	-	Yes. Detailed information for Daqing Oilfield Co., Ltd. And Macquarie Bank Limited has been provided.	OK	OK
G.2	Appendix 2: Affirmation regarding public funding					
G.2.1	If applicable, is the affirmation obtained from Parties providing public funding to the project Activity attached?	PDD	-	Yes.	OK	OK
G.3	Appendix 3: Applicability of the selected methodology(ies)					
G.3.1	Is the background information on the applicability of the selected methodology provided?	PDD	-	N/A.	OK	OK
G.4	Appendix 4: Further background information on ex ante calculation of emission reductions					
G.4.1	Is the background information on the ex ante calculation of emission reductions provided?	PDD	-	Yes. The provided background information is	OK	OK

CHECKLIST QUESTION		Ref.	§	COMMENTS	Draft Concl	Final Concl
				consistent with the official data.		
G.5	Appendix 5: Further background information on monitoring plan					
G.5.1	Is the background information used in the development of the monitoring plan provided?	PDD	-	No.	OK	OK
G.6	Appendix 6: Summary of post registration changes					
G.6.1	Is a summary of the post registration changes provided?	PDD	-	N/A.	OK	OK
H. Global Stakeholder Consultation						
H.1	Is there any comment on the PDD of the proposed project activity received during Global Stakeholder Consultation process?	VVS	34	No.	OK	OK
H.1.1	If yes, have all comments been taken into account during the validation of the proposed project activity?	VVS	35	N/A.	OK	OK
H.1.2	If comments indicate that the proposed project activity does not comply with the CDM requirements and are not substantiated, is there any further clarification from the entity providing the comment?	VVS	36	N/A.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
H.1.3 If yes, how comments received have been taken due account?	VVS	36	N/A.	OK	OK
H.1.4 If no, are the comments as originally provided proceeded to assess?	VVS	36	N/A.	OK	OK
I. Modalities of Communications (MoC)					
I.1 Has the corporate identity of all project participants and focal points included in MoC statement, as well as the personal identities, including specimen signatures and employment status, of their authorized signatories been validated by:	VVS	53			
I.1.1.1 Directly checking evidence for corporate, personal identity and other relevant documentation; or	VVS	54(a)	~~CAR-8 MoC of the Project has not been provided.~~ Bureau Veritas Certification has checked the MoC and this CAR is closed.	~~CAR-8~~	OK
I.1.1.2 Notarized documentation; or	VVS	54(b)	~~Pending on CAR-8~~ N/A	~~Pending~~	OK
I.1.1.3 Written confirmation from the project participant or the coordinating/managing entity that all corporate and personal details, including specimen signatures, are valid and	VVS	54(c)	~~Pending on CAR-8~~ Written confirmation from the project participants has been directly checked, including specimen signatures, and is confirmed valid and accurate.	~~Pending~~	OK

	CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
	accurate.					
I.1.2	If (I.1.1.3) above was chosen, is it ensured that the MoC statement is received from a project participant with whom the DOE has a contractual relationship?	VVS	55	~~Pending on CAR-8~~ Yes. It is ensured that the MoC statement is received from a project participant with whom the DOE has a contractual relationship, Daqing Oilfield Co., Ltd.	~~Pending~~	OK
I.1.3	If (I.1.1.3) above was chosen, is it ensured that the official who submits the MoC statement to the DOE and the official who signed the written confirmation (if a different person) is/are duly authorized to do so on behalf of the respective project participant?	VVS	56	~~Pending on CAR-8~~ Yes. It is ensured that the official who submitted the MoC statement to the DOE and the officials who signed the written confirmation are duly authorized to do so on behalf of the respective project participant by checking the written confirmation from the project participants.	~~Pending~~	OK
I.1.4	If it is unable to validate the requirements by applying I.1.1.1 to I.1.1.3 above, are any further validation activities performed?	VVS	57	~~Pending on CAR-8~~ N/A	~~Pending~~	OK
I.1.5	Has the latest version of the form “Modalities of Communication statement” (F-CDM-MOC) been used?	VVS	60(a)	~~Pending on CAR-8~~ Yes.	~~Pending~~	OK
I.1.6	Is the information required as per F-CDM-MOC, including its annex 1, correctly completed?	VVS	60(b)	~~Pending on CAR-8~~ Yes.	~~Pending~~	OK
I.1.7	Do the project participant’s authorized signatories	VVS	60(c)	~~Pending on CAR-8~~ Yes.	~~Pendin~~	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
signing the F-CDM-MOC correspond to the project participant's authorized signatories included in F-CDM-MOC, annex 1?				~~g~~	

Table 2 Validation requirements based on AM0009 version 06.0.0

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
I. SOURCE, DEFINITIONS AND APPLICABILITY					
1. APPLICABILITY					
1.1. Applicable types					
1.1.1. The methodology is applicable to project activities that recover and utilise associated gas and/or gas-lift gas from oil wells.	AM09	Ver 6	The Project recovers and utilises associated gas from oil wells. ~~CL-7 Please provide documented evidence to support that there is no gas-lift gas from oil wells involved.~~ Bureau Veritas Certification has checked the documented evidence including the Surface engineering plan for the oilfield production capacity building of the Second Oil Production Plant of Sanan Oilfield /26/ and can confirm that this evidence supports that there is no gas-lift gas from oil wells involved. This CL is closed.	~~CL-7~~	OK
1.2. Applicable conditions					

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
1.2.1. Under the project activity the recovered gas, after the pre-treatment (compression and phase separation) in movable or stationary equipment, is:, (a) Consumed on-site to meet energy demands; and/or (b) Transported to a gas pipeline without prior processing; and/or (c) Transported to a processing plant where it is processed into hydrocarbon products (e.g. dry gas, liquefied petroleum gas (LPG) and condensates). The dry gas is either: (i) transported to a gas pipeline directly; or (ii) compressed to CNG first, then transported by trailers/trucks/carriers and then decompressed again, before it finally enters the gas pipeline;	AM09	Ver 6	Yes. The recovered gas after the per-treatment (compression and phase separation) in stationary equipment is transported to Nanba Associated gas Processing Plant to process into dry gas and condensate. Dry gas is delivered to the end-users via gas pipeline and the condensate is transferred to Guangming Pool for storage and then eventually sold to the end users.	OK	OK
1.2.2. The project activity does not lead to changes in the process of oil production, such as an increase in the quantity or quality of oil extracted, in the oil-wells within the project boundaries;	AM09	Ver 6	Yes. The Project is limited only to recover the associated gas that would otherwise be vented on site, without affect oil production of the oil wells.		
1.2.3. The injection of any gases into the oil reservoir and its production system is allowed in the project	AM09	Ver 6	~~Pending on CL-7~~ Bureau Veritas Certification can confirm that	~~Pending~~	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
activity only for the purpose of the gas-lift process;			all the project oil wells do not apply and will not apply the gas-lift technology in the oil production, since there is no and will be no gas injection infrastructure at the project site, and no gas-lift gas is utilized in the project activity through onsite inspection and document review /26/ and with its sectoral expertise.		
1.2.4. All recovered gas comes from oil wells that are in operation and are producing oil at the time of the recovery of the associated gas and/or gas-lift gas.	AM09	Ver 6	Yes. All the oil wells the recovered gas comes from are currently in operation and producing oil.	OK	OK
1.2.5. The methodology is only applicable if the identified baseline scenario is: (a) The continuation of the current practice of either venting (scenario G1), flaring (scenario G2) of the associated gas and/or gas-lift gas or on-site use of the partial amount of associated gas and/or gas-lift gas to meet on-site energy demands and rest of the gas are either vented or flared (scenario G3); and (b) The continued operation of the existing oil and gas infrastructure without any other	AM09	Ver 6	Yes. The identified baseline scenario of the project is the continuation of current practice of venting the associated gas without prior processing (G1) and the continued operation of the existing oil and gas infrastructure without processing of any recovered associated gas and without any other significant changes (P4). No gas-lift system is utilized in the project.	OK	OK

