Verification and certification report form for CDM project activities

(Version 03.0)

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION	
Title and UNFCCC reference number of the project activity	Associated Gas Recovery and Utilization at Khamilah oil field area at Block-27 in Wilayat Ibri of the Sultanate of Oman UNFCCC reference number: 10584
Scale of the project activity	☒ Large-scale ☐ Small-scale
Version number of the verification and certification report	02
Completion date of the verification and certification report	20/01/2021
Monitoring period number and duration of this monitoring period	3rd monitoring period 16/11/2020-15/12/2020
Version number of the monitoring report to which this report applies	02
Crediting period of the project activity corresponding to this monitoring period	03/08/2020 - 02/08/2030 (Fixed)
Project participants	The Government of the Sultanate of Oman, represented by the Ministry of Oil & Gas
Host Party	Oman
Applied methodologies and standardized baselines	AM0009 “Recovery and utilization of gas from oil fields that would otherwise be flared or vented” (Version 07.0)
Mandatory sectoral scopes	Sectoral scope 10: Fugitive emission from fuels (solid, oil, gas).
Conditional sectoral scopes, if applicable	N/A
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	58,324 tCO_2e
Certified amount of GHG emission reductions or GHG removals for this monitoring period	57,094 tCO_2e
Name and UNFCCC reference number of the DOE	China Certification Center, Inc. (CCCI) E-0067
Name, position and signature of the approver of the verification and certification report	Mr. Zhou Hong, Director of GHG Department

SECTION A. Executive summary

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The Ministry of Oil & Gas of the Sultanate of Oman has commissioned China Certification Center, Inc. (CCCI) to perform the first verification of Associated Gas Recovery and Utilization at Khamilah oil field area at Block-27 in Wilayat Ibri of the Sultanate of Oman (hereafter referred to as the Project), CDM Registration Reference Number 10584, covering the monitoring period 16/11/2020-15/12/2020. The project is located at Block 27, Wilayat Ibri of Al- Dhahirah Governorate, the Sultanate of Oman. The project is operated by Occidental of Oman Inc. under a development and production sharing agreement with the Ministry of Oil and Gas. The coordinates of Khamilah station are east longitude of 56°14'38" and north latitude of 22°43'01".

The purpose of the project activity is to deliver recovered gas to the national gas pipeline to meet energy needs of end-users, and also to reduce local air pollution due to flaring. The recovery process comprises three main stages including the separation stage where gas is separated from oil and water, the compression stage where gas is compressed for transportation to gas plant, and the processing stage where gas is processed to fit with conditions of gas pipeline for further transportation to end-users. Main equipment necessary for the proposed project activity comprises electric motor-driven reciprocating and screw compressors installed on site, and a network of pipelines for gas transportation.

The scenario existing prior to the start of the implementation of the proposed project activity is flaring of associated gas at the oil production site, the operation of the existing oil and gas infrastructure without processing of any recovered associated gas, and the use of gas-lift gas from the same source and quantity as under the project activity in the gas-lift system. The baseline scenario is the same as the scenario existing prior to the start of implementation of the proposed project activity. The project reduces greenhouse gases emissions as the utilization of recovered gas displaces the use of non associated gas or other fossil sources at end-users.

The total estimated amount of associated gas to be recovered during crediting period is about 2.01 billion m^3 while average methane content is estimated at about 78%. The project activity is expected to reduce emissions by approximately 432,416 tonnes of CO_2 equivalent annually over the crediting period.

The verification 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 date of the project construction started on 02/06/2019 and the project was fully commissioned on 05/01/2020.

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

CCCI has verified the project Monitoring Report version 02 dated 19/01/2021 for the reporting period as indicated below. CCCI confirms that the Project is implemented as described in validated and registered project design documents. Installed equipment being essential for generating emission reductions run reliably and are calibrated appropriately. The monitoring system is in place and the Project is generating GHG emission reductions as a CDM project.

CCCI can confirm that the GHG emission reductions are calculated without material misstatements. Our opinion relates to the Projects' GHG emissions and resulting GHG emission reductions reported and related to the validated and registered project baseline, monitoring plan and its associated documents. Based on the evidence and information that are considered necessary to

guarantee that GHG emission reductions are appropriately calculated, CCCI confirms the following statement:

Reporting period:	16/11/2020-15/12/2020
Baseline emissions:	61,973 tCO_2e
Project emissions:	4,879 tCO_2e
Leakage emissions:	0 tCO_2e
Emission Reductions:	57,094 tCO_2e

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader	IR	Liang	Stefan	Central office of CCCI	Yes	Yes[1]	Yes	Yes

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Li	Ying	Central office of CCCI
2.	Approver	IR	Zhou	Hong	Central office of CCCI

SECTION C. Application of materiality

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Human error in the quantification of emissions (which may be more likely to occur if personnel are unfamiliar with, or not well trained regarding, emissions processes or data recording)	Low	By reviewing the registered PDD/1/ and the validation report issued by Shenzhen CTI International Certification Co., Ltd /6/, it is noted that a CDM monitoring team and a monitoring plan was established for monitoring, data collection and quantification of emission reductions. The verification team preliminarily concluded that the project has established a well-organized monitoring team, monitoring plan, including data collection procedures. Hence, the risk level is low.	During the site visit, the verification team will review the relevant training materials and training records. The verification team will interview the staffs of the CDM monitoring team and check the daily monitoring practice to confirm whether the monitoring plan has been well implemented. The verification team will check the monitoring data to verify whether a complete set of data for the specified monitoring period is available.
2.	Undue reliance on a poorly designed information system, which may have few effective quality controls	Low	By reviewing the registered PDD/1/ and the validation report issued by Shenzhen CTI International Certification Co., Ltd /6/, it is noted that a CDM monitoring team and a monitoring plan was established for	During the site visit, the verification team will interview the staffs of the CDM monitoring team and check the monitoring records to confirm whether the monitoring plan has been well implemented. The major parameters used for

[1] CCCI verification team performed the remote inspection as per sections 7.1.3 and 9.1.3 of the VVS-PA, via BlueJeans which is a teleconferencing software.

			monitoring, data collection procedure, QA/QC procedure and quantification of emission reduction. The verification team preliminarily concluded that the project has established a well-organized CDM monitoring team, monitoring plan, including data collection procedure and QA/QC procedure. Hence, the risk level is low.	determining the project's baseline emissions are the measurement of the volume of total recovered gas at point F($V_{F,y}$) and the average NCV of recovered gas ($NCV_{RG,F,y}$), which are recorded monthly according to the monitoring plan. The team will review the whole data set of the monthly record, and cross-check against relevant monthly sales receipt of the total recovered gas, covering the monitoring period 16/11/2020-15/12/2020. The parameters used for determining the project emissions is the quantity of the electricity consumed by the project activity ($EC_{PJ,,j,y}$), which according to the monitoring plan are recorded monthly. The team will review the whole data set of the monthly record, and cross-check against relevant monthly confirmation of the electricity consumption at project location, covering the monitoring period 16/11/2020-15/12/2020. No leakage needs to be considered as per the applied methodology AM0009 Version 07.0 and the monitoring plan in the registered PDD version 03.0 dated 02/08/2020.
3.	Manual adjustment of otherwise automatically recorded activity levels	Low	By reviewing the monitoring plan in the registered PDD/1/ and the validation report issued by Shenzhen CTI International Certification Co., Ltd /6/, it is noted that 1) the major parameters (total recovered gas, electricity consumed by the project activity) are continuously measured by the recovered gas flow meter and the electricity meter at project site, and recorded monthly; 2) The calibration of the recovered gas flow meter, and the electricity meter shall be conducted periodically as required by the monitoring plan. Based on the sectoral experiences of the team, the manual adjustment may happen when the recovered gas flow meter, and/or the electricity meter are malfunction, which is rare. Hence, the risk level is low.	1. During the site inspections, the verification team will interview the staff responsible for the monitoring and implementation of the project, check the operation log to confirm whether there was malfunction of the recovered gas flow meter, and/or the electricity meter installed at the project site during the monitoring period. 2. If there was malfunction of the recovered gas flow meter, and/or the electricity meter during the verification team shall check the whole data sets with manual adjustment during the malfunction period.

