

PURUS PROJECT – A TROPICAL FOREST CONSERVATION PROJECT IN ACRE, BRAZIL VCS VERIFICATION REPORT



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Summary:

Environmental Services, Inc., (ESI) was contracted by CarbonCo, LLC, on 08 March 2017 to conduct the fifth monitoring period verification (01 January 2016 to 31 December 2016) of *The Purus Project: A Tropical Forest Conservation Project in Acre, Brazil* [Validated Project Description (PD) dated 28 December 2012]. The Purus Project follows the framework of Reducing Emissions from Deforestation and Degradation (REDD) and is achieving Greenhouse Gas (GHG) emission reductions as well as tropical forest protection and conservation through payments for ecosystem services.

Project activities include meeting with the local communities surrounding the project area, engaging Acre state officials working on similar strategies at a regional/state level, developing a plan which will result in lowering the pressure on land and forest resources in consultation with the local community, putting into operation the REDD project implementation plan with the help of local partners and Purus Project staff, undertaking a forest carbon inventory, and modelling regional deforestation. Activities implemented as part of the project to reduce deforestation include:

- Community outreach and education;
- Employment of local community members as project forest guards or other project staff (to replace other sources of income associated with deforestation and land use);
- Agricultural extension training which will help baseline agents to increase productivity on current lands (thus reducing the pressure to expand their farms in the adjacent forest);
- Reforestation of select non-forest areas and planting woodlots (to provide alternative sources of fuelwood); and
- Sharing a portion of carbon related revenue for communities living on the Moura & Rosa property (replacing other sources of income associated with deforestation and land use).

The verification assessed the Project's compliance with the Verified Carbon Standard (VCS) Version 3 (and all associated updates), the selected methodology, and the validated PD. The method employed by ESI in the verification process was derived from all items in ESI's internal verification process, which included utilizing VCS documents and ISO 14064-3 to develop and implement a Verification & Sampling Plan. This verification assessed the GHG emission removals through Agriculture, Forestry and Other Land Use (AFOLU) criteria, specifically, REDD – Avoided Unplanned Deforestation (REDD-AUD) activities.

The scope of the verification included the GHG project implementation; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHGs; and time periods covered. The geographic verification scope was defined by the project boundary, the carbon reservoir types, management activities, growth and yield models, inventory program, and contract periods.

The verification criteria followed the guidance documents provided by VCS and included the following:

VCS Program Guide (21 June 2017, v3.7), VCS Standard (21 June 2017, v3.7), Program Definitions (21 June 2017, v3.7), AFOLU Requirements (21 June 2017, v3.6), AFOLU Non-Permanence Risk Tool (v3.3, 19 October 2016), and the VCS Methodology VM0007: "REDD Methodology Modules (REDD-MF)" v1.3 (03 May 2013) and its associated modules and tools.

A summary of all findings is included in Appendix B. There are no restrictions of uncertainty.

ESI confirms all verification activities including objectives, scope and criteria, level of assurance, monitoring and project documentation adherence to VCS Version 3 and all associated updates as documented in this report are complete. ESI concludes without any qualifications or limiting conditions that the *2016 Monitoring & Implementation Report for the Purus Project* dated 18 October 2017 (v1.0) meets the requirements of VCS Version 3 and all associated updates.

The GHG assertion provided by CarbonCo and verified by ESI has resulted in the GHG emissions reduction or removal of 112,846 tCO₂ equivalents by the project during the verification period/reporting period (01 January 2016 to 31 December 2016). This value is gross of the 10% (13,964 tCO₂ equivalents) buffer withholding based on the non-permanence risk assessment tool. This results in 98,882 tCO₂ equivalents of credits eligible for issuance as VCUs.

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1 INTRODUCTION

1.1 Objective

The verification objective included an assessment of compliance with VCS Version 3 and all associated updates, the selected methodology (VM0007, v1.3), and the validated Project Description (PD) *The Purus Project: A Tropical Forest Conservation Project in Acre, Brazil* dated 28 December 2012. ESI (herein referred to as the Validation/Verification Body – VVB) assessed the Greenhouse Gas (GHG) emission removals for the fifth monitoring period/verification period (01 January 2016 to 31 December 2016) through Agriculture, Forestry and Other Land Use (AFOLU) criteria, specifically, Reduced Emissions from Deforestation and Degradation – Avoided Unplanned Deforestation (REDD-AUD). ESI assessed whether the Project Proponent adequately addressed project emissions, unplanned reductions in carbon stocks, and any possible leakage outside of the project boundary.

1.2 Scope and Criteria

The scope of the verification included the GHG project implementation and baseline scenario; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHGs; and time periods covered. *The Purus Project: A Tropical Forest Conservation Project in Acre, Brazil* follows the REDD-AUD framework. The geographic verification scope was defined by the project boundary, the carbon reservoir types, management activities, growth and yield models, inventory program, and contract periods. The scope of the project was outlined by the Project Proponent prior to the verification and is re-defined as follows for the GHG project:

Baseline Scenario	Continued unplanned frontier deforestation - forest clearing for subsistence agriculture and cattle ranching.
Activities/Technologies/Processes	VM0007, v1.3 Avoided Unplanned Deforestation Monitoring and modelling forest resources, providing alternative sustainable economic activities for local communities, agricultural training classes.
Sources/Sinks/Reservoirs	Above-ground live tree biomass Below-ground live tree biomass Dead wood Biomass Burning - Source
GHG Type	CO ₂ – Sinks; CH ₄ and N ₂ O - Source
Time Period (state date, crediting period, verification period)	01 January 2016 – 31 December 2016
Project Boundary	The Purus Project is located in the state of Acre, Brazil, alongside the Purus River (south of Manoel Urbano, Acre) - 34,702 hectares (85,714 acres).
GHG reduction and/or removal	112,846 tCO ₂ equivalents This value is gross of the 10% (13,964 tCO ₂

	equivalents) buffer withholding based on the non-permanence risk assessment tool
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1.3 Level of Assurance

The level of assurance was used to determine the depth of detail that the Verifier placed in the Verification and Sampling Plan to determine if there are any errors, omissions, or misrepresentations (ISO 14064-3:2006). ESI assessed the project's implementation of general principles, data collection and processing, sampling descriptions, documentation, *ex post* calculations, etc., to provide reasonable assurance to meet the Project Level requirements of the VCS Program. Based on the verification findings, a final evaluation statement reasonably assures that the project GHG representations are materially accurate. The evidence used to achieve a reasonable level of assurance is specified in the following sections.

1.4 Summary Description of the Project

The Purus Project is a REDD-AUD project that is achieving Greenhouse Gas (GHG) emission reductions as well as tropical forest protection and conservation through payments for ecosystem services. The project was developed by three main Project Proponents: CarbonCo, LLC, Freitas International Group, LLC ("Freitas International Group" or "Carbon Securities"), and Moura e Rosa Empreendimentos Imobiliários, LTDA ("Moura & Rosa" or "M&R"). CarbonCo, a wholly-owned subsidiary of Carbonfund.org, is responsible for managing the verification process and for financing in the early stages of project implementation.

A forest carbon inventory, modeling of regional deforestation and land-use patterns, and mitigation of deforestation pressures have been undertaken as part of the project activities. Activities to mitigate deforestation pressures range from engaging EMBRAPA (i.e., the Brazilian Agricultural Research Corporation) and SENAR (Serviço Nacional de Aprendizagem Rural) for agricultural extension training, to the patrolling of potential deforestation sites. In addition, the project aims to eventually build better houses for the local communities to improve their livelihoods.

The Purus Project is located alongside the curves of the Purus River, approximately 60 kilometers (approximately 37 miles) from the nearest city of Manoel Urbano - this distance is about 20 kilometers (or 12 miles) "as the crow flies." The forested area of the Purus property (and thus the project boundary) encompasses 34,702 hectares (i.e., approximately 85,714 acres); it is divided amongst two contiguous parcels named Seringal Itatinga and Seringal Porto Central. The two main types of vegetation strata identified within the project boundary are open forest with palm/bamboo and open alluvial forest with palm, both of which are intact, primary forest.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification assessed the Project's compliance with the VCS Version 3 and all associated updates, the selected methodology (VM0007, v1.3), and the validated PD. The verification also assessed the GHG emission removals through AFOLU criteria, specifically, REDD-AUD.

According to the ISO14064-3, the verification criteria are the “policy, procedure or requirement used as a reference against which evidence is compared.” For this project, the verification criteria followed the guidance documents provided by VCS and included the following: VCS Program Guide (v3.7, 21 June 2017), Program Definitions (v3.7, 21 June 2017), AFOLU Requirements (v3.6, 21 June 2017), AFOLU Non-Permanence Risk Tool (v3.3, 19 October 2016), and the VCS Methodology VM0007: “REDD Methodology Modules (REDD-MF)” v1.3 (03 May 2013) and its associated modules and tools.

A project specific Verification and Sampling Plan was developed to guide the verification auditing process to ensure efficiency and effectiveness. The purpose of the Verification and Sampling Plan was to present a risk assessment for determining the nature and extent of verification procedures necessary to ensure the risk of auditing error was reduced to a reasonable level. The Verification & Sampling Plan methodology was derived from all items in our verification process stated above. Specifically, the sampling plan utilized the VCS guidance documents and ISO 14064-3. Any modifications applied to the Verification and Sampling plan were made based upon the conditions observed for monitoring in order to detect the processes with highest risk of material discrepancy.

Field sampling and techniques were based on the project parameters/scope and best professional judgment of the VVB in order to meet a reasonable level of assurance as directed by the professional judgment of the Lead Verifier. Because the biomass inventory was validated and has not changed, inventory plots were not selected for detailed review/re-measurement. Rather, extensive review of all remote sensing data was undertaken of the project area and leakage belt to aid the VVB in establishing a reasonable level of assurance regarding confirming the reported areas of *ex post* disturbance (from the remote sensing analysis) for the quantification of project emissions and leakage emissions.

In addition, a risk-based approach was used for the on-the-ground field sampling effort in order to select key areas for direct observation of forest losses, leakage issues, and stated project activities. The most likely access points for anthropogenic deforestation (Purus River) within the Project Area and leakage belt were toured in order to allow the VVB to establish a reasonable level of assurance regarding the implementation of project activities, and to further confirm the reported areas of *ex post* disturbance. Please see Section 2.4 of this report for more details.

The desktop verification component included a full review of all project documentation and calculations received from the Project Proponent as described below.