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significant changes (scenario P4); and (c) In the case where gas-lift is used under the project activity: the gas-lift gas under the baseline uses the same source as under the project activity and the same quantity as under the project activity (Scenario 01).					
II. BASELINE METHODOLOGY					
2. BASELINE SCENARIO					
2.1. Identification of the plausible alternative scenarios of the three components as the methodology					
2.1.1. Are the plausible alternative baseline scenarios for the associated gas and/or gas-lift gas from the project oil wells included?	AM09	Ver 6	Yes. The plausible alternative baseline scenarios G1~G6 are included: G1: Release of the associated gas and/or gas-lift gas into the atmosphere at the oil production site (venting); G2: Flaring of the associated gas and/or gas-lift gas at the oil production site; G3: On-site use of the partial amount of	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			associated gas and/or gas-lift gas to meet on-site energy demands and rest of the gas are either vented (G1) or flared (G2); G4: Injection of the associated gas and/or gas-lift gas into an oil or gas reservoir; G5: The proposed project activity without being registered as a CDM project activity; G6: Recovery, transportation and utilization of the associated gas as feedstock for manufacturing of useful products.		
2.1.2. Are the plausible alternative baseline scenarios for oil and gas infrastructure included?	AM09	Ver 6	Yes. The plausible alternative baseline scenarios P1~P5 are included: P1: Construction of a processing plant for the purpose of processing the recovered gas, in the same way as in the project activity, without being registered as a CDM project activity; P2: Construction of a processing plant of	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			a lower capacity than under the project activity, which processes only non-associated gas and does not process recovered gas; P3: Supplying recovered gas to an existing gas processing plant and constructing the necessary infrastructure, without being registered as a CDM project activity; P4: Continuation of the operation of the existing oil and gas infrastructure without any other significant changes; P5: Supplying recovered gas to a gas pipeline without prior processing and without being registered as a CDM project activity.		
2.1.3. Are the plausible alternative baseline scenarios for the use of gas-lift included?	AM09	Ver 6	Yes. The plausible alternative baseline scenarios O1~O5 are included: O1: Gas from the same source as under the project activity and in the same quantity	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			as under the project activity, is used for the gas-lift system; O2: Gas from a different source than under the project activity but using the same quantity of gas-lift gas as under the project activity, is used for the gas-lift system; O3: Gas from the same source as under the project activity but using a different quantity of gas-lift gas, is used for the gas-lift system; O4: Gas from a different source than under the project activity, and in a different quantity than under the project activity, is used for the gas-lift system; O5: No gas-lift system is utilized.		
2.1.4. Are the identified combinations transparently described and be illustrated in schematic diagrams in the CDM-PDD?	AM09	Ver 6	Yes. There are two combinations, which are transparently described: ***Alternative 1***: To implement the project activity, but not in CDM mode;	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Alternative 2: The associated gas is vented to the atmosphere directly and continuation of the operation of the existing oil and gas infrastructure. The combinations are illustrated in schematic diagrams in the section B.3 of the CDM-PDD.		
2.2. Evaluate legal aspects					
2.2.1. Are the following issues addressed in the PDD as per the methodology? (a) Are the alternatives permitted by law or other (industrial) agreements and standards? (b) Are there laws or other regulations (e.g. environmental regulations) which implicitly restrict certain alternatives?	AM09	Ver 6	The alternatives G3 and P5 are eliminated. Regarding G3: In the existing scenario prior to the implementation of the project activity, all the associated gas was vented to the atmosphere. On-site energy demands for the second Oil Production Plant of Sanan Oilfield is electricity consumption. There are no existing installations to generate power from the associated gas. According to power industry standard (DL/T5174-2003) for the design requirements of the gas power generation plant, the natural gas fired in the power plant shall conform to the provision of Code for	~~CL 8~~	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			design of gas transmission pipeline engineering (GB50251-2003), that the hydrogen sulphide (H_2S) content of the gas should be no higher than 20mg/m^3. Based on the measurement result by Petroleum Industry Center for Quality Supervision and Inspection of Crude Oil and Petroleum Products, the hydrogen sulphide (H_2S) content of the recovered gas of the project is 75mg/m^3, much higher than the threshold of 20mg/m^3, so the recovered gas cannot be fired in the power plant. Therefore, this option is not feasible. Regarding P5: The quality of the recovered gas doesn't meet the required standard of Run criterion of natural gas pipeline (SY/T 5922-2003) and the People's Republic national standards- natural gas (GB17820-1999). ~~CL-8 Please explain the quality of the recovered gas and specify why~~		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			~~the quality of the recovered gas doesn't meet the required standard of Run criterion of natural gas pipeline (SY/T 5922-2003) and the People's Republic national standards- natural gas (GB17820-1999).~~ The alternative P5 is eliminated since it does not comply with the industry standard Run criterion of natural gas pipeline (SY/T 5922-2003) /49/ and the national standard for Natural Gas (GB17820-1999) /52/. Bureau Veritas Certification has checked the data of the gas composition of the associated gas in the feasibility study report /7/ and found that the concentration of the hydrogen sulphide (H_2S) does not comply with the standards. This CL is closed.		
2.2.2. Are all the baseline alternatives in compliance with all applicable legal and regulatory requirements, even if these laws have objectives other than GHG reductions? If an alternative does not comply with all applicable	AM09	Ver 6	Yes. ***Alternative 1*** (G5+P1): To implement the project activity without being registered as a CDM project activity. ***Alternative 2*** (G1+P4): The associated gas	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
legislation and regulations, such an alternative should be eliminated unless it is demonstrated, based on an examination of current practice in the country or region in which the law or regulation applies, that applicable legal or regulatory requirements are systematically not enforced and that non-compliance is widespread.			is vented to the atmosphere directly and the operation of the existing oil and gas infrastructure is continued. Bureau Veritas Certification can confirm that both ***Alternative 1*** and ***Alternative 2*** are in compliance with the relevant laws and regulations.		
2.3. Evaluate the economic attractiveness of alternatives					
2.3.1. Is the economic attractiveness assessed for those alternative scenarios that are feasible in technical terms and that are identified as permitted by law or other (industrial) agreements and standards in Step 2 of the methodology?	AM09	Ver 6	The PDD eliminates the alternative G2 with safety reasons. ~~CL-9 Please specify the safety reason why it is unfeasible that the associated gas was vented to the atmosphere with flaring.~~ Bureau Veritas Certification can confirm that the required materials of the flare system such as N_2, cannot be provided steadily at such a large area of the Second Oil Production Plant, considering that there are 370 metering rooms, 50 transferring stations and 3 combined stations located at the Second Oil Production Plant of Sanan	~~CL-9~~	OK

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			Oilfield for separating the associated gas from the crude oil. This safety reason has been specified in the revised PDD. This CL is closed.		
2.3.2. Is the economic attractiveness assessed by determining an expected Internal Rate of Return (IRR) of each alternative scenario, following the guidance for the investment analysis in the latest approved version of the "Tool for the demonstration and assessment of additionality"?	AM09	Ver 6	Yes. PDD: If the project is not undertaken as CDM project, its post-tax Project IRR is only 4.97% and lower than the benchmark, which means the alternative is financially unattractive. So alternative 1 is excluded from further consideration. The guidance for the investment analysis in the latest "Tool for the demonstration and assessment of additionality" version 06.1.0 is applied.	OK	OK
2.3.3. Benchmark analysis					
2.3.3.1. When applying Option II or Option III, is financial/economic analysis based on parameters that are standard in the market, considering the specific characteristics of the project type, but not	EB 65 Ann 21	29	Yes. The financial analysis is based on parameters that are standard in the market, considering the specific characteristics of the project type, but not linked to the subjective	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
linked to the subjective profitability expectation or risk profile of a particular project developer?			profitability expectation or risk profile of the PP.		
2.3.3.2. Discount rates and benchmarks shall be derived from: (a) Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data; (b) Estimates of the cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects; (c) A company internal benchmark (weighted average capital cost of the company), only in the particular case referred to above in 2. The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark; (d) Government/official approved benchmark where such benchmarks are used for	EB 65	Ann 21	Yes. The benchmark selection complies with option d: Government /official approved benchmark where such benchmarks are used for investment decisions. The benchmark was derived from *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation version 2008* issued by China National Petroleum Corporation, which has been used widely in feasibility studies of the oil industry of China.	OK	OK

