VERIFICATION REPORT

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Project Title	**Jiangxi Province Le'an County Forest Farm Carbon Sink Project**
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Summary:

- **China Quality Certification Centre (CQC) has performed a verification of emission reductions from the project -"Jiangxi Province Le'an County Forest Farm Carbon Sink Project" for the monitoring period from Jan. 1st, 2010 to Dec. 1st, 2016, with regard to the relevant requirements of Voluntary Carbon Standard v3.6.**
- **The project activity is implemented in Le'an County, Jiangxi Province of China, which includes the improved Forest Management (IFM) of the forests from the conversion of logged to protected forest. Before the implementation of the project activity, the trees are logged based on a valid and verifiable government-approved timber management plan for harvesting the project area. The implementation of the project activity converses the trees to protected forest to reduce the GHG emissions.**
- **A risk-based approach has been followed to perform this verification. In the course of the verification, 1 Corrective Action Requests (CAR) and 3 Clarification Requests (CL) were raised by CQC verification team and successfully closed by PP.**
- **Based on the information and evidence observed and evaluated during document review and on-site assessment, CQC verification team confirms that the GHG emission reduction for the monitoring period is calculated without material misstatements. It can be also confirmed that the monitoring is implemented as per the monitoring plan in the registered VCS PD, which complies with the VCS methodology VM0010 version 1.2. Therefore, CQC verification team confirms the following statements:**
- **The reporting Period: 01/01/2010-31/12/2016**
- **The total Baseline emissions: 268,184 tCO_2e**
- **The total Project emissions: -347,984 tCO_2e**
- **Project Leakage: 0**
- **Emission Reductions during this reporting period (01/01/2010 – 31/12/2016): 616,168 tCO_2e**
- **Emission Reductions during previous reporting period (01/01/2006 – 31/12/2009): 117,592 tCO_2e**
- **The number of credits withheld in VCS buffer account during this reporting period (01/01/2010-31/12/2016): 114,674tCO_2e.**
- **Net anthropogenic GHG removals by sinks during this reporting period (01/01/2010-31/12/2016): 383,901 t CO2 equivalents.**

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1 INTRODUCTION

1.1 Objective

Verification is the periodic independent review and ex post determination by the verification body of the monitored reductions in GHG emissions during defined verification period.

The purpose of this verification, by checking the objective evidences independently, is as follows:

To verify whether the reductions generated by the project are in line with the Voluntary Carbon Standard Verification Protocol and the information provided by the project participants contains all the necessary information to evidence the project's compliance with all criteria in the Voluntary Carbon Standard (VCS v3.6).

To verify that the implementation of the project is consistent with the description in the Monitoring Report (MR) and the monitoring system is fully in compliance with that described in the monitoring plan and the additional requirements stated by the VCS Association (VCSA).

To confirm that the data reported are accurate, complete, consistent, transparent and free of material error or omission by assessing the monitoring records and the emissions reduction calculation.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review of the VCS project description (VCS-PD), the project's baseline study and monitoring plan, VCS monitoring report (VCS-MR) and other relevant documents. The information in these documents is reviewed against VCS version 3.6 requirements, UNFCCC rules and associated interpretations.

The CQC verification team has employed a risk-based approach in the verification, focusing on the identification of significant risks and reliability of project monitoring and generation of emission reductions according to the relevant applicable rules for VCUs verification under the VCS.

The verification is not meant to provide any consulting towards the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

1.3 Level of Assurance

The CQC verification team has undertaken a reasonable assurance engagement in accordance with VCS version 3.6. It requires a reasonable level of assurance in verification that GHG assertions are free of material errors, omissions and misrepresentations. The verification conclusion is based on the VCS-PD, VCS-MR, CDM-PDD, supporting evidences made available to the verifier and information collected through performing interviews and during the on-site inspection.

1.4 Summary Description of the Project

CQC verification team confirm the following information by on-site assessment and desk review:

The project activity is implemented in Le'an County, Jiangxi Province of China, which includes the improved Forest Management (IFM) of the forests in from the conversion of logged to protected forest. It applies methodology VM0010 version 1.2 " Methodology for Improved Forest Management: Conversion of Logged to Protected Forest".

The area of the project activity is 7,746.7 ha, including 50 parcels spreading over Jinzhu department, Zhaoxie department, Zengtian department, Niutian department, Shipi department, Gongxidepartment; Shipi Harvest-Nuture department and Zhaoxie Harvest-Nuture department. All these departments are state-owned forests and have the legal right to forest ownership. The species involved in the project are Chinese Fir and Slash Pine.

By checking the forest protection contract signed between the local government and the forest farms, CQC verification team confirmed the Project Start Date is 01/01/2006.