2.2 Document Review

A detailed review of all project documentation was conducted to ensure consistency with, and identify any deviation from, VCS Program requirements, the methodology (VM0007, v1.3), and the validated PD. Initial review focused on the validated PD and Monitoring Report (MR) relative to the field conditions observed and interviews with project management staff. Project details, implementation status, data and parameters, and quantification of GHG emission reductions and removals were thoroughly examined. Key supporting documents were also reviewed. These included monitoring data (i.e., remote sensing/Geographic Information System (GIS) data), land ownership documentation, carbon rights contracts, financial analyses, property boundaries, maps

and aerial images, fire-specific monitoring data, biomass and carbon calculation spreadsheets, and responses to Non-conformance Requests (NCRs) and Clarification Requests (CLs).

The AFOLU Non-Permanence Risk Tool (v3.3, 19 October 2016) was used by the Project Proponent to assess overall project risk. The VVB reviewed the Non-Permanence Risk Report provided with the verification supporting documentation and confirmed that the Project adheres to the requirements set out in the VCS AFOLU Non-Permanence Risk Tool (v3.3, 19 October 2016). Each risk factor was thoroughly assessed for conformance. Any identified NCR and/or CL findings related to the AFOLU Non-Permanence Risk Tool/Report are presented in Appendix B. The final score was calculated to be 10%.

For a listing of all documents received from the client for this verification, please see Appendix A.

2.3 Interviews

The verification site inspection followed the VVB's prepared Verification and Sampling Plan process and was conducted on 16-20 July 2017 by the Lead Verifier and Verification Team Member. Onsite interviews and informal discussions were conducted with project staff, as well as members and leaders of the local communities. Some of the individuals interviewed in 2017 had been previously interviewed at the 4th verification site visit.

Interviews performed with individuals living in the project area resulted in a range of opinions, project familiarity, and appreciation of project benefits. Some individuals commented that they didn't fully understand the project and wanted clearer information. Other community members indicated that they understood the project, but were indifferent about the project one way or the other because they did not need the benefits. However, the VVB notes that indifference to the Project was exhibited primarily by members of the Guita family (see further discussion in this section), and other community members were more positive when questioned about the Project.

Some individuals interviewed on-site were interested in gaining title for the land they lived on, provided the titling qualifications were met. Although many individuals stated gaining land title was important it was also suggested they did not want to deal with encumbrances such as taxes.

During the verification site visit the VVB met and interviewed the only individual to hold title, having been awarded in June 2016. The VVB was shown the actual land title held by Benedito Nunes da Silva and through the translator was able to confirm authenticity. Benedito was visibly pleased to have obtained title and remained enthusiastic about the project's activities and benefits.

As in previous verification site visits, the VVB visited one family in particular (the Guita's, represented by sons present that day) who dispute property rights with the Project Proponents. The main Guita household (represented by father Antonio) and other family members continued unabated to clear land for their cattle operations during the monitoring period. Previously this family has stated they do not plan to change their activities and the extent of their right to ownership was somewhat in question. During this on-site interview however, the Guita family members stated that he is starting to think more positively about the project despite the fact that negotiations continue in order for him to stop the deforestation in exchange for land title.

The Project Proponent confirmed that community members which have been living on land adjacent to the project area and who made the land productive (e.g., by growing crops or raising animals) for ten years, have the right to be titled. To resolve ongoing disputes over land, Moura & Rosa will voluntarily recognize whatever area is currently deforested and under productive use by each family living on the Seringal Porto Central and Seringal Itatinga parcels. The Guita family is being handled differently due to their disregard for engagement with Project Proponents and continued opposition of the law. The authorities have been notified and legal action is pending. The Project Proponent believes that once the details of ownership are worked through with the Guita family and more families starting receiving title, the clearing of the project lands will cease. This is something that will be confirmed in future verifications. The majority of locals indicated that the land titling aspect of the project is a desired benefit.

In addition, the VVB met with individuals with various roles in the project. This included an interview with the Agrarian Conflicts Coordinator of the Public Ministry of Acre, representatives of the IMC (Acre State Institute for Climate Change and Regulation of Environmental Services), representatives of the UFAC (Federal University of Acre), and the local Fire Department.

The following is a list of the main interviewees:

Name*	Title
Brian McFarland	Director-Carbon Projects and Origination, Carbonfund.org – CarbonCo/Project Developer
Normando Sales	Managing Director, Moura & Rosa /Landowner-Project Manager
Wanderley Cesario Rosa	Managing Director, Moura & Rosa /Landowner-Project Manager
Kidney Da Cunha Aires	Previous On-Site Project Manager
Edcarlo Pavia do Nascimento	Current On-Site Project Manager
Professor Wagner	Federal University of Acre (UFAC) Health Services Coordinator (Biochemistry)
Professor Patricia	Federal University of Acre (UFAC) Forest Engineering Coordinator
Professor Vanderi	Federal University of Acre (UFAC) Sub-Coordinator of Agronomy
Professor Rafael	Federal University of Acre (UFAC) Human Physiology Coordinator
Marcell Lima	IMC Climate Change Institute Geoprocessing Technician

Stoney Nascimento	IMC Climate Change Institute Engineer
Cleyton Almeida	Manoel Urbano Fire Department Lieutenant Colonial
Dr. Vinicius Menandro	Public Prosecutor Public Ministry of Acre
Professor Sales	Local Resident – Project Area
Franscisco	Local Resident – Project Area
Raimundo	Local Resident – Project Area
Manuel Freitas	Local Resident – Project Area
Helio de Oliveira	Local Resident – Project Area
Eugeulo Feizosa	Local Resident – Leakage Belt
Zemarrilia Feizosa	Local Resident – Leakage Belt
Antonio Jose	Local Resident – Leakage Belt
Zemarrilia's son	Local Resident – Project Area
Benedito Nunes da Silva	Local Resident – Project Area

*Regarding members of the local communities, some interviewees did not give their names or only gave partial names. Due to the nature of their settlement, it was decided to simply ask for “names”, and then it was recorded. This was intended to not intimidate them and hope for a more complete answer.

The following interview questions were asked of community members and individuals during the verification site visit.

1. Have you used the new health clinic?
2. Were you visited by the nurse, who distributed chlorine?
3. Did you use the dentist when he was at the clinic last year?
4. Have you used to project boat to bring products to market or other transport needs?
5. Do you plan on receiving title to your lands?
6. Do you use fuel wood?
7. How does your household get timber/wood for building?

8. How much timber does your household use per year?
9. How far to they have to travel to get wood from the forest?

The interview questions were sometimes adjusted to solicit more detailed responses, but the responses confirmed with reasonable assurance that no community members will be negatively affected by the project. The verification site visit interviews also confirmed that most community members are participating in project activities and feel that they are a benefit.

2.4 Site Inspections

The verification site inspection followed the VVB's prepared Verification and Sampling Plan process and was conducted on 16-20 July 2017 by the Lead Verifier and Verification Team Member. The verification site visit was a required tool to help the VVB reach reasonable assurance for verification of monitoring period reported elements. It also allowed the VVB to; understand application of the methodology on-site, confirm the implementation of project activities, and to identify possible sources of error in order to focus desktop verification efforts.

A ground inspection was made of the project area and leakage belt along the Purus River, including a series of drone flyovers to visually review inaccessible areas. The site visit ground inspection was performed to assess monitoring efforts, including but not limited to; unplanned deforestation activities, unplanned degradation, and community member feedback. To further confirm the reported areas of *ex post* deforestation resulting in carbon stock losses, an extensive review of drone imagery and independently obtained Landsat imagery dated 27 May 2016 and 18 October 2016 (<http://landsatlook.usgs.gov/> accessed 11 July 2017) data was also undertaken at the desktop. The Project's UCEGEO¹ deforestation dataset was ocularly validated by comparing against monitoring period Landsat imagery where the deforested cover class was readily distinguished in both the project area and leakage belt.

During the project site visit, the following aspects of the project were considered:

1. Boundaries - reviewed boundaries using a handheld Global Positioning System (GPS) and checked for presence of boundary demarcation.
2. Stratification - checked vegetative cover classifications by taking waypoints and notes through direct observation with handheld GPS and maps.
3. Forest protection - viewed areas of high likelihood of incursions
4. Reviewed and observed high risk areas and items:
 - Areas of monitoring period deforestation in project area boundary and leakage belt with confirmation of data collection methods in conformance with the stated Standard Operating Procedures (SOPs) for monitoring. See details on drone use below.
 - The degradation assessment was performed during the site visit as part of CCB interviews and included targeted questions to community members on fuelwood, charcoal and illegal timber extraction:

¹ Central Unit of GIS and Remote Sensing within the Climate Change Institute (ICM) in Acre, Brazil

5. Leakage
 - Considered leakage monitoring as described in the validated PD and Monitoring Report. Visited the leakage belt and inspected current land-use to ensure that affected lands owned by the Project Proponents have not materially changed as a result of project leakage.
6. Visited and interviewed communities along Purus River to assess the potential for current and future impacts to the project area.
7. Implementation of monitoring activities
8. Reported elements of the Risk Assessment

On July 16 and 17, 2017, the VVB was able to remotely observe recent deforestation within an approximately 3km radius of project headquarters using a high-definition camera-equipped drone supplied by the Project Proponents. The Project's UCEGEO deforestation dataset was successfully validated for locations visited by the drone. Use of the drone allowed the VVB to visually check inaccessible deforestation locations and enabled the VVB to achieve reasonable assurance that deforestation was mapped appropriately. The VVB noted from the drone imagery that not all deforestation is a complete removal of aboveground biomass, suggesting that project accounting methods are conservative (Cpost is set to 0). The desktop review of drone acquired imagery also indicated that deforestation patches from the 2016 monitoring efforts slightly grew in size during the first half of 2017. Deforestation within the project area during the monitoring period was primarily contained in lands settled by members of the Guita family and expansions of clearing performed during the 4th (previous) monitoring period.

Using Landsat imagery (<http://landsatlook.usgs.gov/> accessed 11 July 2017) the VVB also observed the continuation of clearing activities within a portion of the leakage belt near ramals linked to state route BR-364. As stated in the 3rd monitoring period Verification Report, this clearing is primarily attributable to government sponsored/sanctioned INCRA settlements. The presence of these INCRA settlements were further confirmed by personal discussions during the verification site visit with Wanderley (one of the Project Proponents) and the geo-referenced ownership map of the project area. The VVB notes that here, the land-use decisions by agents are influenced by INCRA endorsement and not leakage in the conventional sense, despite similar outcomes of agriculture and cattle ranch development.