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investment decisions; (e) Any other indicators, if the project participants can demonstrate that the above Options are not applicable and their indicator is appropriately justified. Please specify benchmark and justify.					
2.3.3.3. Has the below guideline followed for Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III)?	EB 65	Ann 21			
2.3.3.4. Calculate the suitable financial indicator for the proposed CDM project activity and, in the case of Option II above, for the other alternatives. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding CER revenues, but possibly including inter alia subsidies/fiscal incentives, ODA, etc, where applicable), and, as appropriate, non-market cost and benefits in the case of public investors if this is standard practice for the selection of public investments in the host country.	EB 65	Ann 21	Yes. The PP has calculated the IRR for the proposed CDM project activity. The PDD includes the relevant costs including the CAPEX, and the OPEX, and revenues excluding CER revenues (the project does not involve subsidies/fiscal incentives or ODA). The project also does not involve non-market cost and benefits and public invest. ~~CAR-9 The CAPEX indicated in the PDD is slightly from the FSR and IRR calculation spreadsheet.~~ The CAPEX indicated in the PDD has been	~~CAR-9~~ ~~CL-10~~	OK

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			revised to be consistent with the FSR and IRR calculation spreadsheet. This CAR is closed. ~~CL-10 Please clarify why there is consumption of dry gas included in the OPEX, since the Project can produce and supply dry gas by itself.~~ Although the cost of the dry gas is included in the OPEX in the FSR, the IRR calculation of the Project has been revised and the consumption of dry gas is excludded in the revised IRR calculation. This is conservative and appropriate. Hence this CL is closed.		
2.3.3.5. Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the CDM-PDD.	EB 65	Ann 21	The investment analysis is presented in a transparent manner and all the relevant assumptions are provided in the IRR calculation spreadsheet.	OK	OK
2.3.3.6. Justify and/or cite assumptions.	EB 65	Ann	Yes. These data are cited from the Feasibility Study Report, while the rate of	OK	OK

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		21	residual value is cited from the Economic Evaluation Method and Parameters for Project Construction (version 3).		
2.3.3.7. In calculating the financial/economic indicator, the project's risks can be included through the cash flow pattern, subject to project-specific expectations and assumptions.	EB 65	Ann 21	Yes. The project's risk is included through the cash flow pattern in calculating the IRR.	OK	OK
2.3.3.8. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.	EB 65	Ann 21	Not applicable as Option III (benchmark analysis) is used.	OK	OK
2.3.3.9. Present in the CDM-PDD a clear comparison of the financial indicator for the proposed CDM activity.Please specify details for above.	EB 65	Ann 21	Yes, option III is used, and the IRR of the Project without CDM-related income is 4.97% lower than the benchmark.	OK	OK
2.3.4. Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)					
2.3.4.1. Is a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions included?	EB 65	Ann 21	Yes.	OK	OK
2.3.4.2. Is the latest approved version of the "Guidelines	EB 65	Ann 21	Yes, please refer to Table 3 below.	-	OK

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on the assessment of investment analysis" taken into account when applying Step 2?					
2.3.4.3. Outcome of Step 2: Is it concluded that: the proposed CDM project activity is more costly than at least one alternative (Option I), or the proposed CDM project activity is unlikely to be the most financially/economically attractive (Option II), or is unlikely to be financially/economically attractive (Option III)?	EB 65	Ann 21	Yes. The Project is unlikely to be financially attractive without CDM revenue.	OK	OK
2.3.5. Is the IRR be determined using, inter alia, the following parameters as applicable to the relevant scenario?	AM09	Ver 6			
2.3.5.1. Overall projected production of associated gas and/or gas-lift gas;	AM09	Ver 6	Yes. Production of associated gas includes the dry gas and condensate.	OK	OK
2.3.5.2. The projected quantity of gas recovered, gas flared, vented, consumed on-site, processed in a gas processing plant and/or compressed into a pipeline;	AM09	Ver 6	Projected quantity of gas recovered is processed in the gas processing plant. Since the associated gas is recovered, there is no purchase fee of the associated gas, which is appropriate and conservative. Recovered gas is not flared, vented,	OK	OK

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			consumed on-site, or compressed into pipeline.		
2.3.5.3. The agreed price for the delivery of recovered gas (e.g. from a Production Sharing Contract) to the gas pipeline or gas processing plant (if operated by a third party);	AM09	Ver 6	~~CL-11 Please explain whether there is an agreed price for delivery of recovered gas (e.g. from a Production Sharing Contract) to the gas pipeline or gas processing plant (if operated by a third party).~~ Bureau Veritas Certification can confirm that there is no Production Sharing Contract and since the oil exploitation, gas pipeline construction, and gas processing plant construction and operation are all developed by Daqing Oilfield Co., Ltd. without a third party. Therefore, there is not a contract that regulates the price for delivery of recovered gas (Production Sharing Contract) to the gas pipeline or gas processing plant. Bureau Veritas Certification can confirm this by checking this reference and with its sectoral expertise. This CL is closed.	~~CL-11~~	OK

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2.3.5.4. The net calorific value of the recovered gas;	AM09	Ver 6	Bureau Veritas Certification analyzed the calculation of the IRR, and can confirm that since the cost of the recovered gas is not counted, which is conservative, it is appropriate that the net calorific value of the recovered gas is not used to calculate the IRR.	OK	OK
2.3.5.5. Capital expenditure for all oil and gas infrastructure needed in the relevant scenario, such as gas recovery facilities, pipelines, and gas processing plant (if applicable) etc. (CAPEX);	AM09	Ver 6	Yes. CAPEX is included.		OK
2.3.5.6. All operational expenditure associated with the respective scenario (OPEX);	AM09	Ver 6	Yes. OPEX is included.	OK	OK
2.3.5.7. All revenues from the operation of the alternative scenario, such as revenues from selling processed gas or other products of the gas processing plant or electricity;	AM09	Ver 6	Yes. All revenues from the processed dry gas and condensate are included.	OK	OK
2.3.5.8. Any profit sharing agreements and cost recovery, such as cost savings through the substitution of products by the recovered gas, if applicable.	AM09	Ver 6	N/A No profit sharing agreement and cost recovery exist.	OK	OK

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2.3.5.9. Is venting or flaring of the associated gas at a given location outright banned? If not, but instead is subject to taxes or fines, the impact of these taxes and fines should be considered in the IRR calculation.	AM09	Ver 6	N/A It is not banned and not subject to taxes or fines.	OK	OK
2.3.5.10. Is the alternative scenario that is economically the most attractive course of action considered as the baseline scenario?	AM09	Ver 6	The combined Alternative 1: To implement the project activity, but not in CDM mode, it is a possible combination is not economically feasible. Hence it is not economically attractive compared to the Alternative 2: The associated gas is vented to the atmosphere directly and continuation of the operation of the existing oil and gas infrastructure, it is a possible combination and the existing situation. Therefore the Alternative 2 is considered as the baseline scenario.	OK	OK
2.3.5.11. Is the IRR of the project activity lower than the hurdle rate of the project participants (typically about 10%) and is the most plausible baseline scenario not the project activity without being registered as a CDM project activity?	AM09	Ver 6	Yes. If the project is not undertaken as CDM project, its post-tax Project IRR is only 4.97% and lower than the selected benchmark, which means the alternative is	OK	OK

