

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



Document Prepared By: Environmental Services, Inc.

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## Summary:

Environmental Services, Inc., (ESI) was contracted by CarbonCo, LLC., on 16 April 2013 to conduct the initial verification (23 May 2011 to 31 December 2012) 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 GHG's; 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 covered a total of 1,000 ha of REDD-AUD over the Monitoring Period.

The verification criteria followed the guidance documents provided by VCS and included the following: VCS Program Guide (08 October 2013, v3.5), Program Definitions (08 October 2013, v3.5), AFOLU Requirements (08 October 2013, v3.4), AFOLU Non-Permanence Risk Tool (4 October 2012, v3.2), and the VCS Methodology VM0007: "REDD Methodology Modules (REDD-MF)" v1.3 (20 November 2012) 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 *2011-2012 Purus Project Monitoring Report* dated 10 December 2013 (v1.1) 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 185,333 tCO<sub>2</sub> equivalents by the project during the verification period/reporting period (23 May 2011 to 31 December 2012). This value is gross of the 10% (22,278 tCO<sub>2</sub> equivalents) buffer withholding based on the non-permanence risk assessment tool.

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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 assessed the Greenhouse Gas (GHG) emission removals for the verification period 23 May 2011 to 31 December 2012 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<br>Avoided Unplanned Deforestation<br>Monitoring and modelling forest resources, providing alternative sustainable economic activities for local communities, agricultural training classes. |
| Sources/Sinks/Reservoirs                                        | Above-ground live tree biomass<br>Below-ground live tree biomass<br>Dead wood<br>Biomass Burning - Source                                                                                                 |
| GHG Type                                                        | CO <sub>2</sub> – Sinks; CH <sub>4</sub> and N <sub>2</sub> O - Source                                                                                                                                    |
| Time Period (state date, crediting period, verification period) | 23 May 2011 – 31 December 2012                                                                                                                                                                            |
| 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                                    | 185,333 tCO <sub>2</sub> e                                                                                                                                                                                |

## 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 assessed the GHG emission removals through AFOLU criteria, specifically, REDD-APD. 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 (08 October 2013, v3.5), Program Definitions (08 October 2013, v3.5), AFOLU Requirements (08 October 2013, v3.4), AFOLU Non-Permanence Risk Tool (4 October 2012, v3.2), and the VCS Methodology VM0007: "REDD Methodology Modules (REDD-MF)" v1.3 (20 November 2012) 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 verification team 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, for this verification, the site visit included an aerial survey of 100% the project area and leakage belt to aid the Verification Team 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. Approximately 5 to 10% of the Project Area and leakage belt were toured in order to allow the Verification Team to establish a reasonable level of assurance regarding the implementation of project activities, and to further confirm the reported areas of ex-post disturbance.

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 spread sheets, and responses to Non-conformance Requests (NCRs) and Clarification Requests (CLs).

The AFOLU Non-Permanence Risk Tool (04 October 2012, v3.2) was used by the Project Proponent to assess overall project risk. The Verification Team 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 (04 October 2012, v3.2). 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 visit occurred between 18 August 2013 and 31 August 2013. Onsite interviews and informal discussions were conducted with project staff, members and leaders of the local communities, a not-for-profit organization, and Brazilian government representatives. During interviews with the local community some commented that they didn't fully understand the project and wanted clearer information. In most instances further discussion from ESI with the persons and/or the project proponent revealed that they had chosen not to attend the trainings or visit the headquarters for meetings. A few other individuals indicated that they understood the project, but just didn't care about the project one way or the other because they didn't need the benefits.

Further, two specific issues were identified. One involved Miguel (Sebastião Marques da Silva), the previous on site manager, had decided not to continue his employment with the project. A boat had been built during his employment as a school bus and to assist in general with the project. There was some confusion about the boat as Miguel believed the boat was his; eventually it was decided that the boat would be given to Miguel to settle the issue.

Additionally one resident (Mr. Guitas) did not want to be involved in the project and was considered to be opposed to it. Additionally it was a concern that he may potentially deforest in project areas. It was indicated after the site visit that this was resolved by the project proponent through discussion with Mr. Guitas to show how the project would support his application for land ownership. This issue should be reviewed again in the next verification to confirm it was addressed and Mr Guitas is not deforesting in the project area.

No other negative comments were received, and information provided in the PD was supported. The majority of locals indicated that the land titling aspect of the project is a great benefit. A representative of the Climate Change Institute of Acre provided useful insight regarding the governmental association with the project and discussed the ecological/social sustainability benefits that they are expecting the project to provide in addition to GHG emission reductions. In addition, the interviews with SOS Amazonas supported the PD's information regarding sustainable agriculture training. The following is a list of the main interviewees:

| Name*           | Title                                                      |
|-----------------|------------------------------------------------------------|
| Brian McFarland | Director-Carbon Projects and Origination, Carbonfund.org – |

|                                    |                                                                                           |
|------------------------------------|-------------------------------------------------------------------------------------------|
|                                    | CarbonCo/Project Developer                                                                |
| James Eaton                        | Senior Manager-Forestry & Technical Services, TerraCarbon, LLC./Independent Consultant    |
| Wanderley Cesario Rosa             | Managing Director, Moura & Rosa /Landowner-Project Manager                                |
| Andre Silva Cesario Rosa           | Representative, Moura & Rosa /Landowner-Project Manager                                   |
| Paulo Silva Cesario Rosa           | Representative, Moura & Rosa /Landowner-Project Manager                                   |
| Felipe Moura Sales                 | Representative, Moura & Rosa /Landowner-Project Manager                                   |
| Normando Rodrigues Sales           | Representative, Moura & Rosa /Landowner-Project Manager                                   |
| Pedro Freitas                      | President, Freitas International Group, LLC. (Carbon Securities)/Project Facilitator      |
| Lelo Freitas                       | Representative, Freitas International Group, LLC. (Carbon Securities)/Project Facilitator |
| Kidney Da Cunha Aires              | On-Site Project Staff                                                                     |
| George Tome Da Silva               | On-Site Project Staff                                                                     |
| Roderigo Fernandes das Neves       | General Prosecutor, Climate Change Institute of Acre                                      |
| Mónica Julissa De Los Rios de Leal | Assessor of the President, Climate Change Institute of Acre                               |
| Miguel Scarcello                   | Secretary General, SOS Amazonas                                                           |
| Cida Lopes                         | Representative, SOS Amazonas                                                              |
| Francisco                          | Local Resident                                                                            |
| Sandra and Chiage                  | Local Residents                                                                           |
| Jose Silva                         | Local Resident                                                                            |
| Jose Marioso Leite                 | Local Resident                                                                            |
| Jaimine                            | Local Resident                                                                            |
| Miguel and Soccoro                 | Local Residents                                                                           |

|                             |                         |
|-----------------------------|-------------------------|
| Antonia Sales               | Local Teacher/Professor |
| Angelica                    | Local Resident          |
| Nunes Frotas                | Local Resident          |
| Gito                        | Local Resident          |
| Maria Alvis                 | Local Resident          |
| Bendito                     | Local Resident          |
| Jose Rogerio Olivera Saboia | Local Resident          |

**\*Regarding members of the local communities, most people did not give their full names. Due to the nature of their settlement, it was decided to simply ask for "names, then it was recorded. This was intended to not intimidate them and hope for a more complete answer**

The interviews confirmed with reasonable assurance that no community members will be negatively affected by the project and that most community members are participating in project activities and feel that they are a benefit. Further, it is clear that the Brazilian government supports the project.

## 2.4 Site Inspections

The verification site inspection followed our prepared Verification and Sampling Plan process and was conducted on 18-31 August 2013. The site visit aided the verification team to both understand application of the methodology on-site and to identify possible sources of error to focus desktop verification efforts.

Both ground and aerial inspection of the Project Area and Leakage belt were conducted during the site visit. Roughly 5% of the Project Area and Leakage Belt were toured on-the-ground along the river in order to allow the Verification Team to confirm the implementation of project activities. To further confirm the reported areas of ex-post disturbance an aerial assessment of the entire Project Area and Leakage belt was flown during the site visit.

During the field review of the project, the following aspects of the project were considered:

1. Boundaries - reviewed boundaries using a Global Positioning System (GPS) and checked boundary signage
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:
  - Hot-spot areas of recent deforestation and degradation in project boundary, leakage area and carbon accounting area with confirmation of data collection methods in conformance with the stated Standard Operating Procedures (SOPs) for monitoring

- This included assessments of:
  - Evidence of logging (degradation and deforestation)
  - Evidence of any Fire Hot Spots
  - Evidence of Land Clearing
- Leakage
  - Considered leakage monitoring as described in the validated PD and Monitoring Report.
  - Review possibility of illegal expansion of other concessions
- Implementation of monitoring
- Reported elements of the Risk Assessment

Field observations sufficiently satisfied the professional discretion of the Verification Team that the findings in the monitoring report were accurate.

## 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 Verification Team. 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 (v3.4) 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 verification team 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, forty-five (45) essential findings were identified; a count by type is presented in the table below. Detailed summaries of each finding, including the issue

raised, responses, and final conclusions, are provided in Appendix B. All NCRs/CLs were satisfactorily addressed.

| Finding Type | Amount |
|--------------|--------|
| NCR          | 21     |
| CL           | 24     |
| OFI          | 0      |
| Total        | 45     |

## 2.5.1 Forward Action Requests

One forward action request was identified during the verification.