Although the primary deforestation during the monitoring period in the leakage belt occurred as a result of INCRA settlements, the project has appropriately monitored following VM0007 monitoring methods. Carbon stock losses due to this type of leakage (or any) are not applied to project accounting until it exceeds the baseline projected amount.

At the 3rd verification, an interview with an individual living in the INCRA settlement along ramal (access road) 16 noted that one of the greatest needs is improvements to the access road. Observations made by Project Proponents during the 4th monitoring period suggest that the ramal roads were improved as clarified during site visit interviews. The VVB also observed a similar rate of deforestation in 2016 as 2015 from the Project's UCEGEO deforestation dataset. Project accounting [parameters ADefPA,u,i,t (ha) and ADefLB,u,i,t (ha)] of deforestation was confirmed correct through an independent re-quantification using the UCEGEO deforestation dataset ArcGIS shapefile.

Field observations sufficiently satisfied the professional discretion of the VVB that the findings in the monitoring report were accurate. Please also see the Project Verification and Sampling Plan for further site inspection details.

2.5 Resolution of Findings

During the verification process, there was a risk that potential errors, omissions, and misrepresentations would be found. The actions taken when errors, omissions, and misrepresentations were found included: notifying the client of the issue(s) identified, and expanding our review to the extent that satisfied the Lead Verifier's professional judgment.

The process of resolution of findings involved one formal round of assessment by the VVB. Findings were resolved during the verification by the Project Proponent implementing corrective actions such as amending the Monitoring Report and calculations, as well as and providing written responses. This resulted in project documentation that was in conformance with the requirements of the VCS Standard (v3.7) for GHG projects.

Findings were characterized in the following manner:

Non-Conformity Reports (NCRs) were issued as a response to material discrepancies in a part of the project and generally fell into one category:

- Non-conformity to a VCS guiding document listed in Section 2.1 above
- Consistency among project documentation or calculations was lacking
- Mathematical formulae were incorrect
- Additional information was required by the VVB in order to confirm reasonable assurance for compliance

Clarifications (CL) were issued when language within a project document needed extra clarification to avoid ambiguity.

Opportunities for Improvement (OFI) were issued to the Project Proponents when an opportunity for improvement was identified.

During the course of the verification, nine (9) essential findings were identified. Detailed summaries of each finding, including the issue raised, responses, and final conclusions, are provided in Appendix B. All NCRs/CLs were satisfactorily addressed.

2.5.1 Forward Action Requests

A single forward action request was identified during the fifth monitoring period verification. This forward action request was raised at previous verifications and again here at the fifth verification. One large family (the Guita, represented by the father – head of family, Antonio) in the project

area continues to feel indifferent about the project and Guita family members living in homesteads at different locations continued deforestation activities in the 5th monitoring period. Through on-site interviews, the Project Proponents clarified they are working with the public prosecutor to stop the on-going illegal deforestation activities. The Project Proponents indicated that coordination continues for a reasonable resolution on the lands to be titled to them, which would resolve the potential for additional deforestation in the project area. The status of this situation including the legal process initiated, any agreements in place as well as monitoring period deforestation should be reviewed again at the next verification.

Please also refer to forward action requests issued under previous verifications.

2.6 Eligibility for Validation Activities

Validation activities were not undertaken as part of the fifth monitoring period verification.

3 VALIDATION FINDINGS

The PD entitled “*The Purus Project: A Tropical Forest Conservation Project in Acre, Brazil*” dated 28 December 2012 was previously validated by another Validation and Verification Body (VVB). The validation process is described in the Validation Report, available on the VCS website. The Project Proponent has attested that none of the project area has been or will be registered under another carbon trading scheme during the VCS project lifetime, other than CCBA.

3.1 Participation under Other GHG Programs

The PD entitled “*The Purus Project: A Tropical Forest Conservation Project in Acre, Brazil*” dated 28 December 2012 was previously validated by another Validation and Verification Body (VVB). The validation process is described in the Validation Report, available on the VCS website. The Project Proponent has attested that none of the project area has been or will be registered under another carbon trading scheme during the VCS project lifetime, other than CCBA.

3.2 Methodology Deviations

The following methodology deviations were applied to the project and assessed during the verification.

Methodology Deviation	Verification Findings
Trees in the <i>Cecropia</i> genus were not measured as part of the forest inventory. This has been proposed as a deviation as it stands in conflict with the CP-AB requirement that “all the trees above some minimum DBH in the sample plots” be measured.	VVB confirmed that <i>Cecropia</i> genus was conservatively omitted from analysis in both the baseline and project scenarios and this is permitted per VCS Standard Section 3.5.1, which states that deviations are permitted where they relate to data and parameters available at validation, data and parameters monitored, or the monitoring plan. <i>Cecropia</i> sp. generally does not grow in a consistent tree

	form to allow conventional volume estimates using allometric methods. Most species within the genus contain hollow portions within the stems making volume measurement difficult. Further, there are relatively few <i>Cecropia</i> sp. across the project area. The omission of <i>Cecropia</i> is conservative and does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.
While sampling lying dead wood using the line intersect method: Two 92-meter transect lines were used rather than two 50-meter transect lines; The sampling lines did not bisect each sample plot, but rather ran from one plot center to the next; and The sampling lines were oriented to the north and east, and no randomization in the bearing of the first line was employed.	VVB confirmed that Project Proponents measured lying deadwood using two 92-meter transects, and all dead wood greater than or equal to 10cm diameter was measured at the point of intersection. This measurement method differs from the requirements on module CP-D where Step 1 of Part 2: Lying Dead Wood states "Two 50-meter lines (164 ft) are established bisecting each sample plot and the diameters of the lying dead wood (≥ 10 cm diameter ≈ 3.9 inches+) intersecting the lines are measured. The first line is oriented along a random bearing, the second line is oriented perpendicular to the first." The PP established two 92-meter transect lines, greater in length, to capture a larger and more representative sample of lying dead wood. These sample lines were permitted not to intersect a given sample plot center, but instead run from one plot to another. This method still ensures a random, but systematic sample of lying dead wood along a transect. The Project Proponent followed the same minimum diameter rule as the requirement, where lying dead wood greater than or equal to 10cm which fell on the transect line was sampled. The first sample line was not at a randomized bearing but rather the two sample lines were oriented at the north and east. The VVB believes that consistent line bearings among sample lines is still in line with good forest sampling practice as no sampling bias is introduced. Field going personnel of varying forest measurement experience are better able to replicate sample line measurements which are consistent in bearing.

	Further, the bearing of sample lines follows the perpendicular rule stated in CP-D. These deviations from the criteria and procedures related to measurement are appropriate given the good forest measurement practices employed, consistency in sampling practices, and conservativeness in larger sample sizes of lying dead wood. Further, the deviations are permissible per VCS Standard Section 3.5.1 given that the issue is a monitoring/measurement deviation and its application does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.
For validation of the allometric equation, commercial heights were estimated from total height measured in the field by applying a factor of 62.9%. This commercial height to total height ratio is Amazon specific and was developed by Higuchi et al. 1998 (n = 315 trees).	This deviation is permissible, as it does not negatively affect the conservativeness of quantification of tree volumes. The Higuchi et al. 1998 is an acceptable reference for commercial height to total higher ratio. The permissibility of this methodology deviation was evaluated at the previous initial validation and verification.
Rather than using a root to shoot ratio to estimate belowground biomass as per the CP-AB module, belowground biomass was estimated using an allometric equation developed by Cairns et al.	The VVB has agreed to allow this deviation as it has been demonstrated by Project Proponents that using the Cairns² approach is a conservative allometric method to estimate belowground biomass. The Cairns et al. 1997 equation predicts root biomass density as a function of the aboveground biomass density, and it was chosen to replace the root to shoot parameter R. The Cairns et al. 1997 equation was confirmed by the validation team to be a widely referenced method during a related literature search. The Project Proponent (PP) demonstrated the conservativeness of the root to shoot parameter (R) substitution in a separate analysis where the default root to

² Cairns, M. A., S. Brown, E. H. Helmer, and G. A. Baumgardner. 1997. Root biomass allocation in the world's upland forests. *Oecologia* 111, 1-11.

	shoot ratios were compared to the Cairns root to shoot ratio. The Cairns et al. method employs an average root to shoot ratio of 0.2286 versus the value of 0.24 (Table 4.4 IPCC GL AFOLU Tropical Forest >125 t.ha-1). This alternative method for determining below ground biomass is acceptable as it is more conservative and accurate. Further, this method for determining below-ground biomass is a parameter available at validation and therefore a justifiable deviation.
The forest inventory has deviated from the criteria for selection (i.e., the equation is based on a datasets comprising at least 30 trees, with an r^2 that is ≥ 0.8) and validation of the allometric equation related to palm biomass. However, the equation used is likely to result in a conservative estimate of palm biomass for the following reasons: Volume is calculated as the volume a paraboloid rather than the volume of a cylinder; Only stem biomass is estimated, thus conservatively excluding other aboveground biomass; and A conservative measure of basal diameter (i.e., dbh) was used.	The VVB has agreed to allow this deviation as it has been demonstrated by Project Proponents that using a paraboloid is a conservative alternative to applying a traditional allometric to represent palm trees. Further, this method for determining above-ground biomass is a parameter available at validation and therefore a justifiable deviation.
A calibration factor of 0.985 was applied to the Brown (1997) equation to ensure use of this equation results in conservative estimates of live aboveground biomass.	This deviation is permissible as it does not negatively affect the conservativeness of quantification of live aboveground biomass. The calibration factor applied to Brown 1997 is an acceptable approach. The permissibility of this methodology deviation was evaluated at the previous initial validation and verification.
In the with-project case, $C(\text{post})$ can conservatively be assumed to be zero, not only for natural disturbance (CP, Dist, q, i , as stated in Section 5.2.3 of the M-MON module) but also for deforestation (CP, post, u, i). This deviation is conservative because subtracting zero from the baseline stocks, leads to the conclusion that $\Delta C_{\text{pools}, \text{Def}, u, i, t}$ is equal to	This methodology deviation is permissible as it does not negatively affect the conservativeness of project emissions. Setting parameter C_{post} to zero ensures that the most conservative estimate of emissions is achieved. This deviation was reviewed at the previous verification and found to be permissible.