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Otherwise, the project activity is not additional.			financially unattractive.		
2.3.5.12. What value for the IRR is typical for this type of investment in the respective Host country?	AM09	Ver 6	The benchmark of post-tax Project IRR for the oil industry project is 12% as per *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* version 2008. The benchmark is commonly used in for the oil industry of China National Petroleum Corporation in China. Bureau Veritas Certification has checked PDD of the similar project "Tarim Oilfield Associated Gas Recovery and Utilization Project" with the UNFCCC CDM reference No. 2908, and found that the same benchmark was applied in the demonstration of the additionality of this project.	OK	OK
2.3.5.13. Are the calculations of the IRR described and documented transparently?			Yes. Bureau Veritas Certification has checked and can confirm the calculations of the IRR transparently described and documented in the IRR calculation spreadsheet.	OK	OK
2.3.6. Common practice analysis					

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2.3.7. Is the "common practice analysis" applied, following the guidance for the common practice analysis in the latest approved version of the "Tool for the demonstration and assessment of additionality"?	AM09	Ver 6	Yes. Common practice analysis is applied, following the guidance for the common practice analysis in the latest approved version of the "Tool for the demonstration and assessment of additionality" version 06.1.0.	OK	OK
2.3.8. Has the proposed project been demonstrated to be first of its kind (according to sub-step 3a)?	EB 65	Ann 21	No.	OK	OK
2.3.9. If not, for measures different from those listed in paragraph 6 of the Tool, have all the sub-steps as below followed?	EB 65	Ann 21	Yes.	OK	OK
2.3.10. Sub-step 4a: Analyze other activities similar to the proposed project activity? Provide an analysis of any other activities that are operational and that are similar to the proposed project activity. Other CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused	EB 65	Ann 21	Yes.	OK	OK

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in the relevant region.					
2.3.11. Sub-step 4b: Discuss any similar Options that are occurring? If similar activities are identified, then it is necessary to demonstrate why the existence of these activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to barriers. This can be done by comparing the proposed project activity to the other similar activities, and pointing out and explaining essential distinctions between them that explain why the similar activities enjoyed certain benefits that rendered it financially/economically attractive (e.g., subsidies or other financial flows) and which the proposed project activity cannot use or did not face the barriers to which the proposed project activity is subject. In case similar projects are not accessible, the PDD should include justification about non-accessibility of data/information.	EB 65	Ann 21	Yes. The PDD was revised after GSP and uses the steps provided in the EB 65 Ann 21 to analyze other activities similar to the proposed project activity and discuss any similar Options that are occurring. The outcome is N_{all} is 0 and N_{diff} is 0. Thus N_{all}-N_{diff} <3 and the Project is additional.	OK	OK
2.3.12. for different measures, have all the sub-steps as below followed?					
2.3.12.1. Step 1: Calculate applicable output range	EB 65	Ann	Yes. The capacity range (within	OK	OK

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as +/-50% of the design output or capacity of the proposed project activity.		21	450,000Nm3/d to 1,350,000Nm3/d) as +/-50% of the Project activity is applied in common practice analysis.		
2.3.12.2. Step 2: In the applicable geographical area, identify all plants that deliver the same output or capacity, within the applicable output range calculated in Step 1, as the proposed project activity and have started commercial operation before the start date of the project. Note their number Nall. Registered CDM project activities and projects activities undergoing validation shall not be included in this step;	EB 65	Ann 21	Yes. N_{all}=0	OK	OK
2.3.12.3. Step 3: Within plants identified in Step 2, identify those that apply technologies different that the technology applied in the proposed project activity. Note their number Ndiff.	EB 65	Ann 21	Yes. N_{diff}=0	OK	OK
2.3.12.4. Step 4: Calculate factor F=1-Ndiff/Nall representing the share of plants using technology similar to the technology used in the proposed project activity in all plants that deliver the same output or capacity as the proposed project activity.	EB 65	Ann 21	Yes. $N_{all} = N_{diff} = 0$	OK	OK

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2.3.12.5. Are the following conditions are fulfilled: (a) the factor F is greater than 0.2, and (b) Nall-Ndiff is greater than 3.	EB 65	Ann 21	Yes. (b) is not fulfilled.	OK	OK
2.3.12.6. Has the outcome from Step 4 clearly mentioned in PDD?	EB 65	Ann 21	Yes. The project is not a common practice.	OK	OK
3. PROJECT BOUNDARY					
3.1. Spatial extent					
3.1.1. Is the spatial extent of the project boundary defined to encompass the following components? • The project oil reservoir and oil wells where the associated gas and/or gas-lift gas is collected; • The site where the associated gas and/or gas-lift gas was flared or vented in the absence of the project activity; • The gas recovery, pre-treatment, transportation infrastructure, including where applicable, compressors; • The source of gas-lift gas.	AM09	Ver 6	Yes. The PDD states that the Project boundary encompasses: • The project oil reservoir and oil wells where the associated gas is collected; • The site where the associated gas was vented in the absence of the project activity; • The gas recovery, pre-treatment, transportation infrastructure, including where applicable, compressors;	OK	OK

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			Gas-lift gas is not involved and the defined project spatial extent complies with the methodology.		
3.2. Emission sources				OK	
3.2.1. Are the greenhouse gases and emission sources included in or excluded from the project boundary justified appropriately as shown in the methodology?	AM09	Ver 6	Yes. The sources are justified as per the methodology.	OK	OK
3.2.2. Does the schematic illustration of the baseline activity and project activity comply with the methodology?	AM09	Ver 6	Yes.	OK	OK
3.2.3. Is it described that the project area may encompass several wells under a production sharing contract (PSC) with a production target?	AM09	Ver 6	~~Pending on CL-11~~ Bureau Veritas Certification can confirm that there is no Production Sharing Contract and since the oil exploitation, gas pipeline construction, and gas processing plant construction and operation are all developed by Daqing Oilfield Co., Ltd. without a third party. Therefore, there is not a contract that regulates the price for delivery of recovered gas (Production Sharing Contract) to the gas pipeline or gas processing plant. Bureau	~~pending~~	OK

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			Veritas Certification can confirm this by checking this reference and with its sectoral expertise.		
4. EMISSION REDUCTIONS					
4.1. Baseline emissions					
4.1.1. Are the baseline emissions calculated as: $BE_y = V_{F,y} \cdot NCV_{RG,F,y} \cdot EF_{CO2,Methane}$?	AM09	Ver 6	Yes.	OK	OK
4.2. Project emissions					
4.2.1. Are the baseline emissions calculated as: $PE_y = PE_{CO2,fossilfuels,y} + PE_{CO2,elec,y}$	AM09	Ver 6	Yes.	OK	OK
4.2.2. Are the Project emissions from the consumption of fossil fuels $PE_{CO2,fossilfuels,y}$ calculated applying the latest approved version of the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" where $PE_{CO2,fossilfuels,y}$ corresponds to $PE_{FC,j,y}$ in the tool and process j corresponds to all sources of fuel combustion (e.g. a compressor, etc) up to point *F* in Figure 2 of the methodology?	AM09	Ver 6	Yes. $PE_{CO2,fossilfules,y} = \sum_j PE_{FC,j,y} = \sum_j \sum_i FC_{i,j,y} \times COEF_{i,y}$ The option B in the Tool-FossilFuel to calculate the CO_2 emission coefficient $COEF_{i,y}$ is applied in the PDD, which is appropriate because of the data availability of the optiona A. The $COEF_{i,y}$ is calculated	OK	OK

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			based on net calorific value and CO_2 emission factor of the generated dry gas, using the following approach: $COEF_{i,y} = NCV_{NG,y} \times EF_{CO2,NG,y}$		
4.2.3. Are the Project emissions from consumption of electricity $PE_{CO2,elec,y}$ calculated applying the latest approved version of the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" where $PE_{CO2,elec,y}$ corresponds to $PE_{EC,y}$ in the tool and the electricity consumption sources *j* in the tool corresponds to all sources of electricity consumption (e.g. a compressor, etc) up to point *F* in Figure 2 of the methodology?	AM09	Ver 6	~~CAR-10 The project emissions from consumption of electricity shall be calculated applying the latest approved version of the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption"~~ Bureau Veritas Certification has checked the revised PDD and can confirm that the PDD was revised to include the calculation of the project emissions from consumption of electricity with the latest approved "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" version 01. This CAR is closed.	~~CAR-10~~	OK