C.2. Consideration of materiality in conducting the verification

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The project is a large-scale CDM project activity achieving total emission reductions of >300,000 tCO_2e per year; as such, a 1 per cent materiality thresholds is applied.

One of the parameters used for determining the baseline emissions is the volume of the total recovered gas measured at point F in methodology Figure 2 in year y ($V_{F,y}$), which is continuously monitored by the gas flow meter installed at point F of the project location, and record monthly.

The monitoring period is 16/11/2020-15/12/2020. The values are presented for verification in the emission reduction calculation spreadsheet, and are available for all months carried out during the monitoring period. The volume of the total recovered gas measured at point F are manually transferred to the emission reduction calculation spreadsheet.

By checking the monthly record of recovered gas, and cross-checking against the Monthly sales receipt of the total recovered gas covering the monitoring period 16/11/2020-15/12/2020, the verification team confirmed that the volume of the total recovered gas measured at point F has been correctly presented in the MR and the emissions reduction calculation spreadsheet.

One of the parameters used for determining the project emissions is the quantity of the electricity consumed by the project activity ($EC_{PJ,j,y}$). By checking the monthly record of the electricity consumption, and cross-checking against the confirmation of monthly on-site consumed electricity covering the monitoring period 16/11/2020-15/12/2020, the verification team confirmed that the electricity consumed by the project activity has been correctly presented in the MR and the emissions reduction calculation spreadsheet.

The verification team performed the verification as defined in its verification plan. No errors are identified during course of the verification, and hence not material. The GHG emission reductions are correctly calculated without material misstatements.

SECTION D. Means of verification

D.1. Desk/document review

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CCCI made the MR (Version 01, dated 16/12/2020) /2/ publicly available on the UNFCCC website on 17/12/2020.

The verification team conducted a desk review of the MR (Version 01)/2/ and supporting documents, to verify the completeness of the data and the information presented, to carry out the compliance check of the MR with respect to the monitoring plan and the applied methodology, i.e. AM0009 Version 07.0. Particular attention was given to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the QA/QC procedures. The evaluation of data management and the quality assurance and quality control and reporting of emission reductions was also conducted.

In addition to the monitoring documentation provided by the project participants, the verification reviews:

- ✓ The registered PDD /1/;
- ✓ The validation report /6/;
- ✓ The applied monitoring methodology /7/;
- ✓ Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
- ✓ Other information and references relevant to the project activity's resulting emission reductions (e.g. IPCC reports, laboratory analysis or national regulations).

Appendix 3 of this report contains a complete list of all documents and proofs reviewed by the verification team.

D.2. On-site inspection

Subject to the terms in verification contracts between CCCI and the PP, the on-site visit should be carried out within 3-month after MR publication in UNFCCC website, and the project owner is under pressure to deliver CER to the buyer. Thus, the site visit is not able to be postponed. However, the site visit cannot be conducted due to COVID-19 pandemic.

As per the interim measure for relaxing mandatory site visits by DOEs due to COVID-19 pandemic, CCCI verification team performed the remote inspection as per sections 7.1.3 and 9.1.3 of the VVS-PA, via BlueJeans which is a teleconferencing software. The project owner provided the pictures of facilities and the monitoring equipment etc, and the project owner also provided the statement to declare authenticity of all the documents/videos/photos /37/.

Duration of remote inspection: 18/01/2021				
No.	**Activity performed remote inspection**	**Site location**	**Date**	**Team member**
1.	Opening meeting by CCCI	Meeting Room	18/01/2021	Liang Stefan
2.	Document Review: Project implementation CDM monitoring manual Training records etc. Operation log book Total gas recovered by the Project Sales receipts Electricity consumption by the Project Calibration records for measuring and testing equipment and certificates Monitoring system QA/QC procedure	Meeting Room	18/01/2021	Liang Stefan
3.	Photos for meters, nameplates of equipments, etc.	Meeting Room	18/01/2021	Liang Stefan
4.	Close meeting by CCCI	Meeting Room	18/01/2021	Liang Stefan

D.3. Interviews

No.	**Interviewee**			**Date**	**Subject**	**Team member**
	Last name	**First name**	**Affiliation**			
1.	Li	Ning	Carbon Resource Management S.A.	18/01/2021	● data monitoring, data recording and reporting ● calibration ● emission reductions calculation	Liang Stefan
2.	Al Ghassani	Ghassan	Occidental of Oman Inc.	18/01/2021	● Project implementation ● Project operation and management ● CDM training ● CDM Monitoring ● calibration ● monitoring practice ● QA/QC procedures ● Gas sampling and compositional analysis	Liang Stefan
3.	Al Saadi	Zainab	Ministry of Oil & Gas	18/01/2021		

D.4. Sampling approach

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N/A

D.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Areas of verification findings	**No. of CL**	**No. of CAR**	**No. of FAR**
Compliance of the monitoring report with the monitoring	0	0	0

report form			
Compliance of the project implementation and operation with the registered PDD	0	0	0
Post-registration changes	0	0	0
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines	0	0	0
Compliance of monitoring activities with the registered monitoring plan	0	0	0
Compliance with the calibration frequency requirements for measuring instruments	1	0	0
Assessment of data and calculation of emission reductions or net removals	0	0	0
Assessment of reported sustainable development co-benefits	0	0	0
Global stakeholder consultation	0	0	0
Others (please specify)	0	0	0
Total	1	0	0

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means of verification	Comparing the monitoring report /2/ with the monitoring report form provided by CDM EB listed in UNFCCC website.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the monitoring report used by the PP is compliance with the latest MR form available at UNFCCC website.

E.2. Remaining forward action requests from validation and/or previous verifications

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This is the 3rd verification, and no remaining FARs from validation and/or previous verifications.

E.3. Compliance of the project implementation and operation with the registered project design document

The ‘Associated Gas Recovery and Utilization at Khamilah oil field area at Block-27 in Wilayat Ibri of the Sultanate of Oman’ is operated by Occidental of Oman Inc. under a development and production sharing agreement with the Ministry of Oil and Gas. The project activity is to deliver recovered gas to the national gas pipeline to meet energy needs of end-users, and also to reduce local air pollution due to flaring.