C(BSL,i), which leads to the maximum emission in the with-project case, which is conservative.	
AVFOR will be stratified using information and data derived from official (government) publications, peer-reviewed published sources, or other verifiable sources. Stratification is not limited to the delineation of different strata where contiguous areas of at least 100 ha differ in stocks by $\geq 20\%$. ³	The VVB found that AVFOR was stratified by Amazon biomes, source: FAO publication Global Forest Resources Assessment 2010, Brazil Country Report. The requirement in LK-ASU states (Step 4, Definition of the Leakage Belt Boundary), "AVFOR shall be separated into different strata where contiguous areas of at least 100 ha differ in stocks by $\geq 20\%$." The project was stratified into contiguous natural forest biomes according to the FAO data that are larger than 100 ha and differ in stocks by $\geq 20\%$. Thus it meets the above quoted mandatory requirement. No divergences from the FAO document were identified during validation. Since the AVFOR parameter is directly related to the TOTFOR parameter, which contains a permissible methodology deviation, the validation team agreed with the PP it be mentioned along with the TOTFOR as a methodology deviation. However, the VVB concludes that the actual measurement method for AVFOR does not constitute a methodology deviation because this measurement was performed correctly.

The verification process confirmed that the above methodology deviations are reasonable and in compliance with the VCS Standard, Section 3.5 and have been appropriately justified. The listed deviations represent a deviation from the criteria and procedures relating to monitoring and/or measurement of GHG emission reductions or removals set out in the selected methodologies. Moreover, the deviations do not negatively impact the conservativeness of the quantification of GHG emissions reductions or removals (where degradation is deemed significant following the steps in T-SIG, it will be accounted for).

3.3 Project Description Deviations

A Project Description Deviation related to using temporary sample plots covering 1% of the potential degradation area (ADegW,i) was listed at this verification (see also Section 3.2 above).

³ The Purus Project: A Tropical Forest Conservation Project in Acre, Brazil – Project Description, v02, dated 28 December 2012.

ESI confirms that the deviation from assessing the significance of degradation using temporary sample plots to the use of quantitative survey data and conservative assumptions is justified. This represents an acceptable approach for assessing if emissions due to degradation should be included in the quantification of net GHG emission reductions and if plot level monitoring of degradation is warranted.

The VVB interviewed individuals and traversed the Project Area during verification site visits over the course of three verification periods (2013-2015 – conducted in summers 2014, 2015 and 2016) to assess degradation activities. Community members were surveyed on the main required elements of the degradation PRA in M-MON and consistently responses indicated low (de-minimis) levels of timber and fuelwood extraction. The results of the VVB's series of informal degradation surveys were generally in line with the Project Proponent, suggesting that survey data for the Project is sufficient to measure degradation.

The project remains in compliance with the VCS Standard, Section 3.6.1 where Project Description Deviations are permissible at verification if the deviation does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, and the project remains in compliance with the applied methodology.

The project remains in compliance with VM0007 V1.3 (where degradation is determined to be significant per the T-SIG tool, it will be accounted for) and the PD deviation is described and appropriately justified in Section 2.2.2 of the Monitoring Report.

CarbonCo's assessment of degradation (*2016_PurusDegradation 2017.06.05.xlsx*) was reviewed and found to contain the appropriate data and conservative calculations. Emissions due to degradation were justified as insignificant following the proper steps of the T-SIG tool and plot level monitoring of degradation is not warranted at this time. This item was assessed in full at this verification in addition to the full assessment performed at the previous verification and will be re-assessed at future verifications.

3.4 Grouped Project

Not applicable, as this is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The Project Activities and Monitoring Plan, as described in the validated PD, have been initiated. There are no remaining issues from the validation. At this fifth monitoring period verification, many activities are still being implemented, but the VVB observed considerable progress during the verification site visit activities.

The VVB requested to visit examples of all activities during the various site visit activities and subsequently confirmed the initial implementation of all items, as discussed in Section 2.1 of the Purus Project's fifth verification MR.

A Participatory Rural Appraisal (PRA) to evaluate degradation from extraction of trees for timber, fuelwood and charcoal was performed in 2015 by project Proponents for the previous verification in line with M-MON requirements every two years. Degradation was found *de minimis* through use of the T-SIG tool, and the illegal wood extraction component was also allowably set to 0 since no selective logging occurs in the with-project or baseline cases. The degradation PRA survey contained a sample size 4, which is small but allowable per the methodology. One or 2 of the community members interviewed by Project Proponents were also interviewed by the VVB during the fourth verification site visit in July 2016 and the validity of those responses confirmed. The responses reflect a low impact of degradation through fuelwood, charcoal and timber, which was also reflected in surveys performed by the VVB.

Stratification was reviewed and it was confirmed that stratification remained the same from the validated strata boundaries as seen in the Monitoring Report.

No new methodology deviations relating to monitoring and/or measurement of GHG emission reductions or removals were applied by the project developer/identified by ESI during this fifth monitoring period verification. The GHG emission reductions generated by the project have not become included in an emissions trading program other than the VCS program and it has not received or sought any other form of environmental credit as confirmed through a risk-based review by the verification team.

Sustainable development contributions are applicable to this project and Brazil has participated in the development of 17 Sustainable Development Goals. The project was confirmed to be actively supporting many UN SDGs as reported in Section 1.7 of the monitoring report through the site visit interviews and document review as part of the verification.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

The VVB conducted an intensive review of all input data, parameters, formulas, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS standard, the validated project PD and the methodologies. Further, the VVB reproduced select calculations and checked all formulae application for parameters that are derivative to net emission reduction values. Conversion factors, formulas, and calculations were provided by the Project Proponent in Excel worksheet format to ensure all formulae were accessible for review. The VVB recalculated subsets of the analyses to confirm correctness. The Project Proponent also provided a step-by-step overview as needed of calculations to ensure the VVB understood the approach and could confirm its consistency with the methodologies and PD.

An overview of the data and parameters monitored, along with VVB findings, are included in the table below:

Data Unit / Parameter	Accuracy of GHG emission reductions and removals	Whether methods and formulae set out in the PD have been followed	Appropriateness of default values
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$\Delta C_{P,Def,i,t}$	Verification team confirmed the net carbon stock change as a result of deforestation in the project case were correct by recalculating and checking input values. The value was traced to the quantification of carbon stock changes for project emission/removals and, ultimately net GHG emission reductions during the monitoring period. This value was found to be calculated correctly for the 2016 monitoring worksheet according to the correct formula for the monitoring period.	This parameter was reviewed and re-calculated using methods set forth in the methodology and the PD and confirmed followed.	Not applicable.
$\Delta C_{P,DefLB,i,t}$	The net carbon stock change as a result of deforestation in the project case in the leakage belt was confirmed by the verification team through an independent check on source data from the UCEGEO deforestation dataset. This value was found to have been calculated correctly in 2016 monitoring worksheet according to the correct formula for the monitoring period.	This parameter was reviewed and re-calculated using methods set forth in the methodology and the PD and confirmed followed.	Not applicable.
$\Delta C_{P,DistPA,i,t}$	Net carbon stock change as a result of natural disturbance in the project case in the project area was correctly determined to be 0. This was appropriate as there were no areas of natural disturbance reported by on-the ground forest monitors/local land managers and confirmed under parameter $A_{DistPA,q,i,t}$.	This parameter was reviewed and re-calculated using methods set forth in the methodology and the PD and confirmed followed.	Not applicable.
$A_{DefPA,u,i,t}$	This data/parameter was appropriately chosen because it pertains to the area of recorded deforestation in the project area stratum i converted to land use u at time t . This value was found to	This parameter was reviewed and re-calculated using methods set forth in the methodology and the PD and	Not applicable.

	be computed correctly from remote sensing/GIS data as confirmed by an independent workup by the VVB. Hectares deforested during the monitoring period in the project area were also confirmed to have been transcribed and collated properly in the 2016 monitoring worksheet according to the correct formula. The VVB also confirmed the Project's accuracy assessment for landcover classification by randomly selecting points and reviewing them in monitoring period dated Google Earth high-resolution imagery. Further, the VVB confirmed all misclassifications using the same Google Earth imagery.	confirmed followed.	
$A_{DefLB,u,i,t}$	This data/parameter was appropriately chosen because it pertains to the area of recorded deforestation in the leakage belt stratum i converted to land use u at time t. This value was found to be computed correctly from remote sensing/GIS data as confirmed by an independent workup by the VVB. Hectares deforested during the monitoring period in the leakage belt were also confirmed to have been transcribed and collated properly in the 2016 monitoring worksheet according to the correct formula. The VVB also confirmed the Project's accuracy assessment for landcover classification by randomly selecting points and reviewing them in monitoring period dated Google Earth high-resolution imagery. Further, the VVB	This parameter was reviewed and re-calculated using methods set forth in the methodology and the PD and confirmed followed.	Not applicable.

	confirmed all misclassifications using the same Google Earth imagery.		
$A_{DistPA,q,i,t}$	This data/parameter was appropriately chosen because it pertains to area impacted by natural disturbance in post-natural disturbance stratum q in stratum i , at time t . The value applied was 0. This was appropriate as there were no areas of natural disturbance reported by on-the ground forest monitors/local land managers. The VVB was unable to distinguish natural disturbance from anthropogenic deforestation with remote sensing analyses of monitoring period dated Landsat data (http://landsatlook.usgs.gov/ accessed 24 August 2016). The VVB further confirmed the value of 0 was appropriate through ground review during the verification site visit.	This parameter was reviewed and re-calculated using methods set forth in the methodology and the PD and confirmed followed.	Default factors were confirmed correctly obtained from the IPCC for Dissolved Organic Carbon (DOC).
$A_{DegW,i,t}$	This data/parameter was appropriately chosen because it pertains to the area potentially impacted by degradation processes in stratum i . The value applied was 0. This was appropriate as CarbonCo's assessment of degradation ("2015_PurusDegradation 2016.06.13.xlsx") indicated that emissions due to degradation (for this monitoring period) are insignificant as per T-SIG.	This parameter was reviewed and re-calculated using methods set forth in the methodology and the PD and confirmed followed.	Not applicable.

The VVB also reviewed data collection and storage procedures to ensure opportunities for error in transposition of data between data were minimized.

Uncertainty calculations for all project activities were reviewed at length as prescribed by the methodology and confirmed to result in a correct estimate of uncertainty. No uncertainty deduction was required for this monitoring period.