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			As per the methodology, according to the latest approved version 01 of "Tool to calculate baseline, project and/or leakage emissions from electricity consumption", $PE_{CO2,elec,y}$ is calculation as follows: $PE_{CO2,ele,y} = PE_{EC,y} = \sum_j EC_{PJ,j,y} \times EF_{EL,j,y} \times (1+TDL_{j,y})$ According to the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion", $TDL_{j,y}$=20%. The combined margin emission factor of the applicable electricity system is calculated, using the procedures in the version 02.2.1 of the "Tool to calculate the emission factor for an electricity system", $EF_{EL,j,y} = EF_{grid,CM,y}$ Therefore, $PE_{CO2,ele,y} = \sum_j EC_{PJ,j,y} \times EF_{grid,CM,y} \times (1+TDL_{j,y})$ The Project will import electricity from the Northeast China Power Grid, and the applicable electricity system is Northeast		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			China Power Grid. The calculation of the combined margin emission factor of Northeast China Power Grid is described.		
4.3. Leakage					
4.3.1. Are the leakage emissions calculated as: $LE_y = LE_{FC,y} + LE_{EC,y}$	AM09	Ver 6	Yes.	OK	OK
4.3.2. Are leakage emissions due to fossil fuel consumption in year y ($LE_{FC,y}$) calculated applying the latest approved version of the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" where $LE_{FC,y}$ corresponds to $PE_{FC,j,y}$ in the tool and process *j* corresponds to all sources of fuel combustion (e.g. compressor, decompressor or trailers/trucks/carriers etc) after point *F* in Figure 2 of the methodology?	AM09	Ver 6	Yes.	OK	OK
4.3.3. Are the leakage emissions due to electricity consumption in year *y* ($LE_{EC,y}$) calculated applying the latest approved version of the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" where $LE_{EC,y}$ corresponds to $PE_{EC,y}$ in the tool and the electricity consumption	AM09	Ver 6	Yes.		OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
sources *j* in the tool corresponds to all sources of electricity consumption (e.g. compressor, decompressor or trailers/trucks/carriers etc) after point *F* in Figure 2 of the methodology?					
4.4. Emission reductions					
4.4.1. Are emission reductions calculated as follows? $ER_y = BE_y - PE_y - LE_y$	AM09	Ver 6	Yes.	OK	OK
5. MONITORING					
5.1. General requirements					
5.1.1. All data collected as part of monitoring should be archived electronically and be kept at least for two years after the end of the last crediting period.	AM09	Ver 6	Yes.	OK	OK
5.1.2. One hundred per cent of the data should be monitored.	AM09	Ver 6	~~Pending on CAR-3.~~ Yes.	~~pending~~	OK
5.1.3. All measurements should be conducted with calibrated measurement equipment according to relevant industry standards.	AM09	Ver 6	Yes.	OK	OK
5.1.4. Are the monitoring provisions in the tools referred	AM09	Ver 6	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
to in this methodology applied?			Monitoring provisions in the tools referred to in the methodology AM0009 version 06.0.0 are applied, including the monitoring provisions in the tools Tool to calculate project or leakage CO2 emissions from fossil fuel combustion (Version 02); and Tool to calculate baseline, project and/or leakage emissions from electricity consumption (Version 01).		
5.2. Projection and adjustment of project and baseline emissions on the basis of oil production				OK	
5.2.1. Does the monitoring plan include the following requirements of the projection and adjustment of project and baseline emissions on the basis of oil production? Project as well as baseline emissions depend on the quantity of associated gas and gas-lift gas recovered, which is linked to the oil production. Oil production may be projected with the help of a reservoir simulator, reflecting the rock and fluid properties in the oil reservoir. As projections of the	AM09	Ver 6	~~CL-12 The requirements of the projection and adjustment of project and baseline emissions on the basis of oil production should be included in the monitoring plan as per the methodology.~~ Bureau Veritas Certification has checked the Feasibility Study Report and can confirm that the estimated emission reductions reported in the PDD are based on estimates provided	~~CL-12~~	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
oil production, the methane content of the gas and other parameters involve a considerable degree of uncertainty, the quantity and composition of the recovered gas are monitored ex post and baseline and project emissions are adjusted respectively during monitoring. Are the estimated emission reductions reported in the CDM-PDD based on estimates provided in the survey used for defining the terms of the underlying oil production project as per the production sharing contract? Does the monitoring plan include the following requirement? If the oil production differs significantly from the initial production target, then it should be checked that this is not intentional, and that such a scenario is properly addressed by the production sharing contract between the contracted party(ies)			in the survey used for defining the terms of the underlying oil production project. Project as well as baseline emissions depend on the quantity of recovered gas, which is linked to the oil production. Oil production is projected with the help of a reservoir engineering studies, reflecting the rock and fluid properties in the oil reservoir. The quantity of recovered gas is a function of and linked to the associated gas production which produced in the Second Oil Production Plant of Sanan Oilfield. The estimated emission reductions are calculated with the quantity of the recovered gas and its contents. Bureau Veritas Certification can also confirm that the requirements that project developer provides comparative analysis of production data for oil and associated gas and the initial production target as per the information provided in survey used for defining the terms of the underlying oil production project is included in the monitoring plan. If the oil production differs		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			significantly from the initial production target, then the project developer will specify corresponding reasons. This complies with the requirements in the methodology AM0009 version 06.0.0. This CL is closed.		

Table 3 Validation requirements based on Guidelines on the Assessment of Investment Analysis (version 05) EB 62 Annex 5

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
1. GENERAL ISSUES					
1.1. Period of assessment					
1.1.1. Is it ensured that the period of assessment is not limited to the proposed crediting period of the CDM project activity?	EB 62 Ann 5	3	Yes.	OK	OK
1.1.2. Is it ensured that project IRR or equity IRR calculation as a preference reflects the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period?	EB 62 Ann 5	3	Yes. The operation period of 10 years were selected reasonably following the requirements of *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* version 2008. And Para. 3 of Guidelines on the Assessment of Investment Analysis version 05, i.e. a minimum period of 10 years and a maximum of 20 years will be appropriate".	OK	OK
1.2. Fair value					