The recovery process comprises three main stages including the separation stage where gas is separated from oil and water, the compression stage where gas is compressed for transportation to gas plant, and the processing stage where gas is processed to fit with conditions of gas pipeline for further transportation to end-users. Main equipment necessary for the proposed project activity comprises electric motor-driven reciprocating and screw compressors installed at several locations on site, and a network of pipelines for gas transportation.

The scenario existing prior to the start of the implementation of the proposed project activity is flaring of associated gas at the oil production site, the operation of the existing oil and gas infrastructure without processing of any recovered associated gas, and the use of gas-lift gas from the same source and quantity as under the project activity in the gas-lift system. The baseline scenario is the same as the scenario existing prior to the start of implementation of the proposed project activity. The project reduces greenhouse gases emissions as the utilization of recovered gas displaces the use of non associated gas or other fossil sources at end-users.

The total estimated amount of associated gas to be recovered during crediting period is about 2.01 billion m^3 while average methane content is estimated at about 78%. The project activity is expected to reduce emissions by approximately 432,416 tonnes of CO_2 equivalent annually over the crediting period.

The date of the project construction started is 02/06/2019 and the project was fully commissioned on 05/01/2020, which is verified by checking the registered PDD/1/, construction start letter /39/ and commissioning report/13/, and also confirmed during teleconferencing interviews.

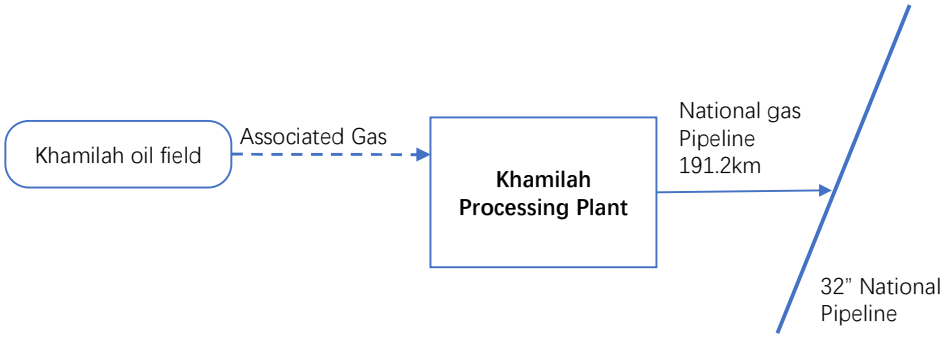
The Project processes 26,739,713.689 Nm^3 associated gas and the total emission reduction is 57,094 tCO_2e in the monitoring period (16/11/2020-15/12/2020).

The project activity mainly comprises the installation of compressor packages at Khamilah oil field , including compressor, motor, scrubbers, suction and discharge bottles, coolers, as well as installation of a pipeline network.

Main equipment and technical parameters in the project

Parameter	Value
Capacity	5 * 8 MMSCFD
Manufacturer	Ariel
Type	JGK-4
Technology	Reciprocating compressors
Rated Power	5*1680 HP(1HP = 735 W) 5*1234.8kW=6.174MW

The pipeline system mainly consists of a 191.2km line from Khamilah processing plant to National pipeline.



Pipeline network of the project

It is confirmed based on the registered PDD/1/ and validation report/6/ that the expected operational lifetime of the project activity is 10 years, the project activity was fully commissioned since 05/01/2020. The verification team checked the equipment nameplates during teleconferencing interview/26//30//37//38//40//41/, reviewed the commissioning reports /13/ and the operation log/27/, interviewed the key staff responsible for the implementation and project operation and management, and was able to confirm that all physical features of the project as described in the PDD are in place and that the project is implemented as per the registered PDD.

Means of verification	The verification team has performed a teleconferencing interview to verify if: a) All physical features (technology, project equipment, and monitoring and metering equipment) of the registered CDM project activity are in place. b) The PP has operated the project as per the registered PDD. c) Information (data and variables) provided in the monitoring report that is different from that stated in the registered PDD, and has caused an increase in estimates of the emission reductions in the current monitoring period or is highly likely to increase the estimates of emission reductions in the future monitoring periods. During the teleconferencing interview, the verification team: • Check the photos and videos for the project site and inspected the project facility and its operations/26//37//38//40//41/; • Checked the installed equipment, including the monitoring instruments, their name plates, and cross-checked them against the registered PDD and the monitoring report/30//37//38//40//41/. • Interviewed the staff responsible for the monitoring and implementation of the project

	• Reviewed the relevant training materials and training records.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ all physical features of the project activity have been fully implemented in accordance with the registered PDD /1/ and the monitoring equipment was installed as described in the Monitoring Plan of the registered PDD /1/; ✓ The actual operation of the CDM project activity is as per the registered PDD /1/ by the PP; ✓ Information (data and variables) provided in the monitoring report is in accordance with that stated in the registered PDD /1/.

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents[2]

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No temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline were identified during the verification.

E.4.2. Corrections

>>
No corrections to project information or parameters fixed at validation, as described in the registered PDD have been made.

E.4.3. Changes to the start date of the crediting period

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There are no changes to the start date of the crediting period

E.4.4. Inclusion of a monitoring plan

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Not Applicable.
The registered PDD contains a monitoring plan.

E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

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No permanent changes have been made from the registered monitoring plan, monitoring methodology or standardized baseline.

E.4.6. Changes to the project design

>>
There are no proposed or actual changes to the project design of a registered CDM project activity.

E.4.7. Changes specific to afforestation and reforestation project activities

>>
Not Applicable.

E.5. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	The verification team has checked the monitoring plan in the registered PDD /1/

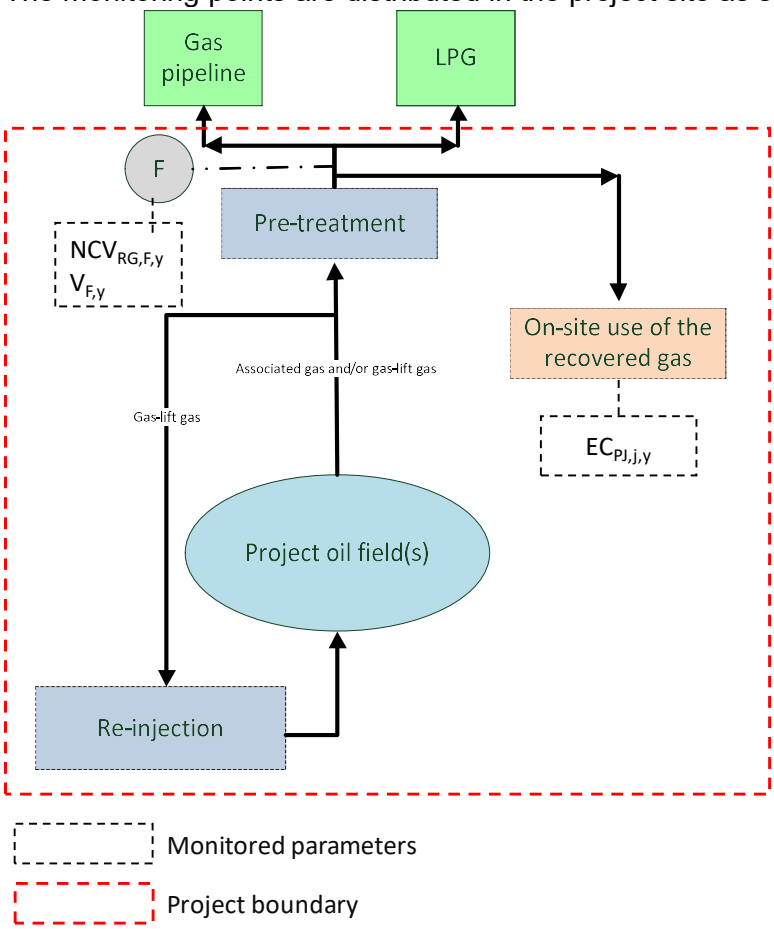
[2] Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