The methods and formulae set out in the PD for calculating baseline emissions, project emissions, and leakage were confirmed to have been followed. The total end of the 2016 monitoring period carbon stocks in all project activities for all relevant pools resulting from carbon stock changes were correctly quantified. Analysis of project inventory data used appropriate formulas, conversions, and parameters, supported by scientific literature. Where ranges of parameters exist, or other types of formulaic uncertainty, appropriately conservative values were used in data analysis.

In conclusion, the quantification methods for GHG emission reductions and removals have been performed correctly and in accordance with the validated PD and VM0007 v1.3.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

During this verification assessment, the evidence provided by the project proponent was sufficient in both quantity and quality to support the determination of GHG emission reductions reported by the project. Throughout the verification, the project proponent demonstrated a commitment toward conservativeness and took all measures appropriate to ensure the reliability of evidence provided.

The threshold for materiality with respect to the aggregate of errors, omissions and misrepresentations relative to the total reported GHG emission reductions and/or removals was met for this project as defined in the Verification Sampling Plan. Materiality is a concept that errors, omissions and misrepresentations could affect the GHG reduction assertion and influence the intended users (ISO 14064-3:2006). As defined by VCS Version 3, the materiality will be 5% for this project.

The evidence provided to determine emission reductions reported in the Monitoring Report included values, notations, units and sources. This evidence has been cross-checked with supplied emission reduction calculation spreadsheets. The procedure for data recording, transfer and final transposition was also verified and found to be in compliance with the monitoring plan outlined in the PD. The verification team confirmed through cross checks that adequate monitoring mechanisms are in place where the required parameters need to be monitored.

The verification team was provided access to the project's central database where monitoring data is compiled for quantification steps and reporting. The database clearly organizes project methods and data for efficiency. In addition, the verification team was provided access to the project's cloud-based file storage facility. These tools ensure accurate information flow for monitoring efforts. Section 3.3.1 of the Monitoring Report provides additional detail on project data management methods and structure.

Interviews conducted (oral evidence) are outlined in Section 2.3 above, and the final documents received from the Project Proponent supporting the determination of GHG removals can be viewed in Appendix A.

4.4 Non-Permanence Risk Analysis

The AFOLU Non-Permanence Risk Tool (v3.3, 19 October 2016) was used by the Project Proponent to assess overall project risk. The VVB reviewed the Non-Permanence Risk Report provided with the verification supporting documentation and confirmed that the Project adheres to the requirements set out in the VCS AFOLU Non-Permanence Risk Tool (v3.3, 19 October 2016). Each risk factor was thoroughly assessed for conformance. Any identified NCR and/or CL findings related to the AFOLU Non-Permanence Risk Tool/Report are presented in Appendix B. The final score was calculated to be 9%. A brief review of each factor is found in the table below:

Factor	Rationale & Quality	Conclusion
Internal Risks		
Project Management	Ongoing enforcement is required to prevent encroachment by outside actors. The Purus Project employs forest patrols to prevent encroachment by outside actors into the project area = 2. Management team does not include individuals with significant experience in all skills necessary to successfully undertake all project activities = 2. Local management partners are based in Rio Branco less than a day's travel from the project activity. There is a project manager living on the property and a project headquarters is being established on the property. Site visit confirmed this situation. Issue is scored appropriately = 0. Project Proponents have developed other forest carbon projects and have been working in the forest carbon arena for over 5 years. Brian McFarland of CarbonCo has developed the "Tensas River National Wildlife Refuge Afforestation Project" under the VCS and the CCBS including managing the project design, implementation, and financing. The Project Proponents work alongside and have access to experts in carbon accounting and reporting (i.e., TerraCarbon) who have significant experience in all aspects of AFOLU project design and implementation, carbon accounting and reporting under the VCS Program. TerraCarbon has successfully validated and verified numerous projects under the VCS, including validation and verification of the VCS ARR project "Reforestation Across the Lower Mississippi Valley." Verifiers agree that the management team has significant experience to fulfil project activities and justify	A risk rating of 0 is appropriate given the rationale provided.

	the mitigation score of -2. Resignation by the on-site project manager also appeared to result in the increased presence of the project proponents to perform monitoring activities. It was confirmed during site visit interviews that the former project manager was retained on a limited basis to help with monitoring during the reporting period.	
Financial Viability	The verifier has reviewed the support documentation provided by the Project Proponent. Confirmation of funds from the CFO, a bank statement of the company and a emission reduction purchase agreement between CarbonCo and a buyer, all provide evidence to provide reasonable assurance that the break-even point is less than 4 years = 0. Project has secured 100% of funding needed to cover the total cash out before the project reaches breakeven. Details are provided in a cash flow analysis which can be found in the project database = 0. The verifier has reviewed the support documentation provided by the PP. The letter from the CFO provides confirmation that the funds are non-restricted and that there is accessibility to funds. Based on that documentation, and the reviewed bank statement, the verifier has obtained reasonable assurance that the project has the ability to access funding as needed = -2.	A risk rating of 0 is appropriate given the rationale provided.
Opportunity Cost	As the majority of baseline activities over the length of the project crediting period are subsistence-driven and that the Project Proponent has selected the highest risk score, an NPV analysis is not required. This risk category will be revised downward, once net positive community impacts can be clearly demonstrated, such as through certification against the Climate, Community & Biodiversity Standards or results of a participatory assessment of the project activities on the local communities which demonstrates net positive community benefits. Verifiers agree that the majority of the baseline activities are subsistence driven as evidenced by verifier's observations and discussions with	A risk rating of 6 is appropriate given community benefits not demonstrated yet.

	community members in the project area. = 8. There is a legal contractual agreement to maintain the project area as forest for at least a 60 year period (i.e. greater than the length of the crediting period) from the project start date = -2.	
Project Longevity	There is a legal contractual agreement to maintain the project activities and maintain the project area as forest for at least a 60 year period from the project start date $(30-(60/2)) = 0$.	A risk rating of 0 is appropriate given the rationale provided.
Total Internal Risks		6
External Risks		
Land Tenure and Resource Access Impacts	The land tenure score for disputes was appropriately revised to a risk rating of 5 to account for the on-going dispute with the Guita family. The characteristics of the dispute are outlined sufficiently in the Risk Report. The proponent is implementing a mitigation credit for resolving the land tenure dispute. Per the VCS Risk tool requirement, "documented evidence is provided that projects have implemented activities to resolve the disputes," additional documentation was provided to substantiate dispute resolution activities performed by the project. Signed agreements were supplied which illustrate the agreement between three local families and the landowners for exclusive use of the land they reside on. This represents a documentary effort by the landowners and the project to resolve the land dispute with the Guita's. The VVB further recognizes the project has made efforts to resolve the land tenure dispute, as evidenced during interviews on-site with the project manager Kidney, representatives of the Guita family, and other project staff. There is a strong motivation by the Project Proponents to resolve this conflict and granting title is the best resolution. The provided documents were translated to the best of the verifier's ability and reviewed.	A risk rating of 1 is appropriate given the rationale provided and mitigation deduction applied.

	These provided reasonable assurance that Moura and Rosa have full ownership and right of use for the properties at the time of verification. Itatinga - Contrato de Compra e Venda do Seringal.pdf is a purchase and sales document that shows transfer of the Seringal Itantanga property to Moura & ROSA HOLDINGS LTD in 2009. M&R - Certid_o Itatinga - MemorialDescritivo - Manoel urbano - 13.03.12.pdf is a certification of rights to the property. It indicates the property was acquired by the previous landowners in February 2009. The rights were relinquished to Moura & Rosa in December 2009. M&R - Certid_oNegativaAç_es - Matricula-nº 1920 - PortoCentral - 14.03.12.pdf and M&R - Cetid_o Matricúla-nº1920-PortoCentral - 14.03.12.pdf indicate that Normando Sales Rodrigues has full ownership rights to the Seringal Porto Central Property. The certification documents are dated March 2012. = 0. It is understood that no communities live within the project area, rather they live within the boundaries of the land ownership, but they are excluded from project area. Thus, the land is owned by the Project Proponents. The Project Proponents have been adequately conducting activities to resolve the on-going dispute with the Guita family as noted above = -2. There is a legal contractual agreement to maintain the project area as forest for at least a 60 year period (i.e., greater than the length of the crediting period) from the project start date = -2.	
Community Engagement	Given that 100% of the local communities have been consulted and are involved in the project neither A nor B is applicable, and thus the default risk value of zero is applicable.	A risk rating of 0 is appropriate given the rationale provided.
Political Risk	Independent calculation of the governance score for Brazil is .057, which includes 2012 and is eligible for a score of 2. Acre, Brazil is participating in the Governors' Climate and Forest Taskforce. Further, Brazil has an established Designated National Authority under the CDM and has at least one registered CDM Afforestation/Reforestation	A risk rating of 0 is appropriate given the rating for governance and participation in beneficial projects.

	project. "The jurisdiction in which the project is located is participating in the Governors' Climate and Forest Taskforce (GCF)." Independent web search reveals that the statement made by the Project Proponent is true = -2	
Total External Risks		1
Natural Risks		
Fire, pests and disease, extreme weather, geologic risk,	Fire - justification for the 10-25 year return interval is sound. Given that the area of Acre has historically exhibited low fire incidence as described in (Aragao and Shimbukuro, 2010), a low amount of forest edge, and a fire suppression program in the region that inherently would inhibit the positive feedback loop associated with fire incidence, the verifier believes that the associated risk for fire is reasonable = 2. Pest and Disease - The forests of the project area have a high diversity of tree species, with over 150 tree species >10 cm dbh, and like other diverse tropical forests, are not known to be subject to catastrophic disturbance by insect pests or forest diseases. Forest pests and diseases as a source of risk are more relevant in temperate forests or plantations, with low species diversity and consequently susceptible to extensive damage due to pest and disease outbreaks, which tend to be concentrated on single host species. Further, there is no history of catastrophic forest disturbance due to forest pests or diseases in the region. Verifiers independently searched the internet for any relevant forest pest or disease issues and could not locate any information that would lead verifiers to think that this item was	A risk rating of 2 is appropriate given the rationale provided for the greatest natural risk of fire.