One resident (Mr. Guitas) in the project area did not want to be involved in the project and was considered to be opposed to it. Additionally it was a concern that he may potentially deforest in project areas. It was indicated after the site visit that this was resolved by the project proponent through discussion with Mr. Guitas to show how the project would support his application for land ownership. This issue should be reviewed again in the next verification to confirm it was addressed and Mr Guitas is not deforesting in the project area.

## 2.6 Eligibility for Validation Activities

Validation activities were not undertaken as part of the verification.

## 3 VALIDATION FINDINGS

### 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 PD was previously validated and contained the following deviations from VM0007 v1.3:

- “Trees in the Cecropia genus will not be 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.

- While sampling lying dead wood using the line intersect method:
  - o *Two 92-meter transect lines were used rather than two 50-meter transect lines;*
  - o The sampling lines did not bisect each sample plot, but rather ran from one plot center to the next; and
  - o The sampling lines were oriented to the north and east, and no randomization in the bearing of the first line was employed.
- For validation of the allometric equation, commercial height was 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).
- 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.<sup>1</sup>
- 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  $\geq 0.8$ ) 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:
  - o Volume is calculated as the volume a parabaloid rather than the volume of a cylinder;
  - o Only stem biomass is estimated, thus conservatively excluding other aboveground biomass; and
  - o A conservative measure of basal diameter (i.e., dbh) was used.
- 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.
- In the with-project case, C(post) can conservative 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  $\Delta C_{pools,Def,u,i,t}$  is equal to  $C(BSL,i)$ , 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

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<sup>1</sup> 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.

is not limited to the delineation of different strata where contiguous areas of at least 100 ha differ in stocks by  $\geq 20\%$ <sup>2</sup>

In addition, the following Methodology Deviation was proposed at verification:

- “Rather than initially assessing the significance of illegal logging using temporary sample plots covering 1% of the potential degradation area (ADegW,i) as proposed in the project document and monitoring module of the VM0007 methodology; information gathered during the course of the participatory appraisals including amounts of fuelwood, charcoal, and timber collected by communities members will be used along with conservative assumptions to assess whether emissions due to degradation are significant, and plot level monitoring of degradation is warranted. This deviation will be used for the first and each subsequent monitoring period.”<sup>3</sup>

The verification process confirmed that this methodology deviation is reasonable and has been appropriately justified. Further, the project is still in compliance with VCS rules while applying the methodology deviation. The deviation represents 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 significant, it will be accounted for).

### 3.3 Project Description Deviations

The Methodology Deviation proposed at verification (see Section 3.2 above) also represents a PD deviation in that it is deviation from the Monitoring Plan as presented in the PD. This deviation does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario. The project remains in compliance with VM0007 V1.3 (where degradation is significant, it will be accounted for) and the PD deviation is described and justified in Section 2.2 of the Monitoring Report.

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.

CarbonCo's assessment of degradation (“2012\_PurusDegradation 2013.11.27.xls”) was thoroughly reviewed and found to contain the appropriate data and conservative calculations. Emissions due to degradation were justified as insignificant using T-SIG and plot level monitoring of degradation is not warranted at this time. This should be re-assessed at future verifications.

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<sup>2</sup> *The Purus Project: A Tropical Forest Conservation Project in Acre, Brazil* – Project Description, v02, dated 28 December 2012.

<sup>3</sup> *2011-2012 Purus Project Monitoring Report*, v1.1, dated 10 December 2013.

### 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. As this is the initial verification, many activities are still being implemented, but the Verifiers observed considerable progress during the Verification Site Inspection.

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

### 4.2 Accuracy of GHG Emission Reduction and Removal Calculations

ESI 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 project PD and the methodologies. Further, ESI reproduced calculations for selected samples to ensure accuracy of the results. Conversion factors, formulas, and calculations were provided by the Project Proponent in spreadsheet format to ensure all formulas were accessible for review. The verifier recalculated subsets of the analysis to confirm correctness. The Project Proponent also provided a step-by-step overview of calculations to ensure ESI understood the approach and could confirm its consistency with the methodologies and PD.

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

| Data Parameter           | Verification Team Findings                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $\Delta C_{P,Def,i,t}$   | This data/parameter was appropriately chosen because it pertains to net carbon stock change as a result of deforestation in the project case in the project area in stratum $i$ at time $t$ . This value was found to be calculated accurately in a spreadsheet ("2012_PurusMonitoring 2013.10.30.xls") according to the correct formula for the two year monitoring period. |
| $\Delta C_{P,DefLB,i,t}$ | This data/parameter was appropriately chosen because it pertains to net carbon stock change as a result of deforestation in the project case in the leakage belt in stratum $i$ at time $t$ . This value was found to be calculated accurately in a spreadsheet ("2012_PurusMonitoring 2013.10.30.xls") according to the correct                                             |

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | formula for the two year monitoring period.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| $\Delta C_{P,DistPA,i,t}$    | This data/parameter was appropriately chosen because it pertains to net carbon stock change as a result of natural disturbance in the project case in the project area in stratum $i$ at time $t$ . The value applied was 0. This was appropriate as there were no areas of natural disturbance reported in by on-the ground forest monitors/local land managers and none was distinguished (from anthropogenic deforestation) with remote sensing analyses. |
| $A_{DefPA,u,i,t}$            | 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 be calculated accurately from remote sensing/GIS data and was implemented appropriately in the monitoring spreadsheet ("2012_PurusMonitoring 2013.10.30.xls") according to the correct formula for the two year monitoring period.                    |
| $A_{DefLB,u,i,t}$            | 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 calculated accurately from remote sensing/GIS data and was implemented appropriately in the monitoring spreadsheet ("2012_PurusMonitoring 2013.10.30.xls") according to the correct formula for the two year monitoring period.                    |
| $A_{DistPA,q,i,t}$           | 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 in by on-the ground forest monitors/local land managers and none was distinguished (from anthropogenic deforestation) with remote sensing analyses.                     |
| $C_{BSL,i}$                  | This data/parameter was appropriately chosen because it pertains to the carbon stock in all pools in the baseline case in stratum $i$ . This value was calculated and assessed ex ante (at validation). The appropriate ex ante estimates were found to be implemented appropriately in the quantification of net GHG emission reductions.                                                                                                                   |
| $\Delta C_{pools,Def,u,i,t}$ | This data/parameter was appropriately chosen because it pertains to the carbon stock in all pools in post-deforestation land use $u$ in stratum $i$ . This value was found to be calculated accurately by strata in a spreadsheet ("2012_PurusMonitoring 2013.10.30.xls") according to the correct formula for the two year monitoring period.                                                                                                               |

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $A_{DegW,i,t}$          | 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 ("2012_PurusDegradation 2013.11.27.xls") indicated that emissions due to degradation (for this monitoring period) are insignificant as per T-SIG.                                                                                              |
| $C_{DegW,i,t}$          | This data/parameter was appropriately chosen because it pertains to the biomass carbon of trees cut and removed through degradation process from plots measured in stratum $i$ at time $t$ . The value applied was 0. This was appropriate as CarbonCo's assessment of degradation ("2012_PurusDegradation 2013.11.27.xls") indicated that emissions due to degradation (for this monitoring period) are insignificant as per T-SIG.                                             |
| $AP_i$                  | This data/parameter was appropriately chosen because it pertains to the total area of degradation sample plots in stratum $i$ . This parameter was not used during this monitoring period. This was appropriate as CarbonCo's assessment of degradation ("2012_PurusDegradation 2013.11.27.xls") indicated that emissions due to degradation (for this monitoring period) are insignificant as per T-SIG and plot level monitoring of degradation is not warranted at this time. |
| $\Delta C_{P,DegW,i,t}$ | This data/parameter was appropriately chosen because it pertains to the net carbon stock changes as a result of degradation in stratum $i$ in the project area at time $t$ . This parameter was not used during this monitoring period. This was appropriate as CarbonCo's assessment of degradation ("2012_PurusDegradation 2013.11.27.xls") indicated that emissions due to degradation (for this monitoring period) are insignificant as per T-SIG.                           |
| $PROP_{IMM}$            | This data/parameter was appropriately chosen because it estimates proportion of baseline deforestation caused by immigrating population. This value was found to be obtained accurately from survey data and was implemented appropriately for the monitoring period.                                                                                                                                                                                                            |
| $PROP_{RES}$            | This data/parameter was appropriately chosen because it estimates the proportion of baseline deforestation caused by population that has been resident for $\geq 5$ years. This value was found to be obtained accurately from survey data and was implemented appropriately for the monitoring period.                                                                                                                                                                          |
| TOTFOR                  | This data/parameter was appropriately chosen because it gives the total available national forest area. This value was found to be obtained accurately from verifiable sources and implemented                                                                                                                                                                                                                                                                                   |

|               |                                                                                                                                                                                                                                                                                                                |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | appropriately.                                                                                                                                                                                                                                                                                                 |
| PROTFOR       | This data/parameter was appropriately chosen because it gives the total area of fully protected forests nationally. The value applied was 0. This value was found to be obtained accurately from verifiable sources and implemented appropriately.                                                             |
| MANFOR        | This data/parameter was appropriately chosen because it gives the total area of forests under active management nationally. The value applied was 0. This value was found to be obtained accurately from verifiable sources and implemented appropriately.                                                     |
| ARRL,forest,t | This data/parameter was appropriately chosen because it gives the remaining area of forest in RRL at time $t$ . This value was found to be calculated accurately using the correct formula for the monitoring period.                                                                                          |
| Aburn,q,i,t.  | This data/parameter was appropriately chosen because it pertains to the area burnt in post-natural disturbance stratum $q$ in stratum $i$ , at time $t$ . It was conservatively assumed that the total area burnt during the deforestation process is equal to the area deforested, $A_{DefPA,u,i,t}$ .        |
| dbh           | This data/parameter was appropriately chosen because it gives the tree diameter at breast height. DBH values were measured and assessed ex ante (at validation). The appropriate ex ante estimates were found to be implemented appropriately in the quantification of net GHG emission reductions.            |
| dbasal        | This data/parameter was appropriately chosen because it gives the basal diameter. Basal diameter values were measured and assessed ex ante (at validation). The appropriate ex ante estimates were found to be implemented appropriately in the quantification of net GHG emission reductions.                 |
| H             | This data/parameter was appropriately chosen because it gives the height of a tree. Tree heights were measured and assessed ex ante (at validation). The appropriate ex ante estimates were found to be implemented appropriately in the quantification of net GHG emission reductions.                        |
| Dn            | This data/parameter was appropriately chosen because it gives diameter of piece $n$ of dead wood along a transect. Lying Dead Wood diameters were measured and assessed ex ante (at validation). The appropriate ex ante estimates were found to be implemented appropriately in the quantification of net GHG |