	against the monitoring methodology AM0009 Version 07.0 and applicable tools.
Findings	By reviewing the registered PDD, revised MR version 02 dated 19/01/2021, and checking the Project view page on the UNFCCC website (https://cdm.unfccc.int/Projects/DB/CTI1596441167.27/view), the verification team confirmed that the methodology has been correctly presented in the MR.
Conclusion	The verification team confirms that the monitoring plan in the registered PDD /1/, including data and parameters which are required to be monitored, monitoring and reporting procedures, measuring instruments, QA/QC procedures, complies with the applied monitoring methodology.

E.6. Compliance of monitoring activities with the registered monitoring plan

Overview of monitoring system

The verification team evaluated whether the monitoring arrangements on site are in compliance with the monitoring plan in the registered PDD /1/. It has been verified by teleconferencing interview that the monitoring system have been installed and operated. The monitoring system was completed installation and started operation before the start date of this monitoring period.
The monitoring points are distributed in the project site as shown in the figure below:



Based on the desk review and site inspections, and the interview with the key staff, CCCI confirms that:

- The volume of the total recovered gas ($V_{F,y}$) is continuously monitored by gas flow meter installed at point F of the project site, where associated gas sampling point is nearby.
- The quantity of the electricity consumed by the project activity ($EC_{PJ,,j,y}$) is continuously monitored by the electricity meter installed at the project site.

By reviewing the on-site equipment and monthly records/18//19//20//21//23//24//26//30//37//38//40/ /41/, CCCI confirm during this monitoring period 16/11/2020-15/12/2020, associated gas was

recovered and on-site electricity was consumed at the project site. Therefore, the parameters of $V_{F,y}$, $NCV_{RG,F,y}$, $EC_{PJ,j,y}$, were monitored and calculated during this monitoring period.

Projection and adjustment of project and baseline emissions on the basis of oil production

As per the requirements by the applied methodology AM0009 version Version 07.0, the production data for oil and associated gas and gas-lift gas should be checked at verification, and compare them with the initial production target as per the information provided in survey used for defining the terms of the underlying oil production project.

As per the statement from Occidental dated 05/03/2019, which was provided to DOE during the validation /14/, the projected gross gas gains (MMSCFD) for the proposed CDM project were calculated through multiplying the expected oil production (BOPD) by the Gas/Oil Ratio (GOR) of 0.0034726 for Block 27, and the 2019 expected oil production volumes for 2020-2029 are summarized in the table below.

2019 Oil production forecast (in BOPD)

	Khamilah
31-Dec-20	10,000
31-Dec-21	10,000
31-Dec-22	9,700
31-Dec-23	9,700
31-Dec-24	7,500
31-Dec-25	6,000
31-Dec-26	5,000
31-Dec-27	4,000
31-Dec-28	2,500
31-Dec-29	2,300

The oil and gas production statement/15/ and overall statement/16/ for this monitoring period both dated 01/01/2021 have been provided to the verification team. CCCI checked the production data for oil and associated gas and compared them with the oil production forecast and Gas/Oil Ratio as estimated during validation in table above, and was able to confirm that the Gas-oil Ratio within this monitoring period is almost the same as per the information provided during the validation/6//15/. By checking oil and gas production statement/15/, overall statement/16/, the registered PDD/1/, the CDM validation report (page 42) /6/, CCCI was able to confirm that the technology and processing adopted by the project remain the same since the project was registered on 03/08/2020, and confirm that the fluctuation of the actual oil production and associated gas during this monitoring period is within the normal range based on its local and sectoral knowledge.

CCCI confirms that there are no projection and adjustment of project and baseline emissions during this monitoring period.

E.6.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	The verification team evaluated the status of data and parameters that were determined at registration and not monitored during the monitoring period, including default values and factors.		
	Parameter	**Description**	**Presented correctly in section D.1 of the Monitoring Report?**
	$EF_{CO2,Methane}$	CO_2 emission factor for methane	CCCI confirms that this parameter was correctly derived from the applied methodology AM0009 Version 07.0 and is accurately presented in section D.1 of the monitoring report, and applied appropriately in the emission reduction calculations.
	$EF_{EL,j,y}$	Emission factor	CCCI confirms that this parameter was

		for electricity generation for source j in year y	correctly derived from the conservative default value for Scenario B "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" version 03.0, and is accurately presented in section D.1 of the monitoring report and applied appropriately in the emission reduction calculations.
	$TDL_{j,y}$	Average technical transmission and distribution losses for providing electricity to source *j* in year y	CCCI confirms that this parameter was correctly derived from the Scenario B "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" version 03.0, and is accurately presented in section D.1 of the monitoring report and applied appropriately in the emission reduction calculations.
Findings	No findings raised in this section.		
Conclusion	The verification team confirms that the data and parameters fixed ex ante have been sufficiently monitored and correctly listed.		

E.6.2. Data and parameters monitored

Data/parameter	Volume of the total recovered gas measured at point F in year *y* ($V_{F,y}$)
Means of verification	CCCI evaluated whether this parameter was monitored as required in the monitoring plan. **a) Equipment specification** During the teleconferencing interview, the verification team checked pictures of the equipment that had been installed to monitor this parameter/38/. The parameter is monitored by gas flow meter installed at point F where recovered gas exits the pre-treatment plant and after the point where the recovered gas is directed for on-site use. The accuracy class is 0.04%/17//38/, which meets the requirements by the monitoring plan in the registered PDD. During the monitoring practice, the recorded recovered gas volume is automatically converted to the volume at normal temperature and pressure using the temperature and pressure at the time to measurement, namely 101.325kpa, 25°C/18/, which follows ISO 6976/36/, and is widely applied within Oman. **b) Measurement/reading/recording frequency** The monitoring plan requires this parameter to be continuously measured and recorded monthly. The verification team reviewed monthly records on the total recovered gas and confirmed that the measurements are in line with the monitoring plan. **c) QA/QC procedures applied** The verification team reviewed the QA/QC procedures that were applied during the monitoring period: • CDM Management and Monitoring Manual /28/; • CDM training records /29/; • Monthly record of the total recovered gas at project site covering the monitoring period 16/11/2020-15/12/2020 /19/; • Monthly sales receipt of the total recovered gas, covering the monitoring period 16/11/2020-15/12/2020 /20/ • On-site operation log of the project /27/ The data are 100% transferred electronically and checked by lead operator, and stored in a protected data base. Therefore, the verification team was able to confirm the following QA/QC procedures had been applied on site: • The flow meter was correctly installed and with an appropriate accuracy; • The monitored data were double-checked with other sources and found to be consistent. **d) Cross checks** The verification team cross-checked the volume of the total recovered gas with

	other sources such as the monthly sales receipts during this monitoring period, and found the data to be consistent. **e) Check of information flow** The verification team checked and verified the flow of information from data generation, aggregation, to recording, calculation and reporting. The verification team was able to trace the data for this parameter from its measurement source and confirms that it is correctly reported in the monitoring report and the emissions reduction spreadsheet.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD. ✓ The parameter required by the monitoring plan in the registered PDD have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow. ✓ QA/QC procedures have been applied in accordance with the monitoring plan.