	scored incorrectly. Several references indicate that there are numerous endemic diseases and pests in the Amazon Forest, however none appear to be of epidemic proportions, nor is there much history of such occurrences. The diversity of the forested landscape appears to help to mitigate any widespread issues. Observations on the site visit and in flyovers in the region during previous travels have not ever revealed any widespread disease or pest outbreaks. Clearly climate change could play a greater role in this area in the future, however at this time, this element appears to be scored correctly = 0. Extreme Weather - While extreme weather events in the region include drought, flooding, and disturbance by wind, this analysis is limited to disturbance by wind as this is the only disturbance which has a direct effect on carbon stocks. As flooding within the project region is common, high water levels in the forest do not lead to a reduction in the forest carbon stocks. Drought does not have a direct effect on existing forest carbon stocks, but instead can increase the severity of forest fires and hence is covered above in the section on fire risk. In relation to disturbance by wind, the recurrence intervals for large blow down disturbances in the western Amazon have been estimated at 27,000 years. Verifiers independently searched the internet for any relevant weather related issues and could not locate any information that would lead verifiers to think that this item was scored incorrectly. Observations on the site visit and in flyovers in the region during previous travels have not ever revealed any widespread disease or pest outbreaks. Clearly climate change could play a greater role in this area in the future, however at this time; this element appears to be scored correctly = 0. Geologic Risk - Neither volcanoes nor active tectonic fault lines are present within	
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	the project area. Landslides are not likely to occur within the project area because the project area is relatively level (less than 5% slope) terrain. Verifiers agree with this evaluation. This item is scored appropriately = 0	
Total Natural Risks		2
Overall Risk Rating = 10⁴		

5 SAFEGUARDS

5.1 No Net Harm

No negative environmental impacts are expected because activities related to the project goals seek to preserve the tropical forests intact and prevent deforestation and degradation. As confirmed through the site visit and previous CCB verifications, no negative socio-economic impacts are expected as the project has implemented a community outreach and development program. However, project failure can be expected to have negative impacts on project benefits which are captured by the Non-Permanence Risk assessment.

5.2 Local Stakeholder Consultation

Stakeholder involvement was confirmed through the site visit community interviews and observations of a consistent level of prior and on-going outreach to stakeholders. It is clear the project has ongoing communication with local stakeholders based on the results of on-site interviews where respondents indicated project details and program collaboration. Community institution building was also confirmed during the site visit where it was noted by the verification team that residents have specific needs and the project continues to try to address them individually. Section 2.8 of the monitoring report provides details on formal stakeholder consultations. As community input was solicited from the project outset, and is on-going, it is expected that project activities will be implemented in close coordination with communities.

6 VERIFICATION CONCLUSION

After review of all project information, procedures, calculations, supporting documentation and site visits, ESI confirms that the monitoring conducted by the Project Proponent, along with the supporting Monitoring Report, are accurate and consistent with all aforementioned VCS criteria, the validated PD, and the selected methodology (VM0007, v1.3). ESI confirms that the *2016 Monitoring & Implementation Report for the Purus Project* dated 18 October 2017 (v1.0) has been implemented in accordance with the validated PD.

⁴ Minimum allowable risk deduction.

ESI confirms all verification activities, including objectives, scope and criteria, level of assurance, monitoring and project documentation adherence to VCS Version 3 (and all associated updates), as documented in this report are complete. ESI concludes without any qualifications or limiting conditions that *The Purus Project: A Tropical Forest Conservation Project in Acre, Brazil*, meets the requirements of VCS Version 3 and all associated updates for the fifth monitoring period.

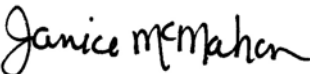
The GHG assertion provided by CarbonCo and verified by ESI has resulted in the GHG emissions reduction or removal of 112,846 tCO₂ equivalents by the project during the verification period/reporting period (01 January 2016 to 31 December 2016). This value is gross of the 10% (13,964 tCO₂ equivalents) buffer withholding based on the non-permanence risk assessment tool. This results in 98,882 tCO₂ equivalents of credits eligible for issuance as VCUs.

Verification period: 01 January 2016 to 31 December 2016

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

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2016	176,865	37,234	26,784	112,846

Submittal Information

Report Submitted to:	Verified Carbon Standard Association 1730 Rhode Island Ave. NW, Suite 803, Washington, D.C. 20036 CarbonCo, LLC 853 Main Street East Aurora, New York 14052 USA 001-240-247-0630
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ESI Sr. Vice President/ Technical Director Name and Signature	 Janice McMahon Sr. Vice President/Technical Director Forestry, Carbon and GHG Services Division
Date:	27 October 2017

EJ/SM/JM/022_04-CarbonCo-Purus VCS 5th Verification Report_Final20171027.doc
K pf 10/27/17f

APPENDIX A – DOCUMENTS RECEIVED/REVIEWED

Documents received 07 June 2017

- Purus Project's 2016 VCS CCB Monitoring & Implementation Report (6-7-17).pdf

Documents received 08 June 2017

- Purus Project Summary Document, Final (Portuguese, 6-8-17).pdf
- Purus Project Summary Document Final, (English, 6-8-17).pdf

Documents received 20 June 2017

- Forest Inventory
 - o Purus REDD project forest inventory 2012.10.30 clean.doc
 - o Purus Equation Validation 2012.10.30.xlsx
 - o Forest Inventory\Purus Forest Inventory data 2012.10.30.xls
- GIS
 - o Monitoring
 - 2014 Monitoring
 - 28 related files
 - 2016 Purus Monitoring
 - 22 related files
 - o Purus Geographical Boundaries
 - 31 related files
 - o Strata
 - 14 related files
- Miscellaneous
 - o UCEGEO Methodology 2011.DOC
 - o Aragão and Shimabukuro 2010.pdf
 - o Brown 1997 Estimating Biomass and Biomass Change of Tropical Forests
FAO.pdf
 - o FAO 2010 FRA Brasil.pdf
 - o Lehmann et al., 2002, WCSS Bangkok, paper no.0449.pdf
 - o Salimon et al 2011.pdf
 - o Swami et al., 2009, Springer.pdf
 - o METODOLOGIA DESMATAMENTO DO ACRE 2011.doc
- Monitoring
 - o 2014 Purus Monitoring
 - Purus Project Summary Document (Final Draft Version, English) 6-18-15.pdf
 - 2014_PurusMonitoring 2015.06.11.xls
 - 2014_PurusMonitoring 2015.06.15.docx
 - 2014_PurusMonitoring 2015.06.15.pdf

- Purus Project Implementation Report, Final Draft Version (6-15-15).pdf
- Final Documents
 - Purus Project 2014 Implementation Report, Final Version (Portuguese, 10-21-15).pdf
 - 2014_PurusMonitoring 2015 11 05 (tracked changes).docx
 - 2014_PurusMonitoring 2015 11 05.docx
 - 2014_PurusMonitoring 2015 11 05.pdf
 - 2014_PurusRiskReport 2015 11 05.doc
 - 2014_PurusRiskReport 2015 11 05.pdf
 - Artenizio - ContratoDoação.pdf
 - Benedito - Contrato Doação Porto Central.pdf
 - Contrato Comodato - Benedito.pdf
 - Jose Maria - Contrato Doação Porto Central 01.pdf
 - Purus Project 2014 Implementation Report, Final Version (10-21-15).pdf
- 2015 Purus Monitoring
 - Purus Project Summary Document (Final Draft, Portuguese) 6-22-16.pdf
 - 2015_PurusMonitoring 2016.06.13.pdf
 - Acordo Acir-Sidenei-M&R - Seringal Itatinga.pdf
 - Purus Project 2015 Implementation Report, Final Draft (6-22-16).pdf
 - Purus Project 2015 Implementation Report, Portuguese Final Draft (6-22-16).pdf
 - Purus Project Summary Document (Final Draft, English) 6-22-16.pdf
- 2016 Purus Monitoring
 - Purus Project's 2016 VCS CCB Monitoring & Implementation Report (6-7-17).pdf
 - 2016 Purus Non-Permanence Risk 2017.06.05.pdf
 - 2016_PurusDegradation 2017.06.05.xlsx
 - 2016_PurusMonitoring 2017.06.05.xls
 - AA2016
 - AA2016.xlsx
 - Acre2016_AApoints.kml
 - Degradation
 - Purus Project Aggregated Degradation Surveys (June 2015).xlsx
 - Follow Up to Degradation Survey August 2015.pdf
- Purus Project Validation Files
 - Agricultural Surveys
 - Receipt for Purchase of Top 10 CPT Ag Courses.pdf

- Ag Extension Raw Data.pdf
- Agriculture Extension Aggregated Results.xlsx
- Details on Agricultural Courses of Purus Project.docx
- Details on Agricultural Courses of Purus Project.pdf
- M&R - Cursos Oferecidos às Famílias.docm
- Basic Necessity Surveys
 - March 2012
 - Purus Project BNS Raw Data.pdf
 - BNS Comparison of Inside vs Outside Project Communities.xlsx
 - BNS for Purus.xlsx
 - PRA and BNS English Template.docx
 - PRA and BNS Portuguese Template.doc
- Community Agreements
 - Declaration
 - MR - Declarao- Francisco Marques.pdf
 - M&R - Declaraç_ o A Proj.Social.doc
 - MR - Declarao - Joao Rodrigues.pdf
 - MR - Declarao - Jose Marilson.pdf
 - MR - Declarao - Maria Geralda S.Pereira.pdf
 - MR - Declarao - Noa Claudio.pdf
 - MR - Declarao - Raimundo Nonato.pdf
 - Moura & Rosa Census
 - M&R - Moradores - Levantamento Social das Famílias.pdf
 - M&R - Entrevista Agnelo - ColocaçãoBica.pdf
 - M&R - Entrevista Antônio Marques - ColôniaNovaItatinga.pdf
 - M&R - Entrevista Benedito - ColocaçãoMoradaNova (2).pdf
 - M&R - Entrevista Chico do Brabo - ColocaçãoSamaúmaVelha.pdf
 - M&R - Entrevista Francimar - ColôniaSantana (SedePortoCentral).pdf
 - M&R - Entrevista João R Moura - ColôniaAlegria(2).pdf
 - M&R - Entrevista José Mariano - ColôniaFloresta.pdf
 - M&R - Entrevista José Marilson - ColôniaSantaClara.pdf
 - M&R - Entrevista Manoel Leite - ColôniaBuenosAires.pdf
 - M&R - Entrevista Manoel Nazareno - ColôniaPernanbuco.pdf
 - M&R - Entrevista Miguel - ColocaçãoNovaItatinga II.pdf
 - M&R - Entrevista Noé Cláudio - ColôniaSantaRita.pdf
 - M&R - Entrevista Raimundo Carneiro - Colônia pdf