Before the implementation of the project activity, the trees are logged based on a valid and verifiable government-approved timber management plan for harvesting the project area. The implementation of the project activity converses the trees to protected forest to reduce the GHG emissions for about 3,377,151 tCO2e in 30 years and Verified Carbon Units is about 2,600,406 tCO2e in 30 years.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using CQC internal procedures.

CQC verified the project against the requirements set in VCS version 3.3

2.2 Document Review

PPs submitted MR (version 1.0)/2/ for the period from Jan. 1st, 2010 to Dec. 31st, 2016 and supporting background documents related to the project design to CQC on Jan. 8th 2017. Then, a desk review of documentation has been conducted by CQC verification team with the use of a customized protocol according to the VCS v3.6;

PPs submitted MR (version 1.1)/3/ and supplementary evidence for closing the CARs and CLs to CQC on Feb. 16th, 2017.

In addition to the monitoring documentation provided by the project proponents, the CQC verification team reviews:

(a) The registered VCS-PD and the validation report;

(b) The Monitoring Report and Verification Report of 1st reporting period (01/01/2006-31/12/2009)

(c) The applied monitoring methodology;

(d) Other evidences and references relevant to the project activity's resulting emissions

2.3 Interviews

On Jan. 9th, 2017 and Jan. 10th, 2017, CQC verification team performed an on-site visit for the project activity. During this period, CQC verified the actual implementation of the project as described in the MR/2,3/ and the registered VCS PD/1/.

During the visit,interviews with the PPs, the consultant and project stakeholders were carried out by CQC verification team conducted to confirm selected information and to resolve issues identified in the document review.

The key interviewees and main topics of the interview are summarized in Table 1.

Table 1: Interview and Interview Topics

Date	Interviewee	Organization	Interview Topics
Jan. 9th, 2017	Mr. Wen Tao General manager Mr. Huang Nianlong Zengtian Department manager	Lvyuan Forest Farm Development Co., Ltd.	Project background information and implementation
Jan 10th,2017	Ms. Li Zhiqing General Manager Mr. Zhang Liyuan Jiangxi Branch manager	Beijing Shengdahuitong Carbon Management Co., Ltd. (the Project Owner)	Project monitoring and management plan; Roles and responsibility; Monitoring manual; Operation of the QA/QC system; Compliance with National Laws and Regulations; Environmental impact and solution for environmental issues.
	Mr. Xia Jun Project Manager	Climate Bridge Ltd. (the Consultant)	Monitoring Plan and implementation Monitored data and Monitoring Report GHG Calculations

2.4 Site Inspections

During the period from 09/01/2017 to 10/01/2017, CQC verification team performed a site visit and interviews with project stakeholders; during the site visit, CQC visited all department of the Project, include Jinzhu department, Zhaoxie department, Zengtian department, Niutian department, Shipi department, Gongxi department; Huping Harvest-Nuture department, Shipi Harvest-Nuture department and Zhaoxie Harvest-Nuture department.

2.5 Resolution of Findings

CQC verification team will establish verification findings based on the results of evaluation of the collected verification evidence against verification criteria.

While aiming to resolve any outstanding issues which needed to be clarified about the project design, findings established during the verification can either be seen as a non-fulfillment of the VCU Verification Criteria or where a risk to the fulfillment of project objectives is identified.

Emission reductions with material misstatements shall be discounted based on the verifiers' expose determination of the achieved emission reductions.

Corrective action requests (CAR) are issued, where:

i) mistakes have been made with a direct influence on project results requiring adjustments of the VERs/VCUs monitoring report;

ii) applicable methodological specific requirements have not been met.

A clarification action request (CL) may be used where additional information is needed to fully clarify an issue.

A forward action request (FAR) should be issued, where:

i) the actual project monitoring and reporting practices requires attention and /or adjustment for the next consecutive verification period, or

ii) an adjustment of the MP is recommended.

In the context of FARs, risks have been identified, which may endanger the delivery of high quality emissions reductions in the future, i.e. by deviations from standard procedures. As a consequence, such aspects should receive a special focus during the next consecutive verification. A FAR may originate from lack of data sustaining claimed emission reductions.

2.5.1 Forward Action Requests

No Forward Action Request is raised during this monitoring period

2.6 Eligibility for Validation Activities

N/A, CQC as the validation/verification body of the Project has been accredited as a DOE by UNFCCC and also meets the competence requirements as set out in ISO 14065:2007.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

N/A, the project has not been registered, or is seeking registration under any other GHG programs

3.2 Methodology Deviations

N/A, no deviation from methodology.

3.3 Project Description Deviations

N/A, no deviation from project description in the registered VCS PD version 04 dated 10/04/2014.