Data/parameter	Average net calorific value of recovered gas at point F in year *y* ($NCV_{RG,F,y}$)
Means of verification	CCCI evaluated whether this parameter was monitored as required in the monitoring plan. The recovered gas is monthly sampled, and the compositional analysis and calculation of net calorific value is conducted monthly by the on-site lab near the project /21/. The gas sampling is conducted as per ISO 10715 Natural gas - Sampling guidelines/31/; Compositional analysis is in accordance with ISO 6974: 2012 Natural gas -- Determination of composition and associated uncertainty by gas chromatography/32/; Routine maintenance and calibration in accordance with ISO/IEC TS 17023:2013 [IAF] Conformity assessment -- Guidelines for determining the duration of management system certification audits/33/; GC calibration gases are under ISO 6141: 2015 Gas analysis — Contents of certificates for calibration gas mixtures/34/. The composition analysis instrument was calibrated every 6 months as per ISO/IEC 17025 Testing and calibration laboratories. For this monitoring period, the chromatography gas analyzer was calibrated on 24/10/2020 with validity till 23/04/2021, which covers this monitoring period/22//35/. The verification team reviewed the monthly composition analysis reports /21/, checked the relevant standards /31//32//33/34//35//36/ and the calibration records /22/, and was able to confirm that the recovered gas sampling and NCV analysis is in line with the monitoring plan. The data are 100% transferred electronically and checked by the lead operator, and stored in a protected data base. Based on the molar composition, Net Calorific Value on a volumetric basis will be determined for each sample in line with ISO 6976 for a combustion reference temperature of 25℃ and the same metering reference condition used for parameter $V_{F,y}$. NCV will be calculated as the sum of molar fraction of each individual component in the natural gas sample multiplied by net calorific value of each individual component in the natural gas sample as referenced in ISO 6976 standard for a combustion reference temperature of 25℃. According to the monitoring plan in the registered PDD, the average NCV is calculated as the arithmetic average of NCVs for the samples taken during the monitoring period. This is in line with the applied methodology AM0009 version 07.0. By reviewing the ER calculation sheet, and the monthly compositional analysis report of the sampled associated gas/21/, the verification team confirmed that the average NCV calculations in the spreadsheet are correct and traceable,

	and correctly presented in the monitoring report.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring results have been recorded consistently as per the approved frequency in the monitoring plan. ✓ QA/QC procedures have been applied in accordance with the monitoring plan.

Data/parameter	Quantity of electricity consumed by the project activity source j in year y ($EC_{PJ,,j,y}$)
Means of verification	The verification team evaluated whether this parameter was monitored as required in the monitoring plan. **a) Equipment specification** During the teleconferencing interview, the verification team checked the equipment that had been installed to monitor this parameter. The verification team confirmed during the site inspections that the parameter is monitored by the electricity meter installed at project site. The accuracy class of electricity meter is 0.5s, which is in line with the requirements by the monitoring plan. All aspects of the installation of the meter and the monitoring procedures were found to be consistent with the monitoring plan. **b) Measurement/reading/recording frequency** The monitoring plan requires this parameter to be continuously monitored and recorded monthly. The verification team reviewed monthly electricity consumed /23/ and confirmed that the measurements are as required by the monitoring plan. **c) QA/QC procedures applied** The verification team reviewed the QA/QC procedures that were applied during the monitoring period. QA/QC procedures conducted on site were verified via review of the following documents: • CDM Management and Monitoring Manual /28/ • CDM training records/29/ • Monthly record of the electricity consumption covering the monitoring period 16/11/2020-15/12/2020/23/ • Confirmation of monthly on-site consumed electricity covering the monitoring period 16/11/2020-15/12/2020/24/ The data are recorded monthly and checked by the lead operator, and stored in a protected data base. Therefore, the verification team was able to confirm the following QA/QC procedures had been applied on site: Therefore, the verification team was able to confirm the following QA/QC procedures had been applied on site: • The electricity meter was correctly installed and with an appropriate accuracy; • The monitored data were double-checked with other sources and found to be consistent **e) Cross checks** The verification team cross-checked the electricity consumed by the project activity with other sources such as confirmation of monthly on-site consumed electricity covering the monitoring period 16/11/2020-15/12/2020/24/, and found to be

	consistent. **f) Check of information flow** The verification team checked and verified the flow of information from data generation, aggregation, to recording, calculation and reporting. It is verified as stated above that the data is continuously monitored and recorded monthly. The data is also cross-checked with the confirmation of monthly on-site consumed electricity covering the monitoring period 16/11/2020-15/12/2020 /24/ and found to be consistent. The verification team was able to trace the data for this parameter from its measurement source and confirms that it is correctly reported in the monitoring report and the emissions reduction spreadsheet.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD. ✓ The parameter required by the monitoring plan in the registered PDD have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

E.6.3. Implementation of sampling plan

Means of verification	No sampling plan has been applied in the project.
Findings	N/A
Conclusion	N/A

E.7. Compliance with the calibration frequency requirements for measuring instruments

Means of verification

Measuring instruments

As per registered PDD/1/ and monitoring report/3/, the parameter $V_{F,y}$ is monitored by a gas flow meter at project site, $EC_{PJ,,j,y}$ is monitored by an electricity meter at at project site.

The information of the meters is summarised below:

Type	Serial number	Location	Accuracy Class
gas flow meter	0500971	Point F in methodology Figure 2	0.04%
electricity meter	P13C8095	Point F in methodology Figure 2	0.5s

The verification team confirmed the accuracy class of the gas flow meter and electricity meter above is in line with the monitoring plan. All aspects of the installation of the meters and the monitoring procedures were found to be consistent with the monitoring plan in the registered PDD /1//38/.

Calibration

By reviewing the calibration records/17//25/, the verification team confirmed that the gas flow meter and electricity meter are calibrated as per the monitoring plan in registered PDD /1/ and the applicable standards ISO 17025 /31//32//33//34//35/. Detailed information as below:

Serial number	Accuracy Class	Date of calibration	Valid until (date)
0500971	0.04%	02/01/2020	01/01/2021
P13C8095	0.5s	02/01/2020	01/01/2021

The calibration frequency of the chromatography gas analyser is every 6 months. During this monitoring period, the chromatography gas analyzer was calibrated on 24/10/2020 with validity till 23/04/2021, which covers this monitoring period/ as per ISO 17025 /22//35/.