- o M&R - Entrevista Raimundo P Silva - Colônia Féem Deus (2).pdf
 - o M&R - Entrevista Raimundo Nonato-Hélio Oliveira - Colônia Vai Quem Quer.pdf
 - o M&R - Entrevista Raimundo Silva Araújo - Colônia Samaúma Nova.pdf
 - MOUs
 - o Sebastiao Marques MOU.pdf
 - o Adriano Moura da Silva MOU.pdf
 - o Almira Nunes MOU.pdf
 - o Antonio Marques MOU.pdf
 - o Benedita Nunes MOU.pdf
 - o Celina Pereira de Melo MOU.pdf
 - o Francisco Marques MOU.pdf
 - o Josefa Rodrigues MOU.pdf
 - o M&R - Declaracao de Entendimento (English).docx
 - o M&R - Declaracao de Entendimento.doc
 - o Manoel Oliveira da Silva MOU.pdf
- o Final VCS PD and CCBS PDD
 - VCS_CarbonCo_Purus_ValidationRepresentation_010213.pdf
 - CCB_CarbonCo_Purus_ValidationReport_011613.pdf
 - CCB_CarbonCo_Purus_ValidationRepresentation_011613.pdf
 - Final Purus Project CCBS PDD (English).pdf
 - Purus Project Final CCBS PDD (Portuguese).pdf
 - Purus Project Final VCS PD (English).pdf
 - Purus Project Final VCS PD (Portuguese).pdf
 - PurusProject Tables 2012.12.14.xls
 - VCS_CarbonCo_Purus_FinalValidationReport_122812.pdf
- o Laws
 - Procedimentos de Segurança em Campo (TECMAN).pdf
 - Employee Handbook 2010 April.pdf
 - M&R - Informativo Sobre Direitos Empregados.doc
- o Letters of Support
 - Letter of Support from Acir Israel Caccia.docx
 - 20120223_Termo_Uso_BaseDados_UCEGEO - Anexo 1.pdf
 - Acre Lawyer on Deforestation.PDF
 - Financial Letter of Support from CFO.pdf
 - M&R - Carta Município Manuel Urbano.pdf
 - M&R - Proj.Purus - Carta Corpo de Bombeiros.pdf
 - M&R - Proj.Purus - Carta SENAR.pdf
 - M&R - Proj.Purus - InformMiguel-Socorro.pdf
 - M&R - Projeto Purus - Certid_oPromotoriaMeioAmbiente.pdf
 - M&R - Projeto Purus - Pré-registro IMC.pdf

- MR - Projeto Purus - Carta Governo do Acre.pdf
- President of OAB-AC.pdf
- Termo de Cessao de Direito de Uso de Dados Geoespaciais.pdf
- OAB AC translation.doc
- o Participatory Rural Assessment
 - March 2012
 - March 2012\Purus Project PRA Raw Data (March 2012).pdf
 - March 2012\GPS INFO from surveys.doc
 - March 2012\Participatory Rural Appraisal Results for Purus Project.xlsx
 - March 2012\PRA and BNS English Template.docx
 - March 2012\PRA and BNS Portuguese Template.doc
 - March 2013
 - Purus Project VCS Degradation Surveys.pdf
 - Purus Project 2013 Degradation Survey.xlsx
 - Purus Project Degradation Survey Template.docx
- o Project Meeting Notes
 - Unabridged Purus Project Meeting Notes.docx
- o Project Proponent Contracts
 - Tri-Party Agreement with Purus (Portuguese), Fully Signed.pdf
 - Addendum to Tri-Party Agreement (English), Fully Signed.pdf
 - FD and CF Bilateral Agreement, May 2010 - Fully-Signed.pdf
 - Freitas Name Change Certification.pdf
 - M&R - Adendo em Portugues - 24.12.2012.pdf
 - Tri-Party Agreement for Purus Project, Fully Signed.pdf
- o Rapid Biodiversity Assessment
 - RESPOSTAS DO QUESTION_RIO SOBRE A _REA DOS SERINGAIS PORTO CENTRAL E ITATINGA.pdf
- o Risk Assessment
 - Pro Forma for Purus Project (6-26-13).xls
 - Cochrane and Laurance 2002 Fire as a large-scale edge effect in Amazon.pdf
 - Cochrane et al. 1999 Positive Feedbacks in the Fire Dynamic of Tropical Forest.pdf
 - Risk Assessment\Espírito_Santo et al. 2010 Storm intensity and forest disturbances in the Amazon.pdf
 - Brazil Political Risk 2006-2010.xls
 - Complete Finances for Purus Project (4-24-12).xls
- o Title Documentation
 - Relatório Técnico do Ser. Porto Central-sirgas.doc
 - A Itatinga - Contrato de Compra e Venda do Seringal.pdf
 - A Porto Central - Carta de Adjudicação - Sócios Moura & Rosa.pdf
 - Memorial do Seringal Porto Central-Sirgas.doc

- Memorial do Seringal Porto Central-Sirgas.pdf
- Monografia dos Marcos do Seringal Porto Central-sirgas.doc
- NRS - Escritura Doação Felipe.pdf
- NRS - Escritura Doação Paulo Silva.pdf
- Planilha Cálculo de Área do Ser. Porto Central-Sirgas.doc
- Planilha_de_dados_cartograficos.xls

Documents received 05 July 2017

- Draft Copy of July 2017 Brazil Trip.docx

Documents received 25 July 2017 - MPAC

- NOTIFICAÇÃO 035-2017- Manoel Nazareno Pereira da Silva - MU.pdf
- NOTIFICAÇÃO 020-2017-Francisca Gomes Nascimento - MU.pdf
- NOTIFICAÇÃO 021-2017-José Marilson Leite da Silva - MU.pdf
- NOTIFICAÇÃO 022-2017-José Artenizio da Silva - MU.pdf
- NOTIFICAÇÃO 023-2017-Raimundo Pereira da Silva - MU.pdf
- NOTIFICAÇÃO 024-2017-Manoel Freitas da Silva - MU.pdf
- NOTIFICAÇÃO 025-2017-Silvano Aureo Guedes Xavier - MU.pdf
- NOTIFICAÇÃO 026-2017-Antônio Sales Nunes Cardeal - MU.pdf
- NOTIFICAÇÃO 027-2017- Antonio Leite Cardeal - MU.pdf
- NOTIFICAÇÃO 028-2017- Antonio Messias Nunes Cardeal MU.pdf
- NOTIFICAÇÃO 029-2017- Benedito Nunes da Silva - MU.pdf
- NOTIFICAÇÃO 030-2017- Sebastião Marques da Silva - MU.pdf
- NOTIFICAÇÃO 031-2017- Antônio Marques da Silva - MU.pdf
- NOTIFICAÇÃO 032-2017- Helio Oliveira da Silva - MU.pdf
- NOTIFICAÇÃO 033-2017- Raimundo Nonato de Oliveira - MU.pdf
- NOTIFICAÇÃO 034-2017- Manoel Oliveira da Silva - MU.pdf

Documents received 30 August 2017

- MeR - Audio Anuncio Auditoria 2017.mp3
- 2017 Public Comment Period Annoucement (1 of 2).pdf
- 2017 Public Comment Period Annoucement (2 of 2).pdf
- Carbonfund.org Foundation 2016 990 - Public Inspection Copy.pdf
- Purus Project's 2016 VCS CCB Monitoring & Implementation Report (8-30-17).pdf
- Updated Pro Forma for Purus Project Verification (8-25-17).xls
- 022_04_Purus_CCBFindings_Round1_FINAL_20170816, Brian's Responses.docx

Documents received 18 September 2017

- Purus VCS Responses 2017.09.18.xlsx
- 2016_PurusMonitoring 2017.09.18.xls
- Purus Project's 2016 VCS CCB Monitoring & Implementation Report (9-18-17).doc

- Monitoring Forms
 - o Monitoring 01 (English Translation).pdf
 - o Monitoring 01.pdf
 - o Monitoring 02.pdf
 - o Monitoring 03.pdf
 - o Monitoring 04.pdf
 - o Monitoring 05.pdf
 - o Monitoring 06.pdf
 - o Monitoring 07.pdf
 - o Monitoring 08.pdf
 - o Monitoring 09.pdf
 - o Monitoring 10.pdf
- Title Documentation
 - o Jose Maria - Contrato Doacao Porto Central 01.pdf
 - o Benedito - Contrato Comodato - Porto Central.pdf
 - o Escritura Publica - Benedito Nunes.pdf
 - o Jose Artenizio - ContratoDoacao.pdf

Documents received 20 September 2017

- 2016 Purus Non-Permanence Risk 2017.09.15.docx

Documents received 21 September 2017

- Purus Project's 2016 VCS CCB Monitoring & Implementation Report (9-21-17).pdf
- 2016 Purus Non-Permanence Risk 2017.09.21.pdf
- 2016_PurusMonitoring 2017.09.21.xls

Documents received 18 October 2017

- Purus Project's 2016 VCS CCB Monitoring & Implementation Report (10-18-17).pdf
- 2016 Purus Non-Permanence Risk 2017.10.18.pdf
- 2016_PurusMonitoring 2017.10.18.xls

APPENDIX B – NCRS/CL/OFIS

Item Number	1
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Section)	Main updates (all effective on issue date, unless otherwise stated):
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	5) Updated required source of global warming potentials from the IPCC's Second Assessment Report to the IPCC's Fourth Assessment Report (Sections 3.15.3 and 4.8.3). Projects may optionally transition to the updated global warming potentials immediately via a project description deviation. Projects shall transition to the updated global warming potentials at their project crediting period renewal.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	MR Section 5.2, 2016 monitoring calc file
ESI Findings - Round 1 (01 August 2017)	As noted in the criteria the project has an opportunity to update parameter GWPg through a PD deviation, otherwise this change to be implemented at crediting period renewal.
Round 1 NCR/CL/OFI	OFI: If the project wishes the project has an opportunity to update parameter GWPg through a PD deviation.
Round 1 Response from Project Proponent (18 September 2017)	Ok, duly noted.
Final ESI Findings	No action required here. The item is addressed.