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | emission reductions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| N                       | This data/parameter was appropriately chosen because it gives the total number of wood pieces intersecting a transect. The numbers of Lying Dead Wood pieces were tallied and assessed ex ante (at validation). The appropriate ex ante estimates were found to be implemented appropriately in the quantification of net GHG emission reductions.                                                                                                                                                             |
| L                       | This data/parameter was appropriately chosen because it gives the length of a transect. Transects were installed, measured, and assessed ex ante (at validation). The appropriate ex ante estimates were found to be implemented appropriately in the quantification of net GHG emission reductions.                                                                                                                                                                                                           |
| Cpost                   | This data/parameter was appropriately chosen because it pertains to the average carbon stocks remaining after deforestation. This value was found to be calculated accurately using the correct formula for the monitoring period.                                                                                                                                                                                                                                                                             |
| Bi,t                    | This data/parameter was appropriately chosen because it pertains to the average aboveground biomass stock before burning stratum $i$ , time $t$ . This value was found to be calculated accurately using forest inventory data and implemented appropriately in the quantification of net GHG emission reductions.                                                                                                                                                                                             |
| <i>EBSL SS,i, pool#</i> | This data/parameter was appropriately chosen because it pertains to the carbon stock or GHG sources (e.g. trees, dead wood, soil organic carbon, emission from fertilizer addition, emission from biomass burning etc.) in the baseline case. This value was calculated and assessed ex ante (at validation). The appropriate ex ante estimates were found to be implemented appropriately in the quantification of net GHG emission reductions.                                                               |
| <i>UBSL,SS,i,pool#</i>  | This data/parameter was appropriately chosen because it pertains to the percentage uncertainty (expressed as 95% confidence interval as a percentage of the mean where appropriate) for carbon stocks and greenhouse gas sources in the baseline case (1,2...n represent different carbon pools and/or GHG sources). This value was found to be calculated accurately by strata in a spreadsheet ("2012_PurusMonitoring 2013.10.30.xls") according to the correct formulae for the two year monitoring period. |

The verification team also reviewed a comprehensive assessment of data collection and storage procedures to ensure all opportunities for error in transposition of data between data were minimized.

Uncertainty was assessed as required. The verification team recalculated the statistics independently to confirm the accuracy of the reported precision and confirmed no confidence deduction was required.

Field data collection utilized appropriate principles of forestry data collection, including appropriate tools and methods. Collected data was handled appropriately, including a structured process for QA/QC. Analysis of collected 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.

#### 4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

During ESI's verification, the evidence provided by the Project Proponent was more than sufficient in both quantity and quality to support the determination of GHG emission removals 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 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 and a comprehensive GIS dataset. 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 was able to confirm through cross checks that adequate monitoring mechanisms are in place where the required parameters need to be monitored.

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 (04 October 2012, v3.2) was used by the Project Proponent to assess overall project risk. The Verification Team 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 (04 October 2012, v3.2). 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%. A brief review of each factor is found in the table below:

| Factor                | Rationale & Quality                                                                                                            | Conclusion                                            |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| <b>Internal Risks</b> |                                                                                                                                |                                                       |
| Project Management    | Ongoing enforcement is required to prevent encroachment by outside actors. The Purus Project employs forest patrols to prevent | A risk rating of 2 is appropriate given the rationale |

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                        |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
|                     | <p>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"</p> <p>The explanation is acceptable given that verifiers have worked with several members of the management team and are familiar with their experience enough to agree with this mitigation credit = -2</p> | provided.                                                              |
| Financial Viability | <p>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</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>A risk rating of 0 is appropriate given the rationale provided.</p> |

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                         |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|                                         | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                         |
| Opportunity Cost                        | <p>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 &amp; Biodiversity Standards or results of a participatory assessment of the project activities on the local communities which demonstrates net positive community benefits.</p> <p>Verifiers agree that the majority of the baseline activities are subsistence driven as evidenced by verifier's observations and discussions with community members in the project area. = 8.</p> <p>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.</p> | A risk rating of <b>6</b> is appropriate given community benefits not demonstrated yet. |
| 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 <b>0</b> is appropriate given the rationale provided.                  |
| <b>Total Internal Risks</b>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>8</b>                                                                                |
| <b>External Risks</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                         |
| Land Tenure and Resource Access Impacts | The provided documents were translated to the best of the verifier's ability and reviewed. 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | A risk rating of <b>0</b> is appropriate given the rationale provided.                  |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                    |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
|                      | <p>Venda do Seringal.pdf is a purchase and sales document that shows transfer of the Seringal Itantanga property to Moura &amp; ROSA HOLDINGS LTD in 2009. M&amp;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 Mora &amp; Rosa in December 2009. M&amp;R - Certid_oNegativaAç_es - Matricula-nº 1920 - PortoCentral - 14.03.12.pdf and M&amp;R - Cetid_o Matricula-nº1920-PortoCentral - 14.03.12.pdf indicate that Norman 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 ownership is owned by the project proponents. There are no disputes with the land tenureship area. The disputes have been addressed are outside of the scope of the project area = 0. 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.</p> |                                                                                                                    |
| Community Engagement | <p>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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>A risk rating of 0 is appropriate given the rationale provided.</p>                                             |
| Political Risk       | <p>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 project.</p> <p>"The jurisdiction in which the project is located is participating in the Governors' Climate and Forest Taskforce (GCF)."</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>A risk rating of 0 is appropriate given the rating for governance and participation in beneficial projects.</p> |

|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                              |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|                                                          | Independent web search reveals that the statement made by the Project Proponent is true = -2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                              |
| <b>Total External Risks</b>                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>0</b>                                                                                                     |
| <b>Natural Risks</b>                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                              |
| Fire, pests and disease, extreme weather, geologic risk, | <p>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 &gt;10 cm dbh, and like other diverse tropical forests, are not known to be subject to catastrophic disturbance by insect pests or forest diseases.</p> <p>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.</p> <p>Further, there is no history of catastrophic forest disturbance due to forest pests or diseases in the region.</p> <p>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 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</p> | <p>A risk rating of 2 is appropriate given the rationale provided for the greatest natural risk of fire.</p> |

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
|                                 | <p>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.</p> <p>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.</p> <p>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 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.</p> <p>Verifiers agree with this evaluation. This item is scored appropriately = 0</p> |          |
| <b>Total Natural Risks</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>2</b> |
| <b>Overall Risk Rating = 10</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |

## 5 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 *2011-2012 Purus Project Monitoring Report* (v1.1 dated 10 December 2013) has been implemented in accordance with the validated PD.

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 first monitoring period.

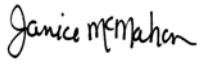
The GHG assertion provided by the Project Proponent and verified by ESI has resulted in the GHG emission reduction or removal of 185,333 tCO<sub>2</sub>e equivalents by the project during the first monitoring/verification period (23 May 2011 – 31 December 2012). This value is gross of the 10% (22,278 tCO<sub>2</sub>e equivalents) buffer withholding based on the non-permanence risk assessment tool.