The verification team confirms that the calibration has been undertaken at the

	frequency as required by the monitoring plan of the registered PDD /1/ and the applicable standards and valid throughout the monitoring period. The calibration has confirmed that the equipment has performed to the required level of accuracy /31//32//33//34//35//38/.
Findings	CL 01: The calibration information for the gas flow meter, electricity meter and chromatography gas analyzer were not provided in the MR version 01. The MR was updated to include the serial numbers, accuracy class and calibration dates for gas flow meter, electricity meter and chromatography gas analyzer. Verification team checked the calibration records to confirm the consistency. CL 01 was closed.
Conclusion	The verification team confirms that: ✓ The equipment for monitoring has an appropriate accuracy and has been controlled and operated in accordance with the monitoring plan in the registered PDD /1/. ✓ The calibration has been conducted at the frequency as specified by the methodology and the monitoring plan of the registered PDD /1/.

E.8. Assessment of data and calculation of emission reductions or net removals

E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	As per the applied methodology AM0009 Version 07.0, the baseline emissions are calculated as follows: $BE_y = V_{F,y} \cdot NCV_{RG,F,y} \cdot EF_{CO2,Methane}$ $V_{F,y}$ = Volume of total recovered gas measured at point F in MR in year y (Nm³) $NCV_{RG,F,y}$ = Average net calorific value of recovered gas at point F in MR in year y (TJ/Nm³) $EF_{CO2,Methane}$ = CO_2 emission factor for methane (tCO_2/TJ) The verification team has verified the baseline emissions by: (a) Teleconferencing interview inspection and documents review on monthly record of the total recovered gas covering the monitoring period 16/11/2020-15/12/2020 /19/, monthly compositional analysis report of the sampled associated gas /21/, to verify that a complete set of data for the specified monitoring period is available. (b) Information provided in the monitoring report has been cross-checked with other sources such as the sales receipt of the total recovered gas, covering the monitoring period 16/11/2020-15/12/2020 /20/; (c) Review the calculations of baseline GHG emissions have been carried out in accordance with the formulae and methods described in the monitoring plan in the registered PDD /1/ and the methodology AM0009 Version 07.0 /8/; (d) Review CO_2 emission factor for methane ($EF_{CO2,Methane}$), IPCC default values, and other reference values as per the registered PDD /1/; Data for $V_{F,y}$ and $NCV_{RG,F,y}$ for the period from 16/11/2020-15/12/2020 has been verified by the verification team to confirm that the values in the spreadsheet for emission reduction calculation are consistent with those in the monthly record of the total recovered/19/, and the monthly compositional analysis report/21/, covering the monitoring period 16/11/2020-15/12/2020. Moreover, the monitored values for $V_{F,y}$ have been cross checked by the monthly sales receipt of the total recovered gas, covering the monitoring period 16/11/2020-15/12/2020 /20/, and found to be consistent. It is verified that during the monitoring period 16/11/2020-15/12/2020, the $V_{F,y}$ is 26,739,713.689 Nm³; the $NCV_{RG,F,y}$ is 0.00004227 TJ/Nm³, the $EF_{CO2,Methane}$ is ex-ante determined in the registered CDM-PDD which is 54.834 tCO_2/TJ. Thus, BE_y is calculated as:

	BE_y=26,739,713.689 Nm^3 ×0.00004227 TJ/Nm^3× 54.834 tCO_2/TJ =61,973 tCO_2e
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ A complete set of data for the monitoring period is available; ✓ Information on the baseline GHG emission calculation provided in the monitoring report has been cross-checked with other sources; ✓ Calculations of baseline emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document; ✓ Appropriate emission factor, IPCC default values and other reference values have been correctly applied.

E.8.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

Means of verification	As per the applied methodology AM0009 Version 07.0, the project emissions are calculated as follows: $PE_y = PE_{CO2,fossilfuels,y} + PE_{CO2,elec,y}$ $PE_{CO2,fossilfuels,y}$ = 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) According to the registered PDD section B.6.1, there is no direct consumption of fossil fuels as part of the Project activity therefore: $PEy = PE_{CO2,y} = PE_{EC,y} = \Sigma_j EC_{PJ,j,y} \times EF_{EL,j,y} \times (1+TDL_{j,y})$ $EC_{PJ,j,y}$ = The quantity of electricity consumed by the project activity source j in year y (MWh/y); $EF_{EL,j,y}$ = 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 verification team has verified the project emissions by: (a) Teleconferencing interview inspection and documents review on monthly record of the electricity consumed/23/, to verify that a complete set of data for the specified monitoring period is available. (b) Information provided in the monitoring report has been cross-checked with other sources such as confirmation of monthly on-site consumed electricity covering the monitoring period 16/11/2020-15/12/2020 /24/; (c) Review the calculations of project GHG emissions have been carried out in accordance with the formulae and methods described in the monitoring plan in the registered PDD/1/ and the methodology AM0009 Version 07.0 /7/; (d) Review the emission factor for electricity generation for source j in year y, which is derived from the Scenario B “Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation” version 03.0/12/, and other reference values as per the registered PDD/1/; Data for $EC_{PJ,j,y}$ for the period from 16/11/2020-15/12/2020 has been verified by the

	verification team to confirm that the values in the spreadsheet for emission reduction calculation/5/ are consistent with those in the monthly electricity consumption record/23/, the quantity of electricity consumed have been cross checked by Confirmation of monthly on-site consumed electricity covering the monitoring period 16/11/2020-15/12/2020/24/, and found to be consistent. It is verified that during this monitoring period, the $EC_{PJ,j,y}$ is 3,752.280 MWh, the $EF_{EL,J,y}$ is ex-ante determined in the registered CDM-PDD, which is 1.3 tCO_2/MWh as a conservative default value for Scenario B, and the $TDL_{j,y}$ is therefore 0% as the project consumes electricity from an off-grid captive power plant. Thus, $PE_{EC,y}$ is calculated as: $PE_{EC,y}$ = 3,752.280 MWh × 1.3tCO_2/MWh × (1+0%) = 4,879 tCO_2 Therefore, project emissions during this monitoring period is 4,879 tCO_2
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ A complete set of data for the monitoring period is available; ✓ Information on the project GHG emission calculation provided in the monitoring report has been cross-checked with other sources; ✓ Calculations of project emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document; ✓ Appropriate emission factor, IPCC default values, GWPs and other reference values have been correctly applied.

E.8.3. Calculation of leakage GHG emissions

Means of verification	As per the applied methodology AM0009 Version 07.0, the leakage emissions are calculated as follows: $LE_y = LE_{FC,y} + LE_{EC,y}$ $LE_{FC,y}$ = Leakage emissions due to fossil fuel consumption after point F in Figure C1-2 in MR in year y (tCO_2e) $LE_{EC,y}$ = Leakage emissions due to electricity consumption after point F in Figure C1-2 in MR in year y (tCO_2e) Due to the fact that the project does not consume fossil fuel after point F, thus $LE_{FC,y}$ =0, $LE_y=LE_{EC,y}=\sum_j EC_{LE,l,y}\times EF_{EL,l,y}\times(1+TDL_{l,y})=\sum_j EC_{LE,l,y}\times EF_{grid,CM,y}\times(1+TDL_{l,y})$ AS per the registered PDD and applied methodology AM0009 Version 07.0, there is no leakage emission considered, thus LE_y = 0.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ A complete set of data for the monitoring period is available; ✓ Information on the leakage emissions calculation provided in the monitoring report has been cross-checked with other sources; ✓ Calculations of leakage emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document; ✓ Appropriate emission factor, IPCC default values and other reference values have been correctly applied.