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
1.2.1. If applicable, is the fair value of any project activity assets at the end of the assessment period included as a cash inflow in the final year?	EB 62 Ann 5	4	Yes, the residual value of the project activity assets has been recovered in the final year in calculation.	OK	OK
1.2.2. Is the fair value calculated in accordance with local accounting regulations where available, or international best practice?	EB 62 Ann 5	4	Yes. It was selected reasonably following relevant regulation in China, i.e. Enterprise Income Tax Law of China.	OK	OK
1.2.3. Do such fair value calculations include both the book value of the asset and the reasonable expectation of the potential profit or loss on the realization of the assets?	EB 62 Ann 5	4	Yes.	OK	OK
1.3. Non-cash items					
1.3.1. Are depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, added back to net profits for the purpose of calculating the financial indicator (e.g. IRR, NPV)?	EB 62 Ann 5	5	The depreciation year is 10 years, which is in compliance with the national regulation of Enterprise Income Tax Law Implementation Regulations of People's Republic of China issued by The People's Republic of China State Council, document code: Order No. 512, which stipulated the depreciation period for the equipment should be no less than 10 years.	OK	OK
1.3.2. Is it ensured that taxation will be included as an	EB 62	5	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
expense in the IRR/NPV calculation, only in cases where the benchmark or other financial indicator is intended for post-tax comparisons?	Ann 5				
1.4. Input values validity					
1.4.1. Are input values used in the investment analysis valid and applicable at the time of the investment decision taken by the project participant?	EB 62 Ann 5	6	Yes. The FSR was finished in 08/2010 and investment decision to proceed with the Project as CDM was made by the PP on 25/11/2010. The input values sourced from the FSR are valid and applicable at the time of the investment decision taken by the project participant considering that gap between 08/2010 and 25/11/2010 is sufficiently short.	OK	OK
1.4.2. Have the timing of the investment decision and the consistency and appropriateness of the input values with this timing been validated?	EB 62 Ann 5	6	Yes. Given the short period of time between the FSR and the decision to proceed with the Project, Bureau Veritas Certification was therefore confident that it is unlikely in the context of the underlying Project that the input values would have materially changed, which is in line with the report Para. (a)	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			122/VVS.		
1.4.3. Have the listed input values been consistently applied in all calculations?	EB 62 Ann 5	6	Yes.	OK	OK
1.5. Cease after commencement					
1.5.1. In the case of project activities for which implementation ceases after the commencement and where implementation is recommenced due to consideration of the CDM, does the investment analysis reflect the economic decision-making context at point of the decision to recommence the project? i.e. capital costs incurred prior to the revised project activity start date are reflected as the recoverable value of the assets, which are limited to the potential reuse/resale of tangible assets.	EB 62 Ann 5	7	N/A.	OK	OK
1.6. Transparency					
1.6.1. Have project participants supplied spreadsheet versions of all investment analysis?	EB 62 Ann 5	8	Yes.	OK	OK
1.6.2. Are all formulas used in this analysis readable and are all relevant cells viewable and unprotected?	EB 62 Ann 5	8	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
1.6.3. In cases where the project participant does not wish to make such a spreadsheet available to the public, is an exact read-only or PDF copy provided for general publication?	EB 62 Ann 5	8	N/A.	OK	OK
1.6.4. In case the PP wishes to black-out certain elements of the publicly available version, is a clear justification for this provided to the UNFCCC secretariat by the DOE when requesting registration?	EB 62 Ann 5	8	N/A.	OK	OK
2. PROJECT IRR AND EQUITY IRR					
2.1. Project IRR					
2.1.1. Is it ensured that the cost of financing expenditures (i.e. loan repayments and interest) is not included in the calculation of project IRR?	EB 62 Ann 5	9	The long term loan interest rate of 5.94% applied in the investment analysis sourced from the FSR is the same as prevailing commercial interest rates in China.	OK	OK
2.2. Equity IRR					
2.2.1. Is it ensured that in the calculation of equity IRR only the portion of investment costs which is financed by equity is considered as the net cash outflow, the portion of the investment costs which is financed by debt is not considered a cash outflow?	EB 62 Ann 5	10	N/A.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
2.3. Actual interest payable					
2.3.1. In cases where a post-tax benchmark is applied, is it ensured that actual interest payable is taken into account in the calculation of income tax?	EB 62 Ann 5	11	Yes. The interest rate of 5.94% applied in the investment analysis sourced from the FSR is the same as prevailing commercial interest rates in China.	OK	OK
3. BENCHMARKS					
3.1. Type of IRR					
3.1.1. In cases where a benchmark approach is used, is the applied benchmark appropriate to the type of IRR calculated?	EB 62 Ann 5	12	Yes.	OK	OK
3.1.2. In cases where benchmarks are supplied by relevant national authorities, if the DOE validates that they are applicable to the project activity and the type of IRR calculation presented?	EB 62 Ann 5	12	Yes. Project-IRR of 12% (post-tax) was employed by the Project as a benchmark, according to the *Economic Assessment Parameters for Construction Projects of China National Petroleum Corporation* version 2008. Bureau Veritas Certification has assessed the suitability of the benchmark and found that it is widely applied in China's oil and gas production industries; therefore, Bureau	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Veritas Certification concludes that the benchmark is suitable for the Project.		
3.2. Standard in the market or Company-specific					
3.2.1. If the DOE"s validation of the benchmark also includes its opinion on whether a company-specific benchmark or a benchmark based on parameters that are standard in the market is suitable in the context of the underlying project activity?	EB 62 Ann 5	13	N/A.	OK	OK
3.2.2. In the cases of projects which could be developed by an entity other than the project participant, is it ensured that the benchmark is based on parameters that are standard in the market?	EB 62 Ann 5	13	N/A.	OK	OK
3.2.3. In cases where internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average cost of capital - WACC) are applied:	EB 62 Ann 5	14			
3.2.3.1. Is it ensured that there is only one possible project developer?	EB 62 Ann 5	14	N/A.	OK	OK
3.2.3.2. Is it demonstrated to have been used for similar projects with similar risks, developed by the same	EB 62 Ann 5	14	N/A.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
company?					
3.2.3.3. Or, if the company is brand new, would have been used for similar projects in the same sector in the country/region?	EB 62 Ann 5	14	N/A.	OK	OK
3.3. Cost of equity					
3.3.1. If the benchmark is based on parameters that are standard in the market, is it ensured that the cost of equity is determined either by: (a) selecting the values provided in Appendix A; or by (b) calculating the cost of equity using best financial practices, based on data sources which can be clearly validated by the DOE, while properly justifying all underlying factors?	EB 62 Ann 5	15	N/A.	OK	OK
3.3.2. If a company internal benchmark is used, the values in the table in Appendix A may also be used, as a simple default option. Does the proposed benchmark adopt this option?	EB 62 Ann 5	15	N/A.	OK	OK
3.4. Cost of debt					
3.4.1. If a company's internal benchmark is used for the	EB 62	16			

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
expected return on equity, is it ensured that the cost of debt is based on the weighted average cost of debt financing of the legal entity owning the CDM project activity?	Ann 5				
3.4.1.1. For loans, is the weighted average cost of outstanding long-term debt used?	EB 62 Ann 5	16	N/A.	OK	OK
3.4.1.2. For bonds, is the weighted average yield of the bonds during the last three months prior to the submission of the CDM-PDD for validation or prior to the investment decision, whichever is earlier used?	EB 62 Ann 5	16	N/A.	OK	OK
3.4.1.3. In cases where the debt finance structure of the project is not yet available (e.g. a letter of intent for debt funding is not available), is the cost of debt assumed as the commercial lending rate in the country or the yield of a 10 year bond issued by the government of the host country or, if this is not available, the bond with the maturity which is closest to 10 years?	EB 62 Ann 5	16	N/A.	OK	OK
3.4.1.4. Are the followings documented in the CDM-PDD?					
3.4.1.4.1. (a) for bonds: the key parameters of the bond	EB 62	16	N/A.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
including the time of maturity, yield, registration issuance in the financial system and set-up in the market;	Ann 5				
3.4.1.4.2. (b) for loans from a financial institution: the contract of lending between the financial institution and the legal entity owning the assets of the project activity, or, in absence of the contract, a letter from the bank stating its intention to award the loan and the key terms for the loan;	EB 62 Ann 5	16	N/A.	OK	OK
3.4.1.4.3. (c) for debt financing from a parent company: the transfer of capital to the legal entity, documented with the contract of lending between the parent company and the legal entity owning the assets of the project activity and/or the parameters of the corporate bonds as mentioned above. This latter option is only valid for corporate bonds issued in the host country of the CDM project activity.	EB 62 Ann 5	16	N/A.	OK	OK
3.4.2. If the benchmark is based on parameters that are standard in the market, is it ensured that the cost of debt is calculated as the cost of financing in the	EB 62 Ann 5	16	N/A.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
capital markets (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on documented evidence from financial institutions with regard to the cost of debt financing of comparable projects? In cases where this data is not available, is the commercial lending rate in the host country used to calculate the cost of debt?					
3.5. Finance structure					
3.5.1. If a company's internal benchmark is used for the expected return on equity, is it ensured that the percentage of debt financing and equity financing reflects the long-term debt/equity finance structure of the legal entity owning the assets of the project activity?	EB 62 Ann 5	17			
3.5.1.1. Is it ensured that the percentage is determined based on the latest balance sheet provided under local fiscal/accounting standards and rules if: (a) the legal entity owning the assets of the project activity has balance sheets audited by a third party within two years prior to the submission of the CDM-PDD for validation;	EB 62 Ann 5	17	N/A.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
and (b) the accounting books of the legal entity reflect at least the total value of all the assets needed for the project activity.					
3.5.1.2. If the debt/equity finance structure is not yet available, is 50% debt and 50% equity financing assumed as a default?	EB 62 Ann 5	17	N/A.	OK	OK
3.5.2. If the benchmark is based on parameters that are standard in the market, is it ensured that the typical debt/equity finance structure observed in the sector of the country is used? If such information is not readily available, is 50% debt and 50% equity financing assumed as a default?	EB 62 Ann 5	18	N/A.	OK	OK
4. INVESTMENT COMPARISON ANALYSIS AND BENCHMARK ANALYSIS					
4.1.1. If the proposed baseline scenario leaves the project participant no other choice than to make an investment to supply the same (or substitute) products or services, is it ensured that an investment comparison analysis is used?	EB 62 Ann 5	19	N/A.	OK	OK
4.1.2. If the alternative to the project activity is the supply	EB 62	19	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
of electricity from a grid, is it ensured that a benchmark approach is used?	Ann 5				
5. SENSITIVITY ANALYSIS					
5.1. Variables					
5.1.1. Are variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues subjected to reasonable variation (all parameters varied need not necessarily be subjected to both negative and positive variations of the same magnitude)?	EB 62 Ann 5	20	Yes. CAPEX Sale price of condensate Sale price of dry gas Sale volume of condensate Sale volume of dry gas OPEX	OK	OK
5.1.2. Are the results of this variation presented in the PDD and reproducible in the associated spreadsheets?	EB 62 Ann 5	20	Yes.	OK	OK
5.1.3. Where a DOE considers that a variable which constitute less than 20% has a material impact on the analysis, if a corrective action request to include this variable in the sensitivity analysis has been raised?	EB 62 Ann 5	20	N/A.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
5.2. Variation range					
5.2.1. Has the DOE assessed in detail whether the range of variations is reasonable in the project context?	EB 62 Ann 5	21	Yes.	OK	OK
5.2.2. In cases where a scenario will result in the project activity passing the benchmark or becoming the most financially attractive alternative, has the DOE provided an assessment of the probability of the occurrence of this scenario?	EB 62 Ann 5	21	N/A.	OK	OK