Verified GHG emission reductions and removals in the above verification period (23 May 2011 – 31 December 2012):

| Year         | Baseline emissions or removals (tCO <sub>2</sub> e) | Project emissions or removals (tCO <sub>2</sub> e) | Leakage emissions (tCO <sub>2</sub> e) | Net GHG emission reductions or removals (tCO <sub>2</sub> e) |
|--------------|-----------------------------------------------------|----------------------------------------------------|----------------------------------------|--------------------------------------------------------------|
| Year 2011    | 126,240                                             | 14,655                                             | 21,689                                 | 89,896                                                       |
| Year 2012    | 142,812                                             | 31,621                                             | 15,754                                 | 95,437                                                       |
| <b>Total</b> | 269,052                                             | 46,276                                             | 37,443                                 | 185,333*                                                     |

\*Gross of buffer deduction

Submittal Information:

|                                                            |                                                                                                                                                                                                                                    |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Report Submitted to:                                       | <p>Verified Carbon Standard Association<br/>1730 Rhode Island Ave. NW, Suite 803, Washington, D.C. 20036</p> <p>CarbonCo, LLC<br/>3 Bethesda Metro Center, Suite 700<br/>Bethesda, Maryland 20814<br/>USA<br/>001-240-247-0630</p> |
| Report Submitted by:                                       | <p>Environmental Services, Inc. -Corporate Office<br/>7220 Financial Way, Suite 100<br/>Jacksonville, Florida 32257</p>                                                                                                            |
| ESI Lead Validator Name and Signature                      | <br><p>Shawn McMahon<br/>Lead Validator</p>                                                                                                       |
| ESI Division Regional Technical Manager Name and Signature | <br><p>Janice McMahon<br/>Vice President and Forestry, Carbon and GHG Division Regional Technical Manager</p>                                     |
| Date:                                                      | 10 December 2013                                                                                                                                                                                                                   |

EMJ/JAP/SMM/VO13022/VCS Purus Project Verification Report\_Final\_10Dec2013.doc

K pf 12/10/13f

## APPENDIX A – DOCUMENTS RECEIVED/REVIEWED

### Received from client on 11 July 2013

- Purus Project Final Draft Implementation Report (7-8-13).pdf

### Received from client on 12 July 2013, via email

- Purus Project VCS Monitoring Report
- Appendix A – Non-Permanence Risk Report

### Downloaded from VCS website

- VALID\_REP\_963\_28DEC2012.pdf
- PROJ\_DESC\_963\_28DEC2012.pdf

### Received from client on 13 August 2013

- Purus 2012 Monitoring Archive
  - o 01 Monitoring Report
    - 2012\_PurusMonitoring 2013.07.05.doc
    - 2012\_PurusMonitoring 2013.07.05.xls
  - o 02 Literature Sources
    - FAO 2010 FRA Brasil.pdf
    - Lehmann et al., 2002, WCSS Bangkok, paper no.0449.pdf
    - Salimon et al 2011.pdf
    - UCEGEO Methodology 2011.DOC
  - o 03 Project Meeting Notes
    - [EMPTY]
  - o 04 Participatory Rural Appraisal
    - Aggregated Purus Project Degradation Survey Results April 2013.xls
    - Purus Project VCS Degradation Surveys April 2013.pdf
  - o 05 Maps and GIS
    - Acre 2012 deforestation database
      - Desmate\_Acre\_1988\_2012\_Merge\_6\_pixel.shp
    - Project Boundaries
      - Purus project boundaries.gpx
      - PurusLB2012.09.24.kmz
      - PurusLeakageBelt2012.09.19.shp
      - PurusPA2012.9.24.kmz
      - PurusProjectArea2012.09.19.shp
      - RRD\_Boundary.shp
      - RRL\_Boundary.shp
    - 2012\_ForestBenchmark.jpg
  - o 06 Risk Assessment
    - 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
    - Espírito\_Santo et al. 2010 Storm intensity and forest disturbances in the Amazon.pdf
    - Updated Pro Forma for Purus Project Verification (6-26-13).xls
  - o 07 Miscellaneous
    - Accuracy Assessment
      - Acre\_2012AA.kmz
      - Acre\_2012AA.xls
    - 2012\_PurusDegradation 2013.07.05.xls

## Downloaded from Carbonfund website

- 2012 IRS 990.pdf

## Received from client on 23 October 2013

- CCB NCR Checklist Purus\_round1, Brian's Responses.docx
- Purus Project Implementation Report, Revised (10-23-13).pdf

## Received from client on 30 October 2013

- 06 Risk Assessment-addl docs
  - o CarbonCoCarbonNeutralSignedVERPADecember 302012.pdf
  - o CarbonCo's Bank Statement.pdf
  - o CFO Letter of Support for Purus, Russas and Valparaíso Projects.pdf
- 07 Misc – addl docs
  - o Brian McFarland's Promotion of Public Comment Period.pdf
  - o CF's Newsletter for Purus Project's CCBS PDD Public Comment.pdf
  - o CF's Newsletter for Purus, Russas and Valparaíso Projects' CCBS Public Comment Period.pdf
- 08 Title Documentation
  - o Itatinga - Contrato de Compra e Venda do Seringal.pdf
  - o M&R - Certid\_o Itatinga - MemorialDescritivo - Manoel urbano - 13.03.12.pdf
  - o M&R - Certid\_oNegativaAç\_es - Matricula-nº 1920 - PortoCentral - 14.03.12.pdf
  - o M&R - Cetid\_o Matricula-nº1920-PortoCentral - 14.03.12.pdf
- 09 Agreements, MOUs, and Letters of Support
  - o Addendum to Tri-Party Agreement (English), Fully Signed.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 - Carta Município Manuel Urbano.pdf
  - o M&R - Proj.Purus - Carta Corpo de Bombeiros.pdf
  - o M&R - Proj.Purus - Carta SENAR.pdf
  - o M&R - Projeto Purus - Certid\_oPromotoriaMeioAmbiente.pdf
  - o Manoel Oliveira da Silva MOU.pdf
  - o MR - Projeto Purus - Carta Governo do Acre.pdf
  - o Sebastiao Marques MOU.pdf
  - o Termo de Cessao de Direito de Uso de Dados Geoespaciais.pdf
  - o Tri-Party Agreement for Purus Project, Fully Signed.pdf
- 10 Verification
  - o Verification 2013.10.30
    - Verification Responses
      - Acre\_Vegetation
        - o Ac\_Vegetation.shp
      - Strata
        - o LBStrata.shp
        - o PurusStrata.shp
      - 2012 deforestation revised
        - o Desmate\_Acre\_1988\_2012\_Merge\_6pixel.shp
      - 2012 GIS Monitoring Results.xlsx
      - 2012\_PurusDegradation 2013.07.05.xls
      - Arag\_o and Shimabukuro 2010.pdf

- LK-ASU proposed revision.docx
- METODOLOGIA DESMATAMENTO DO ACRE 2011 (English).docx
- METODOLOGIA DESMATAMENTO DO ACRE 2011.doc
- Purus Forest Inventory data 2012.10.30.xls
- Purus REDD project forest inventory 2012.10.30 clean.doc
- PurusProject Tables 2012.12.14.xls
- 2012\_PurusMonitoring 2013.10.30.docx
- 2012\_PurusMonitoring 2013.10.30.xls
- CarbonCo\_Purus\_VM0007\_Round 1 NCRs\_Final Responses 2013.10.30.xlsx

## Received from client on 01 November 2013

- 2012\_PurusMonitoring 2013.10.30.docx
- 2012\_PurusMonitoring 2013.10.30.xls
- CarbonCo\_Purus\_VM0007\_Round 1 NCRs\_Final Responses 2013.10.30.xlsx

## Documents received 20 November 2013

- DegradationMonDeviation 2013.11.20.doc

## Documents received 21 November 2013

- Purus\_REDD\_MF\_NCRs Responses 2013.11.21.xlsx

## Documents received 22 November 2013

- Purus Project VCS Degradation Surveys April 2013.pdf

## Documents received 25 November 2013

- 2012\_PurusDegradation 2013.11.25.xls
- CarbonCo\_Purus\_VM0007\_Round 1 NCRs\_Final Responses 2013.11.25.xlsx
- DegradationMonDeviation 2013.11.25.docx

## Documents received 27 November 2013

- 2012\_PurusDegradation 2013.11.27.xls
- 2012\_PurusMonitoring 2013.10.30.xls
- 2012\_PurusMonitoring 2013.11.27.docx

## Documents received 03 December 2013

- CCB NCR Checklist Purus\_round2\_Final, Brian's Responses.docx
- Purus Project Implementation Report, Final (12-3-13).pdf

## Documents received 04 December 2013

- 2012\_PurusMonitoring 2013.12.04.docx

## Documents received 10 December 2013

- 2012\_PurusMonitoring 2013.12.10.docx

## APPENDIX B – NCRS/CL/OFIS

| Item Number                                                | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>VCS AFOLU Requirements Version 3.3 (4 October 2012)</b> | 3.7.3 Projects shall prepare a non-permanence risk report in accordance with VCS document AFOLU Non-Permanence Risk Tool at both validation and verification. In the case of projects that are not validated and verified simultaneously, having their initial risk assessments validated at the time of VCS project validation will assist VCU buyers and sellers by providing a more accurate early indication of the number of VCUs projects are expected to generate. The non-permanence risk report shall be prepared using the VCS Non-Permanence Risk Report Template, which may be included as an annex to the project description or monitoring report, as applicable, or provided as a stand-alone document. |
| <b>Location in PD or Supporting Documents</b>              | Monitoring Report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>ESI Findings - Round 1</b>                              | The risk report is attached as an appendix to the monitoring report; however it does not appear to be the actual most current risk report template as it does not show V3.1 (v3.2 is shown in the footer - likely from the monitoring report template).                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>NCR/CL/OFI-Round 1</b>                                  | NCR: Please ensure the risk report template is the most recent and shows the appropriate footers for version numbers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Response from Client-Round 1</b>                        | As stated in Section A1.0 of the monitoring report, "The risk analysis has been conducted in accordance with the VCS AFOLU Non-Permanence Risk Tool, dated 04 October 2012." This is the most recent and current risk tool. The footer in the monitoring report does refer to the document over all, which uses v3.2 of the monitoring report template. This has been updated so the footer in Appendix A reads "v3.1".                                                                                                                                                                                                                                                                                                |
| <b>ESI Findings - Round 2</b>                              | Confirmed that the footer from Appendix A of the Monitoring Report (The Risk Report) has been updated to read v3.1 as indicated. This item is addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                       | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Item Number                                                                                                                                                                              | 2                                                                                                                                                                                                                                     |
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| <b>Approved VCS Module VMD0010 Version 1.0 REDD Methodological Module: Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-ASU) Sectoral Scope 14</b> | b. Ex post assessment: Measure the area deforested in the project area (A,PA,unplanned,t) and Leakage Belt (ALK,unplanned,t). Follow instructions and guidance in Module M-MON. <b>Refer to page 4 for ex post leakage equation 1</b> |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                            | MR: Page 23, files from client                                                                                                                                                                                                        |