E.8.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	The verification team has reviewed the calculation of GHG emission reductions in the MR version 02 /3/ and ER Calculation Sheet /5/ as per the registered PDD and the applied methodology. The emission reductions during the monitoring period from 16/11/2020-15/12/2020 are calculated as: $ER_y = BE_y - PE_y - LE_y$= 61,973 tCO_2e - 4,879 tCO_2e - 0 tCO_2e = 57,094 tCO_2e
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ A complete set of data for the monitoring period is available; ✓ Information on the baseline GHG emission calculation provided in the monitoring report has been cross-checked with other sources; ✓ Calculations of baseline emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document; ✓ There are no assumptions in emission calculations; ✓ Appropriate emission factor, IPCC default values, GWPs and other reference values have been correctly applied.

E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	The esitmated emission from 05/08/2020 to 31/12/2020 is 289,675 tCO_2e based on the registered PDD/1/, that is 1,944.12 tones per day (289,675 tCO_2e /149 days =1,944.12 tCO_2e/day), this monitoring period is 16/11/2020-15/12/2020, totally 30 days. The corresponding estimated emission reductions during the monitoring period are 58,324tCO_2e (58,324 tCO_2e = 1,944.12tCO_2e/day*30days). The actual emission reductions are 57,094 tCO_2e, which is less than the estimated value in the monitoring period.
Findings	No findings raised in this section.
Conclusion	The actual emission reductions are less than the estimated value in the monitoring period.

E.8.6. Remarks on difference from estimated value in registered PDD

Means of verification	The verified emission reductions are less than the estimated value in the monitoring period.
Findings	No findings raised in this section.
Conclusion	The verified emission reductions are less than the estimated value in the monitoring period. Thus, no remarks need to be provided in the MR.

E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Means of verification	The current monitoring period starts after 1/1/2013, no GHG emission reductions or net GHG removals by sinks reported up to 31 December 2012.
Findings	N/A
Conclusion	N/A

E.9. Assessment of reported sustainable development co-benefits

Means of verification	Not applicable. No sustainable development co-benefits of the registered CDM project activity monitored.
Findings	N/A
Conclusion	N/A

E.10. Global stakeholder consultation

Means of verification	This is the third monitoring period, and no stakeholder consultation needed to be assessed as per the verification requirements in the VVS.
Findings	No findings raised in this section.

Conclusion	No comments regarding this monitoring report were received.

SECTION F. Internal quality control

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The verification report underwent an Internal Technical Review (ITR) before requesting issuance of CERs for the project activity.

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

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

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

- The verification 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 implementation, monitoring report and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, closure of CARs and CLs during the verification exercise, review of sample documents.

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

After the agreement of the responses to the Clarification Requests from the verification team as well as the PP(s), the finalized verification report is accepted for further processing.

SECTION G. Verification opinion

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The verification team assigned by the CCCI concludes that the CDM Project “Associated Gas Recovery and Utilization at Khamilah oil field area at Block-27 in Wilayat Ibri of the Sultanate of Oman” which is located at Block 27, Wilayat Ibri of Al- Dhahirah Governorate, the Sultanate of Oman. The project is operated by Occidental of Oman Inc. under a development and production sharing agreement with the Ministry of Oil and Gas. The coordinates of Khamilah station are east longitude of 56°14'38" and north latitude of 22°43'01". As described in the monitoring plan contained in the registered PDD and Monitoring Report version 02, meets all relevant requirements of the UNFCCC for CDM project activities including article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakesh Accords) and the subsequent decisions by the COP/MOP and CDM Executive Board. The verification is conducted in line with the VVS requirements.

The Project is implemented according to selected monitoring methodology and the monitoring plan contained in the registered PDD. The monitoring equipment was installed, calibrated and maintained in a proper manner. The monitoring system is in place and the Project is generating GHG emission reductions as a CDM project.

Based on the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated, CCCI confirms the following statement:

Reporting period:	16/11/2020-15/12/2020
Baseline emissions:	61,973 tCO_2e
Project emissions:	4,879 tCO_2e
Leakage emissions:	0 tCO_2e
Emission Reductions:	57,094 tCO_2e

CCCI therefore issues the positive verification opinion expressed in the Certification statement below.

SECTION H. Certification statement

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CCCI has performed the third verification of Associated Gas Recovery and Utilization at Khamilah oil field area at Block-27 in Wilayat Ibri of the Sultanate of Oman, CDM Registration Reference Number 10584, which is located at Block 27, Wilayat Ibri of Al- Dhahirah Governorate, the Sultanate of Oman. The project is operated by Occidental of Oman Inc. under a development and production sharing agreement with the Ministry of Oil and Gas. The coordinates of Khamilah station are east longitude of 56°14'38" and north latitude of 22°43'01". The project applying methodology AM0009, “Recovery and utilization of gas from oil fields that would otherwise be flared or vented” (Version 07.0). The verification 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 verification consisted of the following three phases: i) desk review of the project design, monitoring report and additional background documents; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

CCCI has verified the project Monitoring Report version 02 dated 19/01/2021 for the reporting period as indicated below. CCCI confirms that the Project is implemented as described in validated and registered project design documents. Installed equipments being essential for generating emission reductions run reliably and are calibrated appropriately. The monitoring system is in place and the Project is generating GHG emission reductions as a CDM project.

CCCI can confirm that the GHG emission reductions are calculated without material misstatements. Our opinion relates to the Projects' GHG emissions and resulting GHG emission reductions reported and related to the validated and registered project baseline, monitoring plan and its associated documents. Based on the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated, CCCI confirms the following statement:

Reporting period:	16/11/2020-15/12/2020
Baseline emissions:	61,973 tCO_2e
Project emissions:	4,879 tCO_2e
Leakage emissions:	0 tCO_2e
Emission Reductions:	57,094 tCO_2e

Mr. Li Ying	Mr. Liang Stefan
Technical Reviewer	Team Leader
20/01/2021	20/01/2021

Appendix 1. Abbreviations

Abbreviations	Full texts
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
DOE	Designated Operational Entity
EB	Executive Board
ER	Emission Reduction
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Greenhouse Gas
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
NCV	Net Calorific Value
PCP	Project Cycle Procedure
PDD	Project Design Document
PP	Project Participant
PS	Project Standard
QA/QC	Quality Assurance / Quality Control
UNFCCC	United Nations Framework Convention for Climate Change
VVS	CDM Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers

Stefan Liang	Team Leader	Mr. Stefan Liang is a lead Auditor based in Beijing. Mr Liang holds a BEn in Environmental Engineering and an MSc in Environmental Science & Engineering. He has 10 years' experience in carbon project development and certification, including 9 years' experience in GHG projects validation and verification. He has participated in CDM validation and verification for about 100 projects, which include sectors such as wind power, hydropower, biomass, waste heat recovery waste disposal and coal mine methane. Mr Liang has completed the CCCI Validation & Verification training course and has also completed internal auditor training in ISO 9001 and ISO14001, and lead auditor training in ISO 14064.