Table 4 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and table 2	Summary of project participant response	Validation team conclusion
CAR-1 It is found that the project recovers and utilizes the associated gas from not all the oil wells in the Sanan Oilfield of the Daqing Oilfield Co., Ltd. through onsite inspection, onsite interview, and document review. Please specify the part of Sanan Oilfield where the oil wells are involved in the Project.	Table 1 A.1.1	According to the FSR, all the oil wells involved in the Project belong to the Second Oil Production Plant of Sanan Oilfield. The PDD has been revised accordingly.	Bureau Veritas Certification can confirm that all the oil wells involved in the Project belong to the Second Oil Production Plant of Sanan Oilfield through onsite interview and checking the FSR. This CAR is closed.
CAR-2 Please indicate the emission sources and GHGs included in the project boundary and the data and parameters to be monitored in the diagram of the section B.3 of the PDD.	Table 1 B.3.3	The emission sources and GHGs included in the project boundary have been indicated in the diagram of Section B.3 of the revised PDD. Moreover the data and parameters to be monitored were also shown in the same diagram.	Bureau Veritas Certification has checked the revised PDD and can confirm that the emission sources and GHGs included in the project boundary and the data and parameters to be monitored are indicated in the diagram of the section B.3 of the PDD. This CAR is closed.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and table 2	Summary of project participant response	Validation team conclusion
CAR-3 The parameter of electricity consumption for calculating the project emissions from consumption of electricity is required to be included in the monitoring plan.	Table 1 B.7.1.4	The parameter of electricity consumption for calculating the project emission ($EC_{PJ,,j,y}$) has been included in the revised PDD.	Bureau Veritas Certification can confirm that the parameter $EC_{PJ,,j,y}$ is included in the revised PDD. This CAR is closed.
CAR-4 Please include the uncertainty levels or accuracy levels of measuring instruments to be used for the parameters.	Table 1 B.7.3.4	The accuracy levels as follows of the measurement instruments have been added in the Section B.7.3 of the revised PDD. The accuracy of the gas flow meters (FM_1 and FM_2) is no less than 1.5. The accuracy of the electricity meters (M_1 and M_2) is no less than 2, the accuracy of the electricity meters (M_3 M_4 M_5 and M_6) is no less than 1.	Bureau Veritas Certification can confirm that the accuracy levels of the measuring instruments are included in the section B.7.3 of the revised PDD. This CAR is closed.
CAR-5 An emergency plan is necessary to ensure that the emission reductions achieved by/resulting from the Project will not be overestimated ex post.	Table 1 B.7.3.4	An emergency plan has been added in Section B.7.3 of the revised PDD.	Bureau Veritas Certification can confirm this revision of the PDD and the emergency plan is sufficient. This CAR is closed.
CAR-6 Letter of Approval from DNA of	Table 1	Letter of Approval from DNA of China has	Bureau Veritas Certification has

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and table 2	Summary of project participant response	Validation team conclusion
China has not been provided.	F.2.1	been provided to DOE.	checked the LoA from DNA of China and this CAR is closed.
CAR-7 Letter of Approval from DNA of Australia has not been provided.	Table 1 F.2.1	Letter of Approval from DNA of Australia has been provided to DOE.	Bureau Veritas Certification has checked the LoA from DNA of Australia and this CAR is closed.
CAR-8 MoC of the Project has not been provided.	Table 1 I.1.1.1	MoC of the Project has been provided to DOE.	Bureau Veritas Certification has checked the MoC and this CAR is closed.
CAR-9 The CAPEX indicated in the PDD is slightly from the FSR and IRR calculation spreadsheet.	Table 2 2.3.3.4	The CAPEX indicated in the PDD has been revised to be consistent with the FSR and IRR calculation spreadsheet (628,920,000 RMB).	Bureau Veritas Certification can confirm this correction of the CAPEX indicated in the PDD. This CAR is closed.
CAR-10 The project emissions from consumption of electricity shall be calculated applying the latest approved version of the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption"	Table 2 4.2.3	The PDD was revised to include the calculation of the project emissions from consumption of electricity with the latest approved "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" version 01.	Bureau Veritas Certification has checked the revised PDD and can confirm that the PDD was revised to include the calculation of the project emissions from consumption of electricity with the latest approved "Tool to calculate baseline, project

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and table 2	Summary of project participant response	Validation team conclusion
			and/or leakage emissions from electricity consumption" version 01. This CAR is closed.
CL-1 Please describe the processing capacity of the project activity in the section A.1 of the PDD.	Table 1 A.1.1	The capacity of the project activity (900,000Nm3/d) has been described in the section A.1 of the revised PDD.	Bureau Veritas Certification can confirm that the designed processing capacity of the processing plant is consistent with the information in the FSR. This CL is closed.
CL-2 Please describe the other main equipments installed in the Project in the section A.3 of the PDD.	Table 1 A.3.1.1	The PDD was revised to include other main equipments, i.e. Centrifugal compressor, Demethanizer, and Oil field gas compressor, and the technical parameters in the section A.3 of the revised PDD.	Bureau Veritas Certification has checked the revised PDD and can confirm that the added information of the main equipments is consistent with their purchase contracts. This CL is closed.
CL-3 Please describe monitoring equipements in the section A.3 of the PDD.	Table 1 A.3.1.2	The monitoring equipments including the flow meters and electricity meters have been described in the section A.3 of the	Bureau Veritas Certification can confirm this revision of the PDD.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and table 2	Summary of project participant response	Validation team conclusion
		revised PDD.	This CL is closed.
CL-4 Please indicate the applicable geographical area for the common practice analysis.	Table 1 B.5.6.3	Heilongjiang Province where the Project is sited as the applicable geographical area for the common practice analysis has been indicated in the updated PDD.	Bureau Veritas Certification can confirm that the Heilongjiang Province can be the applicable geographical area for the common practice analysis since the natural resources conditions, investment climate, and natural climate vary between the different provinces, which is appropriate. This CL is closed.
CL-5 Please provide other dates and related documented evidences of the implementation or construction or real action of the Project to justify the start date of the project activity.	Table 1 B.5.7.2	When identifying the start date of the project, the signature date of the equipment purchase contracts and construction contracts and the construction start date were compared. These events are included in the timeline list in the section B.5 of the revised PDD. The documented evidences are provided with this table. The earliest date 12/04/2011 which is the signature date	Bureau Veritas Certification has checked the provided documents and the timeline list in the section B.5 of the revised PDD and can confirm that these events of the signature date of the equipment purchase contracts and construction contracts and the construction start date are taken in the determination of the start date of the