Item Number	2
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Section)	Monitoring Report
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	3.16.6 The monitoring report describes all the data and information related to the monitoring of GHG emission reductions or removals. The project proponent shall use the VCS Monitoring Report Template and adhere to all instructional text within the template.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	MR General

ESI Findings - Round 1 (01 August 2017)	The most up-to-date MR report template was not employed ("CCB & VCS Monitoring Report, CCB v2.0, VCS v3.4"). The VVB was unable to locate a requirement the project use the most recent VCS supplied template and suggests implementing. Section 1.1 "1.1 Summary Description of the Implementation Status of the Project" is specified to be no longer than 1 page according to the VCS MR template and currently this section is 3 pages, however this is permissible because information presented is relevant.
Round 1 NCR/CL/OFI	OFI: Suggest the project apply the most recent CCB+VCS monitoring report template as noted in the finding.
Round 1 Response from Project Proponent (18 September 2017)	Ok, duly noted.
Final ESI Findings	No action required here. The item is addressed.

Item Number	3
VCS AFOLU Requirements 21 June 2017, v3.6 (Section)	4.7 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	* Where the net change in carbon stocks is not a whole number, round the calculated VCU and buffer credit volumes down to the nearest whole number. Where the net change in carbon stocks is a whole number, round the calculated buffer volume up, and the VCU volume down, to the nearest whole number.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	MR Section 6.4; 2016 monitoring calc worksheet
ESI Findings - Round 1 (01 August 2017)	The VVB noted in review of the final estimated VCU and buffer reporting that this decimal guidance was not followed.
Round 1 NCR/CL/OFI	CL: Please address the findings and correctly report the final buffer amount following this requirement.
Round 1 Response from Project Proponent (18 September 2017)	As the net change in carbon stocks is not a whole number, we have rounded the calculated VCU and buffer credit volumes down to the nearest whole number. This changed is reflected in the updated calculation workbook, "2016_PurusMonitoring 2017.09.18.xlsx". This has led to updating the final VCUs in the monitoring report and the addition of the following text. "Value has been rounded down as per VCS guidance."
Final ESI Findings	Verifiers reviewed the revised worksheet provided in response to the finding. VCU's were found to be correctly rounded down and the buffer pool value was rounded up per this requirement. The item is addressed.

Item Number	4
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VCS Methodology VM0007 Version 1.3, 20 November 2012 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Section)	Emissions Modules (applicable to baseline, project scenario and leakage):
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	E-BB "VMD0013 Estimation of greenhouse gas emissions from biomass burning"
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	MR Section 4.1
ESI Findings - Round 1 (01 August 2017)	The module is used, as stated in section 5.1 of the MR. However, it is not listed in Section 4.1 of the MR, under the Reference of Methodology.
Round 1 NCR/CL/OFI	CL: Please include the module "E-BB 'VMD0013 Estimation of greenhouse gas emissions from biomass burning'" within the Reference of Methodology Section of the Monitoring Report.
Round 1 Response from Project Proponent (18 September 2017)	The following text has been added to Section 4.1 of the MR: E-BB, "VMD0013 Estimation of greenhouse gas emissions from biomass burning" Version 1.0
Final ESI Findings	Section 4.1 of the MR now includes reference to E-BB. The item is addressed.

Item Number	5
Approved VCS Module VMD0015, Version 2.1 (20 November 2012), REDD Methodological Module: Methods for monitoring of greenhouse gas emissions and removals (M-MON), Sectoral Scope 14 (Section)	2 SUMMARY DESCRIPTION OF THE MODULE
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	This module provides methods for monitoring ex post emissions and removals of GHGs due to deforestation, forest degradation, and carbon stock enhancement that has been induced as a result of project implementation within the project area and leakage belt and as a result of natural disturbances. Hereafter in this module, "planned deforestation" refers to both planned deforestation and planned degradation.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	MR Section 2.3; Monitoring templates

ESI Findings - Round 1 (01 August 2017)	Section 2.3 "Description of the Project Activity" of the MR describes deforestation monitoring efforts by the project to supplement remote sensing methods prescribed by M-MON. These methods include aerial surveillance utilizing a drone, on-the-ground monitors, as well as satellite imagery review. To further provide reasonable assurance that monitoring efforts were carried out as reported the following clarifications are requested: -On page 23, it was stated "A total of ten official monitoring templates were completed between January 1, 2016 and December 31, 2016." Please also ensure any revisions to the MR which correspond to the PIR are reflected there.
Round 1 NCR/CL/OFI	CL: Please provide the noted monitoring templates; a single document translation from Portuguese to English is sufficient.
Round 1 Response from Project Proponent (18 September 2017)	The 10 monitoring templates were provided to the VVB and 1 document was translated from Portuguese to English.
Final ESI Findings	Monitoring templates were provided in response to this finding and reviewed by the VVB. They are sufficient to confirm statements in Section 2.3 and that deforestation monitoring efforts are performed during the monitoring period. The item is addressed.

Item Number	6
Approved VCS Module VMD0015,Version 2.1 (20 November 2012), REDD Methodological Module: Methods for monitoring of greenhouse gas emissions and removals (M-MON), Sectoral Scope 14 (Section)	a) At the end of each monitoring period:
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	· Update the remaining area of forest in RRL (ARRL,forest,t)
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Deforestation2016_PurusRRL.shp, 2016 Purus MR
ESI Findings - Round 1 (01 August 2017)	Value of 2,226,309ha was previously reported in Data Parameters table ARRL, forest, 2015. The amount deforested in the newest 2016 UCEGEO deforestation dataset was independently computed as 6,280ha, which would result in an ARRL,forest,2016 value of 2,220,029ha. However, the Parameters Table lists ARRL,forest,2016 as 2,220,015ha.
Round 1 NCR/CL/OFI	CL: Please correctly report ARRL,forest,2016 in the Monitoring Report. Please ensure that the correct ARRL,forest,2016 value is utilized in all reporting and calculations, if warranted.

Round 1 Response from Project Proponent (18 September 2017)	The value for ARRL,forest,2016 has been updated in the monitoring report to be 2,220,029 ha. The parameter ARRL,forest,2016 is not used in any monitoring calculations.
Final ESI Findings	The reported value for parameter ARRL, forest, 2016 was correctly updated in Section 5.3 of the MR. The item is addressed.

Item Number	7
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016	Management team does not include individuals with significant experience in all skills necessary to successfully undertake all project activities (ie, any area of required experience is not covered by at least one individual with at least 5 years experience in the area).
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	VCS NON-PERMANENCE RISK REPORT; MR Appendix A;
ESI Findings - Round 1 (01 August 2017)	Risk Report states: "The management team includes individuals with significant experience in all skills necessary to successfully undertake all project activities." Verifiers note that the score for this criteria has been revised for the 2016 verification since the last verification, therefore justification is requested for the adjustment. During the site visit interviews verifiers noted that the project was absent an on-site project manager for the second half of the monitoring period. Monitoring forms, activities, related monitoring duties of the on-site project manager may not have been completely carried out as prescribed in the monitoring plan and described elsewhere in the monitoring report.
Round NCR/CL/OFI 1	CL: Please justify an adjustment to the score, including whether changes to the management team have occurred from 2015. Please also clarify whether the duties of the on-site project manager were carried out during the portion of the monitoring period they were absent, updating the MR as needed.
Round 1 Response from Project Proponent (18 September 2017)	The 10 monitoring forms were provided to the VVB and additional justification was added to the Non-Permanence Risk Report.
Final ESI Findings	Verifiers agree that the management team now has significant experience to fulfill project activities. Resignation by the on-site project manager also appeared to result in the increased presence of the project proponents to perform monitoring activities. It was confirmed during site visit interviews that the former project manager was retained on a limited basis to help with monitoring during the reporting period. The item is addressed.

Item Number	8
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VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016	Project cash flow breakeven point is greater than 10 years from the current risk assessment
VCS Standard Version 3 VCS Requirements Document 21 June 2017, v3.7 (Description)	
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	VCS NON-PERMANENCE RISK REPORT; MR Appendix A; Pro Forma;
ESI Findings - Round 1 (01 August 2017)	Risk Report states: "Project cash flow breakeven point is between years 4 and 7. Details are provided in a cash flow analysis which can be found in the project archive." However, the Pro Forma that was provided is dated 2015. As this is the 2016 verification, it is unclear if the document provided is appropriate for this Monitoring Period. Further, the Pro Forma document includes a previously corrected NPV formulation error.
Round NCR/CL/OFI 1	CL: Please provide an updated, current Pro Forma.
Round 1 Response from Project Proponent (18 September 2017)	An updated pro forma (dated August 25, 2017) has been provided to the VVB.
Final ESI Findings	The updated pro forma was reviewed and, like the previous verification, it supports project breakeven has been achieved. The item is addressed.

Item Number	9
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016	Mitigation: Where disputes over land tenure, ownership or access/use rights exist, documented evidence is provided that projects have implemented activities to resolve the disputes or clarify overlapping claims
VCS Standard Version 3 VCS Requirements Document 21 June 2017, v3.7 (Description)	
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	VCS NON-PERMANENCE RISK REPORT; MR Appendix A;

ESI Findings - Round 1 (01 August 2017)	Risk Report states: "The Project Proponents have been implementing activities to resolve the ongoing access/use right disputes. The Project Proponents have met with STR and the local communities, including the Guitas, to discuss land titling numerous times since the Project State Date (see section entitled, "Create Project Awareness"). In addition, Moura & Rosa have initiated the titling process with three local families and the Agreement between these three local families and Moura & Rosa was provided to ESI." The VVB could not locate the titling agreements with the three families mentioned. Progress on resolving the on-going dispute with the Guita family was described in the Risk Report, Section 5.1 of the MR and discussed and observed during the 2017 site visit. Discussions with the staff and some community members confirm that meetings continue to take place to address the land title transfer process and offer terms that are favorable by the Guita family. Though an interview with the public prosecutors office confirmed the intent of the project proponents to support the title transfer to community members it was not clear how much land and other conditions would be offered to the Guita family to cease deforestation activities.
Round 1 NCR/CL/OFI	CL: Please provide available titling documentation between Moura & Rosa and the local families. In responding to this finding, please also clarify the current status of negotiations with the Guita family to cease their on-going deforestation activities.
Round 1 Response from Project Proponent (18 September 2017)	The titling documentation between Moura & Rosa and the local families have been provided. In addition, the Monitoring Report has been updated to clarify the current status of negotiations with the Guita family.
Final ESI Findings	Titling documentation was reviewed in response to the finding and the title for community member Benedito da Silva was confirmed again. Titling for two other families remains in process as confirmed from documentation submitted. The Risk Report has been updated to reflect the current status of Guita negotiations with the public prosecutors office. The item is addressed.