Li Ying	Technical Reviewer	Ms. Li Ying is an environmental engineer with extensive practical experience in the carbon market. She has worked in carbon markets since 2006 and gained extensive experience in the development and implementation of CDM projects, working in the area of project-based mechanisms. Her background includes both project validation and verification, in different sectoral scopes, including renewable energy, waste heat and gas recovery from iron and steel plants or cement plants, landfill gas combustion and utilization projects, coal mine methane, natural gas. She has developed and managed the validation/verification of number of CDM project activities, including experiences in CDM Project Design Document (PDD) development, the monitoring system building, data QA/QC, emission reduction calculation review and documentation review, where she has obtained a good understanding of technical aspects in these sectoral scopes as well as their specific CDM aspects.

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	Ms. Li Ning	Registered Project Design Document version 03.0, dated 02/08/2020	https://cdm.unfccc.int/Projects/DB/CTI1596441167.27/view	Others
2	Ms. Li Ning	Published Monitoring Report version 01, dated 16/12/2020	https://cdm.unfccc.int/Projects/DB/CTI1596441167.27/view	Others
3	Ms. Li Ning	Revised Monitoring Report version 02, dated 19/01/2021	-	Others
4	Ms. Li Ning	Emission reduction calculation sheet with the published MR	-	Others
5	Ms. Li Ning	Revised emission reduction calculation sheet	-	Others
6	Shenzhen CTI International Certification Co., Ltd	Validation Report version 03, dated 03/08/2020	https://cdm.unfccc.int/Projects/DB/CTI1596441167.27/view	Others
7	CDM EB	AM0009, "Recovery and utilization of gas from oil fields that would otherwise be flared or vented" (Version 07.0)	https://cdm.unfccc.int/methodologies/DB/ET4NXMVXFQ5C2EJ5L1OF8YZIEVLVDA	Others
8	CDM EB	CDM validation and verification standard for project activities (VVS), version 02.0	https://cdm.unfccc.int/Reference/Standards/index.html	Others
9	CDM EB	CDM project standard for project activities (PS), version 02.0	https://cdm.unfccc.int/Reference/Standards/index.html	Others
10	CDM EB	Guideline on the application of materiality in verifications, version 02.0	https://cdm.unfccc.int/Reference/Guidclarif/index.html	Others
11	IPCC	Volume 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories	-	Others
12	CDM EB	Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation (Version 03.0)	https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-05-v3.0.pdf	Others
13	Occidental of Oman Inc.	Commissioning report of the project	--	Others
14	Occidental of Oman Inc.	Statement on gas gains dated 05/03/2019	--	Others
15	Occidental of Oman Inc.	Oil and gas production statement dated 01/01/2021	--	Others
16	Occidental of Oman Inc.	Overall statement dated 01/01/2021	--	Others
17	The government of the Sultanate of Oman	Calibration record of the gas meter on 02/01/2020, with validity till 01/01/2021	--	Project participants
18	Honeywell	Run meter gas status verification report	--	Others
19	Occidental of Oman Inc.	Monthly record of recovered gas covering the monitoring period 16/11/2020-15/12/2020	--	Others
20	The government of the Sultanate	Monthly sales receipt of the total recovered gas, covering the monitoring	--	Project participants

	of Oman	period 16/11/2020-15/12/2020		
21	Occidental of Oman Inc.	Monthly composition analysis report of the sampled associated gas covering the monitoring period 16/11/2020-15/12/2020	--	Others
22	Occidental of Oman Inc.	Calibration reports for the composition analysis instrument (Clarus GC) on 24/10/2020 with validity till 23/04/2021	--	Others
23	Occidental of Oman Inc.	Monthly record of the electricity consumed covering the monitoring period 16/11/2020-15/12/2020	--	Others
24	The government of the Sultanate of Oman	Confirmation of monthly on-site consumed electricity covering the monitoring period 16/11/2020-15/12/2020	--	Project participants
25	The government of the Sultanate of Oman	Calibration record of the electricity meter on 02/01/2020, with validity till 01/01/2021	--	Project participants
26	The government of the Sultanate of Oman Ministry of Oil & Gas and Occidental of Oman Inc.	Gas Sales and Purchase Agreement	--	Project participants
27	Occidental of Oman Inc.	Operation log of the Project	--	Others
28	Occidental of Oman Inc.	CDM Management and Monitoring Manual	--	Others
29	Occidental of Oman Inc.	CDM training records	--	Others
30	Occidental of Oman Inc.	Nameplate of the compressors	--	Others
31	International Organization for Standardization	ISO 10715 Natural gas - Sampling guidelines	https://www.iso.org/standard/76105.html	Others
32	International Organization for Standardization	ISO 6974: 2012 Natural gas -- Determination of composition and associated uncertainty by gas chromatography	https://www.iso.org/standard/55839.html	Others
33	International Organization for Standardization	ISO/IEC TS 17023:2013 [IAF] Conformity assessment -- Guidelines for determining the duration of management system certification audits	https://www.iso.org/obp/ui/#iso:std:iso:10723:ed-2:v1:en	Others
34	International Organization for Standardization	ISO 6141:2015 Gas analysis — Contents of certificates for calibration gas mixtures	https://www.iso.org/obp/ui/#iso:std:iso:6141:ed-4:v1:en	Others
35	International Organization for Standardization	ISO/IEC 17025: Testing and calibration laboratories	https://www.iso.org/ISO-IEC-17025-testing-and-calibration-laboratories.html	Others
36	International Organization for Standardization	ISO/DP 6976: Natural gas-Calculation of calorific values, density, relative density and Wobbe indices from composition	--	Others
37	Occidental of Oman Inc.	Statement to declare authenticity of all the documents/videos/photos	--	Others
38	Occidental of Oman Inc.	Photos/videos of the instruments, equipments & facilities, including the electricity meter, gas flow meter, compressors, overviews of plant, etc	--	Others
39	Occidental of Oman Inc.	The construction start letter	--	Others
40	Occidental of	Pipeline system diagram		Others

	Oman Inc.			
41	Occidental of Oman Inc.	Technical specifications of the compressors		Others

Appendix 4. Clarification requests, corrective action requests and forward action requests

This is the 3rd verification, and no remaining FARs from validation and/or previous verifications.

Table 1. CL from this verification

CL ID	CL 01	**Section no.**	E.7	**Date:** 19/01/2021
Description of CL				
The calibration information for the gas flow meter, electricity meter and chromatography gas analyzer were not provided in the MR version 01.				
Project participant response				**Date:** 19/01/2021
The updated MR version 2.0 has been revised to include the information of the serial numbers, accuracy class and calibration dates for the gas flow meter, electricity meter and chromatography gas analyzer.				
Documentation provided by project participant				
MR version 2.0				
DOE assessment				**Date:** 20/01/2021
The MR was updated to include the serial numbers, accuracy class and calibration dates for the gas flow meter, electricity meter and chromatography gas analyzer. Verification team checked the calibration records to confirm the consistency. CL 01 was closed.				

No CAR raised during this verification.

No FAR raised during this verification.

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Document information

Version	*Date*	*Description*
03.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the "CDM validation and verification standard for project activities" (CDM-EB93-A05-STAN); • Make structural and editorial improvements.
02.1	11 January 2018	Editorial revision to correct the numbering of appendices in the instructions.
02.0	31 October 2017	Revision to align with the requirements of the "CDM validation and verification standard for project activities" (version 01.0).
01.0	23 March 2015	Initial publication.

Decision Class: Regulatory
Document Type: Form
Business Function: Issuance
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