3.4 Grouped Project

N/A, the project is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

CQC verification team confirmed the following by on-site assessment and desk review:

The project was implemented and operated as the registered VCS PD during the monitoring period. Through the on-site assessment and desk review, CQC verification team have verified that the project includes 7,746.7 ha logged to Protected Forest (LtPF), including 50 parcels spreading over Jinzhu department, Zhaoxie department, Zengtian department, Niutian department, Shipi department, Gongxidepartment; Shipi Harvest-Nuture department and Zhaoxie Harvest-Nuture department. All these departments are state-owned forests and have the legal right to forest ownership. The species involved in the project are Chinese Fir and Slash Pine. CQC has onsite checked the boundary of the Project and confirmed the project activity including different forest types, as well as the monitoring system, metering equipment and the monitoring procedure have been implemented and managed as described in the VCS PD.

No changes to the project design have been identified during this verification. The implementation and operation of the project activity have been conducted in accordance with the description contained in the VCS PD.

According to the Forest management and protected agreement signed between the local forest bureau and the forest farm (/24/), the Project has been implemented since 01/01/2006, on which the forest protection contract signed between the local government and the forest farms took into effect and this date was defined as the Project Start Date.

However, CL 01 was raised during verification and successfully closed by PP.

CL	Summary of project owner response	Conclusion
CL 01 The evidence of Project activity start date should be provided to verification team	The Forest management and protected agreement was submitted as the evidences.	OK. The Forest management and protected agreement been provided as evidence. CL 01 can be closed.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

According to the registered VCS PD and the monitoring report, the emission reduction ERy for the project is the baseline emissions BEy minus the project emissions PEy and leakage Ly.
The leakage need not be considered as per the registered VCS PD and the applied methodology.

CQC has ensured that:

The data used for the determination of the emission reductions are available and are monitored in accordance with the monitoring plan in the registered VCS PD without deviation;

The appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been properly followed the methodology and registered PDD;

The parameters required by the monitoring plan and how CQC verification team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting) and appropriateness of the applied measurement / determination method, the correctness of the values applied for emission removals calculation, the accuracy, and applied QA/QC measures for all relevant monitoring parameters including the values in the monitoring report are described below:

4.2.1 Monitored Parameters

1. Illegal Logging PRA Results;

The value is zero since there are clear infrastructure, hiring and policies are in place to prevent illegal logging. CQC verification team has checked the Questionnaires and records of Participatory rural appraisal (PRA) of the communities in and surrounding the project area carried out from 2006 to 2016 and confirmed the value applied is consistent with the VCS PD and applied methodology.

2. Result of Limited Illegal Logging Survey;

The value is zero since there are clear infrastructure, hiring and policies are in place to prevent illegal logging.

3. A_i: Area covered by stratum i

According to the Timber Harvest Plan, there are 5,455.45 ha Chinese Fir with the ages from 16 to 19 in 2005 which would be harvested under the baseline scenario but are protected under the project scenario, therefore only the carbon sink by these 5,455.45 ha Chinese Fir are accounted in this monitoring period.

4. DBH, Diameter at breast height of a tree in cm

This parameter was measured during the Forest management inventory carried out in 2016 and completed in Jan 2017, field measurements in sample plots and records are recognized by local government forestry bureau (/19//20/). During site visit, CQC verification team has sample checked the diameter of each department and confirmed the records of Forest management inventory carried out in 2006 and in Jan 2017 were reliable.

5. N, Total number of possible sample plots within the project boundary (the sampling space or the population);

The value is 17, this is consistent with the actual situation.

6. W_i: Relative weight of the area of stratum i; dimensionless;

This parameter is determined in accordance with the tool for the "Calculation of the number of sample plots for measurements within A/R CDM project activities" (version 02.1.0) approved by the CDM Executive Board. (/12/)

7. S_i, Estimated standard deviation of biomass stock in stratum i. Standard deviation of biomass stock per unit area (in t d.m. ha-1) may also be used for this purpose;

This parameter is determined in accordance with the tool for the "Calculation of the number of sample plots for measurements within A/R CDM project activities" (version 02.1.0) approved by the CDM Executive Board. (/12/)

8. $A_{burn,i,t}$ Area burnt in stratum i at time t

N/A, no forest of the Project burnt during this monitoring period.

9. $A_{dist,i,t}$, Area disturbed in stratum i at time t

N/A, no forest of the Project disturbed during this monitoring period.

10. $A_{DIST\_IL,i}$: Area potentially impacted by illegal logging in stratum i

N/A, no forest of the Project will be disturbed during this monitoring period.

11. $C_{DIST\_IL,i,t|PRJ}$: biomass carbon of trees cut and removed through illegal logging in stratum i at time t

N/A, no illegal logging during this monitoring period.

12. AP_i: Total area of illegal logging sample plots in stratum i

N/A, no illegal logging during this monitoring period.