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| <b>ESI Findings - Round 1</b>       | Values calculated in GIS, I calculated a value near 89ha                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>NCR/CL/OFI-Round 1</b>           | NCR: Please elaborate on how this value was calculated, did you also account for other nonforested areas (i.e. communities)?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Response from Client-Round 1</b> | <p>The 2012 Acre deforestation dataset has been revised, since our initial submission. We have included the updated dataset as part of our response. The revision was performed by UCEGEO due to a spatial shift in the 2012 data which minimally overlapped preexisting data. Monitoring data related to area calculations reliant on this dataset has been updated as part of the responses to this finding. Net GHG calculations will be updated after the majority of findings have been closed.</p> <p>Areas related to monitoring, including Adef,pa; Adef,lb; and ARRLforest, have been calculated using the below information and steps.</p> <p>1) Clip the 2012 Acre deforestation dataset with the boundary of the RRL. Calculate the area of each remaining polygon. Sum these areas. The difference between the total area of the RRL and the sum of these area (i.e., the sum of all deforestation in the RRL) gives you the parameter, ARRLforest2012 = 2,254,559.2 ha.</p> <p>2) Open the attribute table and select all deforestation from 2011 and 2012. Export this data and save as a shapefile.</p> <p>3) Clip the 2011 and 2012 deforestation layer with the project boundary. This results in a shapefile of the 2011 and 2012 deforestation which has occurred within the project boundary.</p> <p>4) An intersect was then performed between the 2011/2012 deforestation in the project area and a spatially explicit map of the Purus Project strata. Calculate the area of each remaining polygon. Sum these areas by year and strata (veg type).</p> <p>Adef,pa 2011 FAB + FAP 2.7<br/> Adef,pa 2011 FAP – Aluvial 36.2<br/> Adef,pa 2012 FAB + FAP 16.3<br/> Adef,pa 2012 FAP – Aluvial 70.2</p> <p>5) Clip the 2011 and 2012 deforestation layer with the leakage belt boundary. This results in a shapefile of the 2011 and 2012 deforestation which has occurred within the project boundary.</p> <p>6) An intersect was then performed between the 2011/2012 deforestation in the leakage belt area and a spatially explicit map of the Purus leakage belt strata. Calculate the area of each remaining polygon. Sum these areas by year and strata (veg type).</p> <p>7) For the leakage strata, the veg type “Áreas Antropizadas” is considered part of the FAP-Aluvial strata. Due to an error in the typology of the Acre vegetation layer. The total deforestation by year in the FAP-Aluvial strata can be calculated directly, but the deforestation in the FAB + FAP strata has to be calculated as the difference between the total deforestation in the leakage belt per year minus the amount of deforestation in the FAP-Aluvial strata.</p> <p>Adef,lb; 2011 FAB + FAP 45.8<br/> Adef,lb 2011 FAP – Aluvial 34.3<br/> Adef,lb 2012 FAB + FAP 87.4<br/> Adef,lb 2012 FAP – Aluvial 93.4</p> <p>The parameters, Adef,pa; Adef,lb; and ARRLforest, as listed in Section 3.2 of the monitoring report have been updated. Further, changes to calculations dependent on the above parameters will result in updating values in Section 3.2, 4.2, and 4.3 of the monitoring report.</p> |

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| <b>ESI Findings - Round 2</b>        | Adef calculation independently checked using PP supplied revised 2012 deforestation dataset Confirmed updates to the Monitoring Report and 2012_PurusMonitoring 2013.10.30.xls. Item is addressed. |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                |

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| <b>Item Number</b>                                                                                                                                                                       | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Approved VCS Module VMD0010 Version 1.0 REDD Methodological Module: Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-ASU) Sectoral Scope 14</b> | c. Stratify AVFOR by carbon stock. The stratification shall use peer-reviewed assessments of forest carbon stocks across the country in combination with coarse forest type maps. An initial stratification should be derived from biophysical parameters (e.g. soil type, elevation, precipitation regime, temperature, slope and aspect, tree species composition, age class/disturbance history). Carbon stocks data shall be associated with each of the strata either through limited field measurements or through values derived from the peer-reviewed literature. Carbon stock shall include only live above-ground tree biomass (CAB_tree – see Module <b>CP-AB</b> ). AVFOR shall be separated into different strata where contiguous areas of at least 100 ha differ in stocks by $\geq 20\%$ . <sup>7</sup> Take the area weighted average carbon stock across the Leakage Belt (CLB) and the area weighted average carbon stock for all available forest area outside the Leakage Belt (COLB). The proportional difference in stocks is calculated by dividing the stock outside the Leakage Belt by the stock inside the Leakage Belt. <b>Refer to Page 6 for Leakage Belt proposition equation</b> |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                            | Monitoring Report Section 3.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>ESI Findings - Round 1</b>                                                                                                                                                            | The monitoring report does not include the calculation of PROPCs. As Clb is required to be adjusted each monitoring period this should be included in monitoring report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                | NCR: Please include the calculation of PROPCs in the monitoring report, as the value Clb needs to be updated for each monitoring period, as described in the parameter comments.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Response from Client-Round 1</b>                                                                                                                                                      | PROPCS is not used to calculate immigrant leakage in the with project case, and therefore has not been included in the monitoring report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>ESI Findings - Round 2</b>                                                                                                                                                            | Based on a clarification email with the methodology developer, there was an error in the calculation of equation 11. The methodology developer confirmed the calculation as (COLB-CPOST)*ALK-OB. Therefore PROPCS is not required. This item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                                                     | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| <b>Item Number</b>                                                                                                                                                                                                                                                                           | <b>4</b>                                                                                                                                                                                                                                                                                                              |
| <b>Approved VCS Module</b><br><b>VMD0010</b><br><b>Version 1.0</b><br><b>REDD Methodological</b><br><b>Module:</b><br><b>Estimation of emissions</b><br><b>from activity shifting for</b><br><b>avoided</b><br><b>unplanned</b><br><b>deforestation (LK-ASU)</b><br><b>Sectoral Scope 14</b> | d. The proportional leakage for areas with immigrating populations would then be equal to the immigrating proportion multiplied by the proportion of available national forest area outside the Leakage Belt multiplied by the proportional difference in stocks between forests inside and outside the Leakage Belt. |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                                                                                                                                | Monitoring Report Section 3.3                                                                                                                                                                                                                                                                                         |
| <b>ESI Findings - Round 1</b>                                                                                                                                                                                                                                                                | The monitoring report does not include the calculation of LKprop. As Clb is required to be adjusted each monitoring period this should be included in monitoring report.                                                                                                                                              |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                                                                                                                    | NCR: Please include the calculation of LKprop in the monitoring report, as the value Clb and consequently PROPcs needs to be updated for each monitoring period, as described in the parameter comments.                                                                                                              |
| <b>Response from Client-Round 1</b>                                                                                                                                                                                                                                                          | LKPROP is not used to calculate immigrant leakage in the with project case, and therefore has not been included in the monitoring report.                                                                                                                                                                             |
| <b>ESI Findings - Round 2</b>                                                                                                                                                                                                                                                                | Based on a clarification email with the methodology developer, there was an error in the calculation of equation 11. The methodology developer confirmed the calculation as $(COLB-CPOST) * ALK-OB$ . Therefore LKPROP is not required. This item has been addressed.                                                 |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                                                                                                                                                         | Yes                                                                                                                                                                                                                                                                                                                   |

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| <b>Item Number</b>                                                                                                                                                                                                                                                                           | <b>5</b>                                                                                                                                                  |
| <b>Approved VCS Module</b><br><b>VMD0010</b><br><b>Version 1.0</b><br><b>REDD Methodological</b><br><b>Module:</b><br><b>Estimation of emissions</b><br><b>from activity shifting for</b><br><b>avoided</b><br><b>unplanned</b><br><b>deforestation (LK-ASU)</b><br><b>Sectoral Scope 14</b> | f. In each monitoring period, measure the area deforested in the project area ( $A_{DefPA,i,t}$ ) and Leakage Belt ( $A_{DefLB,i,t}$ ). Use Module M-MON. |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                                                                                                                                | MR: Page 23, files from client                                                                                                                            |
| <b>ESI Findings - Round 1</b>                                                                                                                                                                                                                                                                | Values I calculated in GIS were different                                                                                                                 |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                                                                                                                    | CL: Please elaborate on how this value was calculated, did you also account for other nonforested areas (i.e. communities)?                               |