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and table 2	Summary of project participant response	Validation team conclusion
		of the purchase contract of regenerable adsorption type of dryer was selected as the project start date.	Project, and Bureau Veritas Certification can confirm that the start date of the Project is reasonably identified. This CL is closed.
CL-6 Please describe the environmental impact from the factors noise pollutions, solid pollution, and impact on ecology in the section D.1 of the PDD.	Table 1 D.1.1	The environmental impact from the noise pollutions, solid pollution, and impact on ecology has been described in the section D.1 of the revised PDD.	Bureau Veritas Certification has checked the section D.1 of the revised PDD and can confirm that the environmental impact from the noise pollutions, solid pollution, and impact on ecology described in the section D.1 of the revised PDD is consistent with the EIA. This CL is closed.
CL-7 Please provide documented evidence to support that there is no gas-lift gas from oil wells involved.	Table 2 1.1.1	The evidence supporting that no gas-lift gas is involved in the oil wells has been provided.	Bureau Veritas Certification has checked the documented evidence including the Surface engineering plan for the oilfield production capacity building of the Second Oil Production

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and table 2	Summary of project participant response	Validation team conclusion
			Plant of Sanan Oilfield /26/ and can confirm that this evidence supports that there is no gas-lift gas from oil wells involved. This CL is closed.
CL-8 Please explain the quality of the recovered gas and specify why the quality of the recovered gas doesn't meet the required standard of Run criterion of natural gas pipeline (SY/T 5922-2003) and the People's Republic national standards- natural gas (GB17820-1999).	Table 2 2.2.1	According to the standard of Run criterion of natural gas pipeline (SY/T 5922-2003) and the People's Republic of China national standard for Natural Gas (GB17820-1999), the hydrogen sulphide (H_2S) content of the gas should be no higher than 20mg/m^3. Based on the measurement result by Petroleum Industry Center for Quality Supervision and Inspection of Crude Oil and Petroleum Products, the hydrogen sulphide (H_2S) content of the recovered gas of the project is 75mg/m^3, much higher than the threshold of 20mg/m^3, therefore the recovered gas cannot be injected in a gas pipeline without prior processing and let	The alternative P5 is eliminated since it does not comply with the industry standard Run criterion of natural gas pipeline (SY/T 5922-2003) /49/ and the national standard for Natural Gas (GB17820-1999) /52/. Bureau Veritas Certification has checked the data of the gas composition of the associated gas in the feasibility study report /7/ and found that the concentration of the hydrogen sulphide (H_2S) does not comply with the standards. This CL is closed.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and table 2	Summary of project participant response	Validation team conclusion
		alone without being registered as a CDM project activity. The PDD was revised accordingly.	
CL-9 Please specify the safety reason why it is unfeasible that the associated gas was vented to the atmosphere with flaring.	Table 2 2.3.1	According to Code for Fire Protection Design of Petroleum and Natural Gas Engineering (GB50183-2004), the stable materials must be supplied for the flare system for safety purpose. There are 370 metering rooms, 50 transferring stations and 3 combined stations located at the Second Oil Production Plant of Sanan Oilfield for separating the associated gas from the crude oil. If install a flare system at each oil transferring station and combined station for flaring the associated gas, the required materials of the flare system such as N_2, cannot be provided steadily at such a large area of the Second Oil Production Plant. Therefore the associated gas from Oil transferring stations of the Second Oil	Bureau Veritas Certification can confirm that the required materials of the flare system such as N_2, cannot be provided steadily at such a large area of the Second Oil Production Plant, considering that there are 370 metering rooms, 50 transferring stations and 3 combined stations located at the Second Oil Production Plant of Sanan Oilfield for separating the associated gas from the crude oil. This safety reason has been specified in the revised PDD. This CL is closed.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and table 2	Summary of project participant response	Validation team conclusion
		Production Plant of Sanan Oilfield was vented to the atmosphere directly without flaring. The PDD was revised accordingly. eliminated.	
CL-10 Please clarify why there is consumption of dry gas included in the OPEX, since the Project can produce and supply dry gas by itself.	Table 2 2.3.3.4	Although the consumption of the dry gas is included in the OPEX in the FSR, the IRR calculation of the Project has been revised and the consumption of dry gas is excluded in the revised IRR calculation. The annual average OPEX and IRR of the Project were revised accordingly.	Bureau Veritas Certification can confirm that this is conservative and appropriate. Hence this CL is closed.
~~CL-11 Please explain whether there is an agreed price for delivery of recovered gas (e.g. from a Production Sharing Contract) to the gas pipeline or gas processing plant (if operated by a third party)~~	Table 2 2.3.5.3	The oil exploitation, gas pipeline construction, and gas processing plant construction and operation are all developed by Daqing Oilfield Co., Ltd. without a third party. No Production Sharing Contract exists. Please see the website:	Bureau Veritas Certification can confirm that there is no Production Sharing Contract since the oil exploitation, gas pipeline construction, and gas processing plant construction and operation are all developed by Daqing Oilfield Co., Ltd. in the Daqing

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and table 2	Summary of project participant response	Validation team conclusion
		http://www.cnpc.com.cn/dq/cn/qyjj/qygk/ Therefore, there is not a contract that regulates the price for delivery of recovered gas (Production Sharing Contract) to the gas pipeline or gas processing plant.	Oilfield, without a third party. Therefore, there is not a contract that regulates the price for delivery of recovered gas (Production Sharing Contract) to the gas pipeline or gas processing plant. Bureau Veritas Certification can confirm this by checking this reference and with its sectoral expertise. This CL is closed.
CL-12 The requirements of the projection and adjustment of project and baseline emissions on the basis of oil production should be included in the monitoring plan as per the methodology.	Table 2 5.2.1	Project as well as baseline emissions depend on the quantity of recovered gas, which is linked to the oil production. Oil production is projected with the help of a reservoir engineering studies, reflecting the rock and fluid properties in the oil reservoir. The quantity of recovered gas is a function of and linked to the associated gas production which produced in the Second Oil Production Plant of Sanan Oilfield. The	Bureau Veritas Certification has checked the Feasibility Study Report and can confirm that the estimated emission reductions reported in the PDD are based on estimates provided in the survey, evidenced by the Oilfield development plan of the Sanan Oilfield and oil and associated gas expectation dated 23/01/2010 /11/ used for defining the terms of the

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and table 2	Summary of project participant response	Validation team conclusion
		estimated emission reductions are calculated with the quantity of the recovered gas and its contents. The project developer provides comparative analysis of production data for oil and associated gas and the initial production target as per the information provided in survey used for defining the terms of the underlying oil production project. If the oil production differs significantly from the initial production target, then the project developer will specify corresponding reasons. Such a description has been added in the revised PDD.	underlying oil production project. Bureau Veritas Certification can also confirm that the requirements that project developer provides comparative analysis of production data for oil and associated gas and the initial production target as per the information provided in survey used for defining the terms of the underlying oil production project is included in the monitoring plan. If the oil production differs significantly from the initial production target, then the project developer will specify corresponding reasons. This complies with the requirements in the methodology AM0009 version 06.0.0. This CL is closed.