13. PMP_i: Merchantable biomass as a proportion of total aboveground tree biomass for stratum i within the project boundaries

N/A, no merchantable volume of timber in the forest during this monitoring period.

However, CL 02-03 were raised during verification and successfully closed by PP.

CL	Summary of project owner response	Conclusion
CL 02 The area in the MR (version 01) is different with that in ER calculation sheet	There is a typo in the description of the area in the MR and this typo is corrected in the updated MR.	OK. The difference has been corrected in the MR version 1.1. CL 02 can be closed.
CL 03 The PRA between 2010-2016 should be provided to the	PRAs of the communities in and surrounding the project area carried out from 2010 to 2016 were submitted as the	OK. PRAs from 2010 to 2016 have been provided as evidence. CL 03 can be closed

verification team	evidences.	

4.2.2 Ex-ante determined Parameters

1. $V_{l,j,i,sp}$, Merchantable volume for tree l of species j in sample plot spin stratum l, sourced from Forest inventory by local forest bureau and Calculated from equations linking diameter at breast height, which has been determined in the registered VCS PD.

2. CF_j, Carbon fraction of dry matter for species j

The value is 0.5, which is the default value from VM0010 version 1.2.

3. D_j, Basic wood density of species j in t d.m. m-3

The value for Chinese Fir is 0.307, and for Slash Pine is 0.38, which are the national specific values for Forestry Part of China's greenhouse gas emissions list. Ecological Environmental Institute. Chinese Academy of Forestry (National GHG inventory). Only D_j of Chinese Fir is used in this monitoring period.

4. $f_j(X,Y…)$, Allometric equation(s) for species j linking measured tree variable(s) to aboveground biomass of living trees

Equations used by local forest bureau during the forest inventory are derived using a wide range of measured ages based on datasets that comprise at least 30 trees. Equations are based on statistically significant regressions and the r2 is ⩾ 0.8. The source of equations are chosen from academic paper and equations developed for regional forest types.

5. $BCEF_R$, Biomass conversion and expansion factor applicable to wood removals in the project area

The value for Chinese Fir is 0.53418, and for Slash Pine is 0.5852, which are the national species-specific values for Forestry Part of China's greenhouse gas emissions list. Ecological Environmental Institute. Chinese Academy of Forestry (National GHG inventory). Only $BCEF_R$ of Chinese Fir is used in this monitoring period.

6. OF, SLF,WW,

OF = Fraction of wood products that will be emitted to the atmosphere between 5 and 100 years after production;

SLF = Fraction of wood products that will be emitted to the atmosphere within 5 years of production;

WW = Fraction of extracted biomass effectively emitted to the atmosphere during production The values are sourced from VM0010 version 1.2.

7. RGR_i, Forest re-growth rate post timber harvest for stratum i m

The values are sourced from VM0010 version 1.2.

8. $V_{EX,j,i|BSL}$, Mean volume of extracted timber per unit area for species j in stratum i

9. $TH_{i,p}$, Number of years since timber harvest in stratum l in land parcel p;

The values are sourced from the timer plan.

10. $A_{i,p}$, Area covered by stratum l over land parcel p

The values are consistent with the Forestry Right Certificates of the Project. (/16/)

11. $A_{1,i,p}$: The area of stratum i in land parcel p that was harvested 1 year ago

The values are consistent with the Forestry Right Certificates of the Project. (/16/)

12. $A_{2\text{-}10,i,p}$: The area of stratum i in land parcel p that was harvested between 2 and 10 year ago

The values are consistent with the Forestry Right Certificates of the Project. (/16/)
13. $A_{11\text{-}20,i,p}$: The area of stratum i in land parcel p that was harvested between 11 and 20 year ago
The values are consistent with the Forestry Right Certificates of the Project. (/16/)
14. A_{t^*}: Cumulative area harvested until time t*
The values are consistent with the Forestry Right Certificates of the Project. (/16/)
15. A_{sp}, Area of sample plot
The values are consistent with Statement regarding the Forest management inventory issued by Jiangxi Province Le'an County Forestry Bureau in Jan 2017. (/20/)
16. t_{VAL}, Two-sided Student's t-value, at infinite degrees of freedom in the first iteration and at degrees of freedom equal to (n-1) in subsequent iterations, for the required confidence level;
The values are sourced from A/R Methodological Tool "Calculation of the number of sample plots for measurements within A/R CDM project activities".
17. E, Acceptable margin of error (i.e. one-half the confidence interval) in estimation of biomass stock within the project boundary; in units used for S_i
The value is sourced from A/R Methodological Tool "Calculation of the number of sample plots for measurements within A/R CDM project activities".
18. G_{gi} Emission factor for stratum i for gas g
The value of this parameter is sourced from IPCC 2006.
19. $V_{EX,j,i|BSL}$, Mean volume of extracted timber per unit area for species j in stratum I;
The timber harvest plan sets the allowable mean extracted volume is equal to the merchantable volume of timber in the forest inventory ($V_{j,i|BSL}$).