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|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Response from Client-Round 1</b></p> | <p>The 2012 Acre deforestation dataset has been revised, since our initial submission. We have included the updated dataset as part of our response. The revision was performed by UCEGEO due to a spatial shift in the 2012 data which minimally overlapped preexisting data. Monitoring data related to area calculations reliant on this dataset has been updated as part of the responses to this finding. Net GHG calculations will be updated after the majority of findings have been closed.</p> <p>Areas related to monitoring, including Adef,pa; Adef,lb; and ARRLforest, have been calculated using the below information and steps.</p> <p>1) Clip the 2012 Acre deforestation dataset with the boundary of the RRL. Calculate the area of each remaining polygon. Sum these areas. The difference between the total area of the RRL and the sum of these area (i.e., the sum of all deforestation in the RRL) gives you the parameter, ARRLforest2012 = 2,254,559.2 ha.</p> <p>2) Open the attribute table and select all deforestation from 2011 and 2012. Export this data and save as a shapefile.</p> <p>3) Clip the 2011 and 2012 deforestation layer with the project boundary. This results in a shapefile of the 2011 and 2012 deforestation which has occurred within the project boundary.</p> <p>4) An intersect was then performed between the 2011/2012 deforestation in the project area and a spatially explicit map of the Purus Project strata. Calculate the area of each remaining polygon. Sum these areas by year and strata (veg type).</p> <p>Adef,pa 2011 FAB + FAP 2.7<br/> Adef,pa 2011 FAP – Aluvial 36.2<br/> Adef,pa 2012 FAB + FAP 16.3<br/> Adef,pa 2012 FAP – Aluvial 70.2</p> <p>5) Clip the 2011 and 2012 deforestation layer with the leakage belt boundary. This results in a shapefile of the 2011 and 2012 deforestation which has occurred within the project boundary.</p> <p>6) An intersect was then performed between the 2011/2012 deforestation in the leakage belt area and a spatially explicit map of the Purus leakage belt strata. Calculate the area of each remaining polygon. Sum these areas by year and strata (veg type).</p> <p>7) For the leakage strata, the veg type “Áreas Antropizadas” is considered part of the FAP-Aluvial strata. Due to an error in the typology of the Acre vegetation layer. The total deforestation by year in the FAP-Aluvial strata can be calculated directly, but the deforestation in the FAB + FAP strata has to be calculated as the difference between the total deforestation in the leakage belt per year minus the amount of deforestation in the FAP-Aluvial strata.</p> <p>Adef,lb; 2011 FAB + FAP 45.8<br/> Adef,lb 2011 FAP – Aluvial 34.3<br/> Adef,lb 2012 FAB + FAP 87.4<br/> Adef,lb 2012 FAP – Aluvial 93.4</p> <p>The parameters, Adef,pa; Adef,lb; and ARRLforest, as listed in Section 3.2 of the monitoring report have been updated. Further, changes to calculations dependent on the above parameters will result in updating values in Section 3.2, 4.2, and 4.3 of the monitoring report.</p> |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ESI Findings - Round 2</b>        | Verified this calculation independently by reproducing GIS analysis using newly derived 2012 deforestation supplied by PP on Oct. 30, 2013. Confirmed updates to the Monitoring Report and 2012_PurusMonitoring 2013.10.30.xls. Item is addressed. |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                |

|                                                                                                                                                                                          |                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Item Number</b>                                                                                                                                                                       | 6                                                                                                                                                                                                              |
| <b>Approved VCS Module VMD0010 Version 1.0 REDD Methodological Module: Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-ASU) Sectoral Scope 14</b> | (2) Calculate the area deforested by immigrants in the project area and Leakage Belt under the project scenario. Refer to temporal immigrant deforestation in project area and Leakage Belt equation on page 8 |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                            | MR: Table 4.9                                                                                                                                                                                                  |
| <b>ESI Findings - Round 1</b>                                                                                                                                                            | Checked unplanned deforestation at baseline in PDD                                                                                                                                                             |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                | CL: How come the values for Aunplanned,i,t, FAB + FAP do not match on page 19 of MR and table 3.14 of PDD?                                                                                                     |
| <b>Response from Client-Round 1</b>                                                                                                                                                      | The values for Aunplanned,i,t, FAB + FAP on page 19 of the monitoring report do match those of Table 3.14.                                                                                                     |
| <b>ESI Findings - Round 2</b>                                                                                                                                                            | After a second look, that is correct. This Item can be closed.                                                                                                                                                 |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                                                     | Yes                                                                                                                                                                                                            |

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| <b>Item Number</b>                                                                                                                                                                       | 7                                                                     |
| <b>Approved VCS Module VMD0010 Version 1.0 REDD Methodological Module: Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-ASU) Sectoral Scope 14</b> | (6) If leakage outside the Leakage Belt has occurred. Refer to page 9 |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                            | MR: Table 4.10, 2012_PurusMonitoring2013.07.05.xls - 4.3 Leakage      |

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ESI Findings - Round 1</b>        | <p>Leakage outside the leakage belt has occurred.</p> <p>Calculation of Clk-ASU,OLB is performed incorrectly. PROPCs has been replaced by the difference of Colb and Cpost.</p>                                                                                                                                                                                                                                                                                                                |
| <b>NCR/CL/OFI-Round 1</b>            | NCR: Please ensure the calculation for equation 11 of LK-ASU is performed correctly. The methodology requires PROPCs*(sum up to t* ALK-OLB,t)                                                                                                                                                                                                                                                                                                                                                  |
| <b>Response from Client-Round 1</b>  | This equation is incorrect in the methodology and a revision has been proposed to Tim Pearson at Winrock, the module's author. As documented in the attached email correspondence, Tim Pearson is in agreement with the revision. In short, the equation has a "proportion" multiplied by an "area" = "tCO2e". Rather than a proportion a stock value is needed. That value should be the stocks outside the leakage belt (COLB) minus the post deforestation stocks (Cpost), as we have done. |
| <b>ESI Findings - Round 2</b>        | Based on a clarification email with the methodology developer, there was an error in the calculation of equation 11. The methodology developer confirmed the calculation as (COLB-CPOST)*ALK-OB. This calculation has been correctly applied. The item has been addressed.                                                                                                                                                                                                                     |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| <b>Item Number</b>                                                                                                                                                                                                                         | 8                                                                                                                                                                                                                                                                             |
| <b>Approved VCS Module</b><br><b>VMD0010</b><br><b>Version 1.0</b><br><b>REDD Methodological Module:</b><br><b>Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-ASU)</b><br><b>Sectoral Scope 14</b> | CLB (t CO2-e ha-1)                                                                                                                                                                                                                                                            |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                                                                              | Monitoring Report.                                                                                                                                                                                                                                                            |
| <b>ESI Findings - Round 1</b>                                                                                                                                                                                                              | The parameter CLB has not been included in the monitoring report.                                                                                                                                                                                                             |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                                                                  | NCR: Please include the parameter CLB in the monitoring report. While the parameter says it is not monitored the comments for the parameter state: "As forests in the leakage belt are deforested, the area weighted average must be recalculated at each monitoring period." |
| <b>Response from Client-Round 1</b>                                                                                                                                                                                                        | CLB is not used to calculate immigrant leakage in the with project case, and therefore has not been included in the monitoring report.                                                                                                                                        |
| <b>ESI Findings - Round 2</b>                                                                                                                                                                                                              | CLB is not used as it is a parameter of PROPCS, which has been confirmed to have been used in error by the methodology developer. The item has been addressed.                                                                                                                |

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| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes |
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| <b>Item Number</b>                                                                                                                                                                       | 9                                                                                                                            |
| <b>Approved VCS Module VMD0010 Version 1.0 REDD Methodological Module: Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-ASU) Sectoral Scope 14</b> | ADefLB,i,t (ha)                                                                                                              |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                            | MR: Page 23, files from client                                                                                               |
| <b>ESI Findings - Round 1</b>                                                                                                                                                            | Values calculated in GIS, I calculated a higher value                                                                        |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                | NCR: Please elaborate on how this value was calculated, did you also account for other nonforested areas (i.e. communities)? |

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| <b>Response from Client-<br/>Round 1</b> | <p>The 2012 Acre deforestation dataset has been revised, since our initial submission. We have included the updated dataset as part of our response. The revision was performed by UCEGEO due to a spatial shift in the 2012 data which minimally overlapped preexisting data. Monitoring data related to area calculations reliant on this dataset has been updated as part of the responses to this finding. Net GHG calculations will be updated after the majority of findings have been closed.</p> <p>Areas related to monitoring, including Adef,pa; Adef,lb; and ARRLforest, have been calculated using the below information and steps.</p> <p>1) Clip the 2012 Acre deforestation dataset with the boundary of the RRL. Calculate the area of each remaining polygon. Sum these areas. The difference between the total area of the RRL and the sum of these area (i.e., the sum of all deforestation in the RRL) gives you the parameter, ARRLforest2012 = 2,254,559.2 ha.</p> <p>2) Open the attribute table and select all deforestation from 2011 and 2012. Export this data and save as a shapefile.</p> <p>3) Clip the 2011 and 2012 deforestation layer with the project boundary. This results in a shapefile of the 2011 and 2012 deforestation which has occurred within the project boundary.</p> <p>4) An intersect was then performed between the 2011/2012 deforestation in the project area and a spatially explicit map of the Purus Project strata. Calculate the area of each remaining polygon. Sum these areas by year and strata (veg type).</p> <p>Adef,pa 2011 FAB + FAP 2.7<br/>Adef,pa 2011 FAP – Aluvial 36.2<br/>Adef,pa 2012 FAB + FAP 16.3<br/>Adef,pa 2012 FAP – Aluvial 70.2</p> <p>5) Clip the 2011 and 2012 deforestation layer with the leakage belt boundary. This results in a shapefile of the 2011 and 2012 deforestation which has occurred within the project boundary.</p> <p>6) An intersect was then performed between the 2011/2012 deforestation in the leakage belt area and a spatially explicit map of the Purus leakage belt strata. Calculate the area of each remaining polygon. Sum these areas by year and strata (veg type).</p> <p>7) For the leakage strata, the veg type “Áreas Antropizadas” is considered part of the FAP-Aluvial strata. Due to an error in the typology of the Acre vegetation layer. The total deforestation by year in the FAP-Aluvial strata can be calculated directly, but the deforestation in the FAB + FAP strata has to be calculated as the difference between the total deforestation in the leakage belt per year minus the amount of deforestation in the FAP-Aluvial strata.</p> <p>Adef,lb; 2011 FAB + FAP 45.8<br/>Adef,lb 2011 FAP – Aluvial 34.3<br/>Adef,lb 2012 FAB + FAP 87.4<br/>Adef,lb 2012 FAP – Aluvial 93.4</p> <p>The parameters, Adef,pa; Adef,lb; and ARRLforest, as listed in Section 3.2 of the monitoring report have been updated. Further, changes to calculations dependent on the above parameters will result in updating values in Section 3.2, 4.2, and 4.3 of the monitoring report.</p> |
| <b>ESI Findings - Round 2</b>            | <p>Verified this calculation independently by reproducing GIS analysis using newly derived 2012 deforestation supplied by PP on Oct. 30, 2013. Confirmed updates to the Monitoring Report and 2012_PurusMonitoring 2013.10.30.xls. Item is addressed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes |
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| <b>Item Number</b>                                                                                                                                                                       | 10                                                                                                                                                     |
| <b>Approved VCS Module VMD0010 Version 1.0 REDD Methodological Module: Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-ASU) Sectoral Scope 14</b> | <b>Leakage Belt Forest Cover Benchmark Map</b>                                                                                                         |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                            | MR: Section 4.4                                                                                                                                        |
| <b>ESI Findings - Round 1</b>                                                                                                                                                            | Leakage belt contained in forest cover benchmark map Figure 5.1 of MR                                                                                  |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                | CL: Does the methodology allow for extension of the project area accuracy assessment to the leakage belt?                                              |
| <b>Response from Client-Round 1</b>                                                                                                                                                      | An accuracy assessment is conducted for the overall classification. For the Purus Project, the classification was performed at the level of the state. |
| <b>ESI Findings - Round 2</b>                                                                                                                                                            | Response from PP indicating classification accuracy assessments at the level of the State of Acre is sufficient to meet this requirement               |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                                                     | Yes                                                                                                                                                    |

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| <b>Item Number</b>                                                                                                                                                                         | 11                                                                                                                                                                                             |
| <b>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</b> | The remotely sensed data collected must be prepared for analysis. Minimum pre-processing involves geometric correction and geo-referencing and <b>cloud and shadow detection and removal</b> . |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                              | MR: Section 3.3, PDD: Section 3.1.2                                                                                                                                                            |
| <b>ESI Findings - Round 1</b>                                                                                                                                                              | Project imagery was provided by the Brazilian state of Acre which generates datasets based on Landsat.                                                                                         |

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| <b>NCR/CL/OFI-Round 1</b>            | CL: Please provide additional information regarding how UCEGEO generates their datasets. Please identify when ancillary data is incorporated.                                                                                                                                                                           |
| <b>Response from Client-Round 1</b>  | The "REVIEW OF THE DYNAMICS OF THE STATE OF ACRE DEFORESTATION: TEMPORAL ANALYSIS OF 23 YEARS (PERIOD 1988 TO 2010)" documents how UCEGEO generates their datasets. The original and English translation of this source have been provided in response to this finding.<br>No ancillary data was used in this analysis. |
| <b>ESI Findings - Round 2</b>        | English translation of UCEGEO methodology document supplied by client is satisfactory to explain remote sensing pre-processing techniques. Item is addressed.                                                                                                                                                           |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                     |

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| <b>Item Number</b>                                                                                                                                                                        | 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>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</b> | 1. Map area change detected in the imagery.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                             | MR: Section 5 "Deforestation Data"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>ESI Findings - Round 1</b>                                                                                                                                                             | UCEGEO imagery should indicate land cover changes over years 2011-2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                 | CL: Please provide UCEGEO imagery for 2011 and 2012 to allow for verification of land cover change over the monitoring period (ex. Figure 1.5 in Monitoring Report).                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Response from Client-Round 1</b>                                                                                                                                                       | The original imagery UCEGEO uses to produce the Acre State Deforestation dataset is not available. However, the Acre State Deforestation dataset meets all methodological requirements. This is documents in the attached source "REVIEW OF THE DYNAMICS OF THE STATE OF ACRE DEFORESTATION: TEMPORAL ANALYSIS OF 23 YEARS (PERIOD 1988 TO 2010)".<br>Figure 1.5 is a high resolution image from the satellite ResourceSat taken in 2011. It was not used as part of the monitoring, but rather to verify the original project area was 100% forested. |
| <b>ESI Findings - Round 2</b>                                                                                                                                                             | English translation of UCEGEO methodology document supplied by client is satisfactory to explain remote sensing post-processing techniques. UCEGEO imagery and dataset are sufficient to allow for adequate monitoring of land cover change. Item is addressed.                                                                                                                                                                                                                                                                                        |

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| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes |
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| <b>Item Number</b>                                                                                                                                                                        | 13                                                                                                                                                                                                                                                                                                      |
| <b>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</b> | As described in module BL-UP (Part 2, section 2.2.3) multi-date images must be used to reduce cloud cover to no more than 10% of any image.                                                                                                                                                             |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                             |                                                                                                                                                                                                                                                                                                         |
| <b>ESI Findings - Round 1</b>                                                                                                                                                             | No imagery provided, unable to assess. PDD mentions Landsat images are mosaic in one calendar year for minimal cloud cover                                                                                                                                                                              |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                 | CL: Please clarify if the imagery provided to the project proponent by UCEGEO contained < 10% cloud cover.                                                                                                                                                                                              |
| <b>Response from Client-Round 1</b>                                                                                                                                                       | The attached source "REVIEW OF THE DYNAMICS OF THE STATE OF ACRE DEFORESTATION: TEMPORAL ANALYSIS OF 23 YEARS (PERIOD 1988 TO 2010)" documents UCEGEO's methodology including the fact that UCEGEO only uses images containing less than 10% cloud cover (see Section 3.1.1).                           |
| <b>ESI Findings - Round 2</b>                                                                                                                                                             | English translation of UCEGEO methodology document supplied by client is satisfactory to explain remote sensing post-processing techniques. UCEGEO imagery and dataset contains less than 10 % cloud cover and are sufficient to allow for adequate monitoring of land cover change. Item is addressed. |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                                                      | Yes                                                                                                                                                                                                                                                                                                     |

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| <b>Item Number</b>                                                                                                                                                                        | 14                                                                                                                                                                                      |
| <b>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</b> | Carbon stocks in the selected pools (must be the same as those used in the baseline modules) must be measured and estimated using the methods given in modules CP-AB, CP-D, CP-L, CP-S. |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                             | 2012_PurusMonitoring 2013.07.05.xls; 2012_PurusMonitoring 2013.07.05.doc; PD Sections 2.6 and 3.1.4.3; Salimon et al 2011.pdf                                                           |

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| <b>ESI Findings - Round 1</b>        | Cpost value of 46.9 mTCO <sub>2</sub> e/ha is sourced from Salimon et al. Values were converted to the total aboveground and belowground biomass stock using root to shoot ratios developed by Jackson et al. and using a carbon fraction of 0.47, as per the VM007 module. Deadwood is not included.                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>NCR/CL/OFI-Round 1</b>            | NCR: Dead wood is not included in Cpost. Please justify how this is "the same as those used in the baseline modules." Note item XX (Row 82 below) in addressing this NCR.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Response from Client-Round 1</b>  | Salimon et al. is the best sources for information on biomass and carbon stocks for Acre State. It is for this reason that Cpost was derived from this source. While not specifically noted in the with project monitoring, a dead wood value of 0.0 has been included in the calculation of Cpost. This is most readily noticeable in the excel workbook "Purus Project Tables" developed in the course of project development. This workbook has been attached. A value of zero is reasonable for dead wood stocks post deforestation because nonforested areas are periodically burnt. Further, it is conservative to set this value to zero for the reason mentioned in the deviation and in row 82. |
| <b>ESI Findings - Round 2</b>        | A value of zero is conservatively used for dead wood. This is also justified as nonforested areas are periodically burnt. This item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| <b>Item Number</b>                                                                                                                                                                        | 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>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</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                             | PD Sections 2.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>ESI Findings - Round 1</b>                                                                                                                                                             | PD Section 2.6 (Methodology Deviations) states "In the with-project case, C(post) can conservative 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 $\Delta C_{pools,Def,u,i,t}$ is equal to $C(BSL,i)$ , which leads to the maximum emission in the with project case, which is conservative. |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                 | NCR: The PD indicates that Cpost is conservatively assumed to be zero. Please justify how Cpost value of 46.9 mTCO <sub>2</sub> e/ha sourced from Salimon et al is in line with the stated Methodology Deviation. Else, conservatively assume Cpost = 0.                                                                                                                                                                                                                                                                      |