Through desk review, CQC verification team confirmed a complete set of data for the specified monitoring period is available.
The critical parameter used for the determination of the Emission Removals is the area of forest, number of plant, diameter at breast height of a tree and other parameters relate to the forest inventory. The data pertaining to the above parameters are maintained in the identified records. All the data are in compliance with that stated in the Monitoring Report version 1.1.

4.2.3 Baseline emissions

According to the methodology and the VCS PD, the net change in carbon stock from wood products and logging slash across all parcels within the first year of harvest in the baseline is calculated as:

$$\Delta C_{NET|BSL(1)} = \sum_{i,p} A_{1,i,p} * \sum_{i=1}^{M} \left(\frac{C_{DWSLASH,i,p\backslash BSL}}{10}\right) + C_{WP0,i,p\backslash BSL} + \left(\frac{C_{WP100,i,p\backslash BSL}}{20}\right)$$

The net change in carbon stock from wood products and logging slash across all parcels the years 2-10 since harvest in the baseline are calculated as:

$$\Delta C_{NET|BSL(2-10)} = \sum_{i,p} A_{2-10,i,p} * \sum_{i=1}^{M} \left(\frac{C_{DWSLASH,i,p\backslash BSL}}{10}\right) + \left(\frac{C_{WP100,i,p\backslash BSL}}{20}\right)$$

The net change in carbon stock from wood products across all parcels the years 11-20 since harvest in the baseline are calculated as:

$$\Delta C_{NET|BSL(11-20)} = \sum_{i,p} A_{11-20,i,p} * \sum_{i=1}^{M} (C_{WP100,i,p\backslash BSL}/20)$$

The net change (sequestration) in carbon stock due to reforest across all parcels in all years since harvest in the baseline scenario are calculated according to equation 6 below. Note that there will be no more emissions quantified from decay of logging slash or wood products.

$$\Delta C_{NET|BSL(1+)} = \sum_i A_{t*} * \sum_{i=1}^{M}(-\Delta C_{RG,i,p\backslash BSL})$$

The calculation of A_{t*}, is cumulative area harvested until time t* since timber harvest in stratum i in land parcel p in the baseline scenario. In the estimation of baseline emissions, it is relevant to the rotation of the different kinds of trees and it could be calculated by MAX (Age_{2006} +30 –$Years_{since\ harvest\ to\ year\ t}$, 0) during the whole crediting period.

Therefore, net change in carbon stock across all parcels harvested over each year of the project crediting period in the baseline scenario since the start of the project activity is calculated as:

$$\Delta C_{NET|BSL,t*} = \sum_{p=1}^{P} \Delta C_{NET|BSL(1)} + \Delta C_{NET|BSL(2-10)} + \Delta C_{NET|BSL(11-20)} + \Delta C_{NET|BSL(1+)}$$

The net carbon stock change in the baseline scenario since the start of the project activity must be converted to net greenhouse gas emissions and is calculated as:

$$GHG_{NET|BSL,t*} = \Delta C_{NET|BSL,t*} * \frac{44}{12}$$

Here t* is 11 years for the time elapsed since the start date of the project to 31/12/2016.

CQC verification team has checked the Emission Removals calculation sheet and found the calculation is correct, and the results are 268,184 tCO2

4.2.4 Project emissions

According to the methodology and the VCS PD, net greenhouse gas emissions in the project scenario in year t, is calculated as the formula below:

$$\Delta C_{NET,t|PRJ} = \left(\Delta C_{DIST_{FR},t|PRJ} + \Delta C_{DIST,t|PRJ} + \Delta C_{DIST_{IL},t|PRJ}\right) - \Delta C_{AB,t|PRJ}$$

The net greenhouse gas emissions across in the project scenario since the start of the project activity is calculated as:

$$GHG_{NET|PRJ} = \sum_{t=1}^{t^*} \Delta C_{NET,t|PRJ}$$

According to the PRA implemented from 2010 to 2016, $\Delta C_{DIST\_FR,t|PRJ}$, $\Delta C_{DIST,t|PRJ}$ and $\Delta C_{DIST\_IL,i,t|PRJ}$ are all zero.

The annual carbon stock change in aboveground biomass of trees in year t is the difference in mean carbon stock in aboveground biomass between sampling events and, when expressed in tCO2e, is calculated as:

$$\Delta C_{AB,t|PRJ} = (\sum_{i=1}^{M}(A_i * \frac{C_{AB,i,t2|PRJ} - C_{AB,i,t1|PRJ}}{T})) * \frac{44}{12}$$

CQC verification team has checked the Emission Removals calculation sheet and found the calculation is correct, and the results are -347,984tCO2e

However, CAR 01 was raised during verification and successfully closed by PP.

CAR	Summary of project owner	Conclusion

	response	
CAR 01 The formula of $GHG_{NETIPRJ}$ in ER calculation sheet is different with which in the MR (version 1.0)	There is a mistake in the calculation sheet. Such mistake has been corrected in line with the right formula in the MR and the net greenhouse gas emissions is corrected accordingly.	OK. The mistake has been corrected in the MR version 1.1. CAR 01 can be closed.

4.2.5 Leakage

a. Activity shifting leakage

According to VM0010 ver 1.2, there may be no leakage due to activity shifting. This was demonstrated through:

Verified the historical records of Forestry Right Certificates of the Project dated 2001 (/16/), and the Field measurement of Forest management inventory of Jiangxi Province Le'an County Forest Farm Carbon Sink Project carried out in 2005 and 2016 (/19/), all the lands controlled by the project proponent where leakage could occur, including at a minimum, their locations, area and type of existing land uses were not materially changed showing no deviation from historical trends.

Verified the forest management plans from 2001 to 2005 (/45/), which were ⩾24 months prior to the start of the project showing harvest plans on all owned/managed lands paired with records from the with-project time period shows no deviation from management plans.

Through on-site assessment, CQC verification team has verified the project proponent controls other lands of the forest type of broad leaf, which was the different forest type from Chinese fir and slash pine. Then no shift activity would occur. Furthermore, during the site visit, the representative of the local Forest Bureau indicated that the legally sufficient timber harvest plan which was approved by the forest government regulated that the harvested location, area and type of existing land uses every year, which were determined by the trees if they reached the age of rotation. If the planned harvest timber in the project area were not implemented, the timber harvest plan in the other lands would not be shifted and then no leakage would be occurred by the project.

CQC verification team has also verified the project proponent controls other lands of the forest type of natural broad leaf, which was the different forest type from Chinese fir and slash pine. However, according to the Notice on stipulating the harvesting management of broad leaf of Jiangxi Province (Ganlinzizi[2006]No.146) (/31/), natural broad leaf were forbidden to be harvested and the broad leaf harvest plan would not be issued, which means under the circumstance of conversion from logged to protected forests of Chinese fir and slash pine, no other forests could be shifted under the controls of the project proponent. Therefore, the shift activity would not occur.

Therefore, the activity shifting leakage is zero.

b. Market leakage

According to the Validation Report version 04 (/6/), the leakage factor for market-effects calculations (LF_{ME}) is 0.
CQC verification team has verified the following documents:
According to the National Forestry Law of P.R. China, the forest concessions must be strictly implemented; (/28/)
According to the Forestry Law of P.R. China, Illegal logging in China will be faced punished by replanting, penalty, or criminal responsibilities. (/28/)

CQC verification team can confirm that the logging is impossible increased as a result of the decreased supply of the timber caused by the project in this monitoring period.
Therefore,
LF_{ME} = 0.
Hence:

$$GHG_{LK|LtPF,t*} = LF_{ME} * GHG_{NET|BSL,t*}=0$$

4.2.6 Emission reductions

According to VM0010 version 1.2, the Net Project Greenhouse Gas Emission removals in the monitoring crediting period are calculated as:

$$GHG_{CREDITS|LtPF} = GHG_{NET|BSL} - GHG_{NET|PRJ} - GHG_{LK|LtPF}$$

=268,184-(-347,984)-0
=616,168tCO2e

Where:
$GHG_{CREDITS|LtPF}$ is the project greenhouse gas credits associated with the implementation of improved forest management (IFM) activities in the project scenario, tCO_2e
$GH_{GNET|BSL}$ is the net greenhouse gas emissions in the baseline scenario in the year t* since the start of the project activity, tCO_2e
$GHG_{NET|PRJ}$ is the net greenhouse gas emissions in the project scenario in the year t* since the start of the project activity, tCO2e
$GHG_{LK|LtPF}$ is the total greenhouse gas emissions due to leakage arising outside the project boundary as a result of the implementation of improved forest management (IFM) activities in the year t* since the start of the project activity, in the project scenario, tCO2e
According to the VCS PD, if the uncertainty propagation $U_{total|LtPF} \leqslant 0.15$ then no deduction will result for uncertainty; If $U_{total|LtPF}>0.15$ then the amount of greenhouse gas emission credits associated with IFM activities will be deducted as follows:

$$Credits_{total|LtPF} = GHG_{credits|LtPF} * (1 - U_{total|LtPF})$$

The uncertainty propagation $U_{total|LtP}F=0.10 \leqslant 0.15$ in this monitoring period; therefore, no deduction will result for uncertainty.
$Credits_{total|LtPF} = GHG_{credits|LtPF}$
As per the methodology VM0010 version 1.2 and the VCS PD, the amount of VCU's that can be issued at time t=t2 (the date of verification) for monitoring period T=t2-t1, is calculated as:
$VCU_{net|LtPF} = (Credits_{total,t2|LtPF} - Credits_{total,t1|LtPF}) - Bu_{|IFM-VCS}$
Where:
$VCU_{net\ |\ LtPF}$ is the number of verified carbon units; dimensionless;
$Credits_{total.t1\ |\ LtPF}$ is the net anthropogenic greenhouse gas removals by sinks, as estimated for t*=t1, in tCO2e;

$Creditst_{otal.t2 \mid LtPF}$ is the net anthropogenic greenhouse gas removals by sinks, as estimated for t*=t2, in tCO2e;
$Bu_{|IFM\text{-}VCS}$ is the total number of credits withheld in VCS buffer account.
Based on the provided evidences and the AFOLU Non-Permanence Risk Tool, VCS version 3.6, CQC verified the overall risk rating in this monitoring period is 23, therefore, the amount of VCU in this monitoring period are:

$VCU_{net|LtPF} = (Credits_{total,t2|LtPF} - Credits_{total,t1|LtPF}) - Bu_{|IFM\text{-}VCS}$
$=(616,168-117,592) – 23\%*(616,168-117,592)$
$= 383,901$ tCO2e

CQC has ensured that:
The data used for the determination of the emission reductions are available and are monitored in accordance with the registered monitoring plan without conservative assumption;
The relevant documents have been cross checked and found consistent;
The appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been properly followed the methodology and registered VCS PD;

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

The data pertaining to the monitored parameters are maintained in the identified internal records and consistent with the values stated in the Monitoring Report version 1.1. Key data have been cross-checked via external sources, such as records of Filed measurement of Forest management inventory. All necessary documentation as evidence to determine emission reductions is collected in hard-copy or electronic format. The evidences were assessed as of sufficient quantity and appropriate quality.

4.4 Non-Permanence Risk Analysis

CQC verification team has reviewed the Jiangxi Province Le'an County Forest Farm Carbon Sink Project Non-Permanence Risk Report (/44/) and the related evidences, include the Forest management and protected agreement signed between the local forest bureau and the forest farm (/24/), Forest management plan of Jiangxi Province Le'an County Forest Farm Carbon Sink Project(/45/) and records of stakeholder interview (/46/), CQC has evaluated the risk assessment undertaken by the project proponent and assess all data, rationales, assumptions, justifications and documentation provided by the project proponent to support the non-permanence risk rating, then CQC confirms that the evidences are substantial, and the overall risk rating is 23 based on the provided evidences and the AFOLU Non-Permanence Risk Tool, VCS version 3.6.

5 SAFEGUARDS

5.1 No Net Harm

During the visit, CQC verification team has interviewed the PPs, the consultant and project stakeholders and confirmed the project activity is compliance with National and Local Laws and Regulations and no negative environmental and socio-economic impacts identified.

5.2 Local Stakeholder Consultation

CQC verification team has interviewed the project stakeholders and confirmed no stakeholder input received during ongoing communication with local stakeholders.

6 VERIFICATION CONCLUSION

The scope of this verification covers the determination of voluntary greenhouse gas emission reductions generated by the above mentioned project. The verification is based on the registered VCS PD/1/, and applying the VCS methodology VM0010 version 1.2, on the basis of Voluntary Carbon Standard (VCS) Version 3.6, the MR/2,3/, and the supporting documents made available to the verifiers by the PPs.

As a result of the verification, CQC verification team confirms that:

The project activity is implemented as per monitoring plan and compliance with the description in the PDD. The monitoring system is in place, functional and reliable.

The GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner in the revised MR/3/.

The verification statement should give the final verdict of the project in terms of the completeness, comparability, accuracy and correctness of the reported GHG emission reductions.

Verification period: From 01/01/2010 to 31/12/2016

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Greenhouse Gas Credits (tCO2e)	credits withheld in VCS buffer account （tCO_2e）	Net GHG emission reductions or removals (tCO_2e)
01/01/ 2010-31/12/2010	*38,312*	*-49,712*	0	71,225	16,382	54,843
01/01/ 2011-31/12/2011	*38,312*	*-49,712*	0	71,225	16,382	54,843
01/01/ 2012-31/12/2012	*38,312*	*-49,712*	0	71,225	16,382	54,843
01/01/ 2013-31/12/2013	*38,312*	*-49,712*	0	71,225	16,382	54,843
01/01/ 2014-31/12/2014	*38,312*	*-49,712*	0	71,225	16,382	54,843
01/01/ 2015-31/12/2015	*38,312*	*-49,712*	0	71,225	16,382	54,843
01/01/ 2016-31/12/2016	*38,312*	*-49,712*	0	71,225	16,382	54,843
Total	*268,184*	*-347,984*	0	498,575	**114,674**	383,901

The annual average Verified Net GHG emission reductions or removals are shown in the following table:

Year	Verified Net GHG emission reductions or removals (tCO_2e)
2010	54,843
2011	54,843
2012	54,843
2013	54,843
2014	54,843
2015	54,843
2016	54,843

APPENDIX I: <REFERENCE>

/1/ VCS-PD version 04 dated 10/04/2014

/2/ VCS-MR version 1.0 dated 04/01/2017

/3/ VCS-MR version 1.1 dated 16/02/2017

/4/ ER Calculation Spreadsheet dated 16/02/2017

/5/ Plot and Uncertainty Calculator of Jiangxi Province Le'an County Forest Farm Carbon Sink Project

/6/ Validation Report version 04, dated 21/04/2014

/7/ VM0010 version 1.2 dated 27/03/2013

/8/ Verification Report of Monitoring period (01/01/2006-31/12/2009) dated 21/04/2014

/9/ Agriculture, Forestry and Other Land Use (AFOLU) Requirements Version 3.3

/10/ Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities" (VT0001 VCS AFOLU Additionality Tool v3.0) dated 01/02/2012

/11/ AFOLU Non-Permanence Risk Tool, VCS version 3

/12/ Tool for the "Calculation of the number of sample plots for measurements within A/R CDM project activities" (version 02.1.0) approved by the CDM Executive Board.

/13/ Valid and verifiable Government-approved timber management plan for harvesting the project area

/14/ Business license of the project proponent

/15/ Historical management records more than 5 years of the local forestry farm which contract with the Project proponent

/16/ Forestry Right Certificates of the Project dated 2001

/17/ Ecological forestry application materials and the certification from local forest government

/18/ Maps of the Project issued from local forestry government

/19/ Field measurement of Forest management inventory of Jiangxi Province Le'an County Forest Farm Carbon Sink Project carried out in 2005 and 2016

/20/ Statement regarding the Forest management inventory issued by Jiangxi Province Le'an County Forestry Bureau in Jan 2017

/21/ Yearly Questionnaires and records of Participatory rural appraisal (PRA) of the communities in and surrounding the project area from 2010 to 2016

/22/ http://v-c-s.org

/23/ Ecological regulations of Jiangxi Province

/24/ Forest management and protected agreement signed between the local forest bureau and the forest farm

/25/ Collecting of Woods-raising fund and Maintenance of Simple Reproduce Fee management regulation of Jiangxi Province

/26/ National level poverty-stricken counties list

/27/ The national forestry inventory (II) in 2005

/28/ National Forestry Law of China

/29/ Notice of the review opinion approved by the State Council which about the year's forest harvest limit in the 11th Five-year in all regions reported by State Forest Bureau (Guofa[2005]No.41)

/30/ Speech of the director of State Forestry Bureau at the national forestry department director session

/31/ Notice on stipulating the harvesting management of broad leaf of Jiangxi Province (document code: Ganlinzizi[2006]No.146)

/32/ Tool for calculation of the number of sample plots for measurements within A/R CDM project activity

/33/ http://www.gov.cn/gongbao/content/2009/content_1265996.htm

/34/ Technical guidelines for national forest inventory. SFA 2004 No.25

/35/ Allometric equations for Jiangxi Province of the Chinese Fir published in academic papers

/36/ Allometric equations for Jiangxi Province of the Slash Pine published in academic papers

/37/ Field survey records of the Project conducted by Bureau Veritas Certification

/38/ IPCC Guidelines for National Greenhouse Gas Inventories (2006), Table 4.9.

/39/ Historical Sale Receipts of the Wood

/40/ "Economic Evaluation Method and Parameters for Project Construction" (version 3)

/41/ http://www.jxly.gov.cn/zwgk/fzgh/sjgh/201112/t20111215_61299.htm

/42/ History of support regulations on the central Soviet area
http://finance.ifeng.com/news/region/20120710/6730207.shtml

/43/ Email from VCS Association to grant this project an extension to the validation deadline until 25 November 2013

/44/ Jiangxi Province Le'an County Forest Farm Carbon Sink Project Non-Permanence Risk Report version 01 dated 12-10-2013

/45/ Forest management plan of Jiangxi Province Le'an County Forest Farm Carbon Sink Project

/46/ Records of stakeholder interview dated 09/01/2017