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| <b>Response from Client-Round 1</b>  | <p>The PD states both:</p> <p>Section 2.6 "In the with-project case, C(post) can conservative 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 <math>\Delta C_{pools,Def,u,i,t}</math> is equal to C(BSL,i), which leads to the maximum emission in the with project case, which is conservative." and</p> <p>Section 3.1.4.3 "As pasture has the highest carbon stock of the post-deforestation land uses, the value of 12.8 t C/ha has been used as the post deforestation carbon stock." This value corresponds to 46.9 t CO<sub>2</sub>e/ha, when converted to t CO<sub>2</sub>e/ha.</p> <p>The deviation does not mandate that C(post) be conservatively set to zero, but rather suggests one CAN set the value to zero.</p> |
| <b>ESI Findings - Round 2</b>        | The verifier now understands that the value of Cpost can, but is not required to, be set to zero based on the approved methodology deviation. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| <b>Item Number</b>                                                                                                                                                                        | 16                                                                                                                                                                                                                                                            |
| <b>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</b> |                                                                                                                                                                                                                                                               |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                             | 2012_PurusMonitoring 2013.07.05.xls; 2012_PurusMonitoring 2013.07.05.doc; PD Sections 2.6 and 3.1.4.3; Salimon et al 2011.pdf                                                                                                                                 |
| <b>ESI Findings - Round 1</b>                                                                                                                                                             | Cpost value of 46.9 mTCO <sub>2</sub> e/ha is sourced from Salimon et al.                                                                                                                                                                                     |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                 | NCR: Cpost value of 46.9 mTCO <sub>2</sub> e/ha is sourced from Salimon et al. Please justify how this value is a result of measurement and estimation using the methods given in modules CP-AB and CP-D. Note Item XX (Row 82 above) in addressing this NCR. |

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| <b>Response from Client- Round 1</b> | <p>The methodology states both:</p> <p>"Post-deforestation carbon stocks of the selected land-use classes shall be obtained from local studies and, where examples of mature vegetation for a particular land-use do not exist in the reference area then data shall be obtained from credible and representative literature sources (e.g. IPCC GL 2006 or other credible literature sources). The local study areas shall include sites that represent the conditions and the land management practices identified as the most likely post-deforestation baseline conditions." in the BL-UP module.</p> <p>And</p> <p>"For each post-deforestation land use (u) estimate the long-term carbon stock. Carbon stocks in the selected pools (must be the same as those used in the baseline modules) must be measured and estimated using the methods given in modules CP-AB, CP-D, CP-L, CP-S." in the M-MON module.</p> <p>While the methodology appears to contradict itself, derivation of Cpost from the literature value is entirely consistent with the methodology and VCS guidance. While the project proponents were not responsible for measurement and estimations of this parameter, this value was derived from a local peer reviewed study.</p> |
| <b>ESI Findings - Round 2</b>        | Given that the methodology is contradictory from itself, it appears that both approaches seem sound. Thus the value from Salimon et al. is sufficient. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| <b>Item Number</b>                                                                                                                                                                        | 17                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>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</b> | If the results of the PRA suggest that there is a potential for degradation activities, then limited field sampling must be undertaken.                                                                                                                                                                                                                                                                                                      |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                             | Monitoring report Section 4.2 and 3.3; PD Section 4.3; Aggregated Purus Project Degradation Survey Results April 2013.xls;Purus Project VCS Degradation Surveys April 2013.pdf; 2012_PurusDegradation 2013.07.05.xls                                                                                                                                                                                                                         |
| <b>ESI Findings - Round 1</b>                                                                                                                                                             | Additional degradation surveys were conducted by CarbonCo and Carbon Securities, with assistance from Moura & Rosa, on April 6 and 7, 2013. Fifty percent of the survey respondents (i.e., 5 out of 10) indicated they collect charcoal or timber from forested areas. 60 % indicate that degradation is occurring. However, it does not appear limited field sampling has been undertaken as per this requirement and Section 4.3 of the PD |

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| <b>NCR/CL/OFI-Round 1</b>            | NCR: Monitoring Report Section 4.2 and Aggregated Purus Project Degradation Survey Results April 2013.xls indicates that Monitoring of Illegal Degradation (following the methods of PD Section 4.3: "Monitoring Illegal Degradation" and this Section of M-MON) should have been implemented. However, this is not discussed in the Monitoring Report and the provided documents indicate this was not implemented. Please implement the monitoring methods of PD Section 4.3: "Monitoring Illegal Degradation"/ Section 5.2.2.1 of M-MON and include a description of the results in the Monitoring Report. Please identify where this was added and provide any appropriate supporting calculations files.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Response from Client-Round 1</b>  | <p>We would like to propose the following deviation to the monitoring plan as stated in the project document and monitoring module of the methodology. This deviation is warranted due to the considerable effort and expense involved in monitoring degradation, a pool which is likely insignificant. Further, this deviation is in line with VCS guidance which allows "deviation[s] from the criteria and procedures relating to monitoring or measurement" and follows the approach as set out in the T-SIG tool.</p> <p>The following text will be added to Section 2.2 of the monitoring report. "Rather than initially assessing the significance of illegal logging using temporary sample plots covering 1% of the potential degradation area (ADegW,i) as proposed in the project document; information gathered during the course of the participatory appraisals including amounts of fuelwood, charcoal, and timber collected by communities members will be used along with conservative assumptions to assess whether emissions due to degradation are significant, and plot level monitoring of degradation is warranted. This deviation will be used for the first and each subsequent monitoring period"</p> <p>As stated in Section 4.2 of the monitoring report "Using conservative assumptions and further survey information on the amount of charcoal/timber collected, emissions from degradation were estimated. Degradation emission estimates were very small due to the low population pressures and insignificant amounts of charcoal and timber collected. Degradation emissions (428 t CO<sub>2</sub>) have been deemed to be de minimis and do not have to be accounted for as this decrease in carbon stocks amounts to less than five percent of the total GHG benefits generated this monitoring period (185,333 t CO<sub>2</sub>)." An excel workbook, "2012_PurusDegradation 2013.11.25", supporting this analysis was included in the project database and has also been provided in response to this finding.</p> |
| <b>ESI Findings - Round 2</b>        | The deviation is reasonable and it does not impact the conservativeness of the quantification of GHG emission reductions or removals (where degradation is significant, it will be accounted for). Confirmed the identified text was added to Section 2.2 of the Monitoring Report. In addition, the project proponent has provided a reasonable justification for the deviation, including when the changes occurred and the reasons for the changes. Item is addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Item Number                                                                                                                                                                               | 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <b>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</b> | a. Data sources and pre-processing: Type, resolution, source and acquisition date of the remotely sensed data (and other data) used; geometric, radiometric and other corrections performed, if any; spectral bands and indexes used (such as NDVI); projection and parameters used to geo-reference the images; error estimate of the geometric correction; software and software version used to perform tasks; etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                             | PDD: Section 3.1.2.1, MR: Section 3.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>ESI Findings - Round 1</b>                                                                                                                                                             | Pre-processing steps by UCEGEO unclear                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                 | NCR: Please provide additional detail regarding the pre-processing steps conducted by UCEGEO in the Monitoring Report. Please identify where this information was added.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Response from Client-Round 1</b>                                                                                                                                                       | The following text was added to Section 5.0 of the monitoring report. "This dataset is based on classification of a series of Landsat imagery. Each image selected for classification contains less than 10% cloud cover. This is followed by processing of the images by applying the filter HAZE. This algorithm was developed by Carlotto and aims to improve visibility by reducing the effect of atmospheric haze and smoke. This algorithm was applied using the software ENVI, version 4.6. This step was followed by geometric correction using base the NASA GeoCover 2000 product as the base data. ENVI + IDL, version 4.6 were used to group multispectral bands, while ERDAS IMAGINE 9.1 software was used for georeferencing. The RMS error of the georeferenced product was < 1 pixel, meeting good practice standards in remote sensing. Additional details on pre-processing can be found in the UCEGEO methodology." |
| <b>ESI Findings - Round 2</b>                                                                                                                                                             | Text added by PP to Section 5.0 of MR addresses pre-processing concerns. Also, document supplied by client is satisfactory to explain remote sensing pre-processing techniques. Item is addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                                                      | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Item Number                                                                                                                                                                               | 19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <b>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</b> | b. Data classification: Definition of the classes and categories; classification approach and classification algorithms; coordinates and description of the ground-truth data collected for training purposes; ancillary data used in the classification, if any; software and software version used to perform the classification; additional spatial data and analysis used for post-classification analysis, including class subdivisions using non-spectral criteria, if any; etc. |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                             | PDD: Section 3.1.2.1, MR: Section 3.3                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| <b>ESI Findings - Round 1</b>        | MR in section 3.3 "QA/QC and Data Archiving Procedures" mentions classification methods are contained in an archive                                                                                                                                                 |
| <b>NCR/CL/OFI-Round 1</b>            | CL: Please provide the verifier with documentation related to the classification scheme to allow for review.                                                                                                                                                        |
| <b>Response from Client-Round 1</b>  | The "REVIEW OF THE DYNAMICS OF THE STATE OF ACRE DEFORESTATION: TEMPORAL ANALYSIS OF 23 YEARS (PERIOD 1988 TO 2010)" documents UCEGEO's classification methods. The original and English translation of this source have been provided in response to this finding. |
| <b>ESI Findings - Round 2</b>        | English translation of UCEGEO methodology document supplied by client is satisfactory to explain remote sensing classification techniques. Classification is sufficient to allow for adequate monitoring of land cover change. Item is addressed.                   |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                 |

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| <b>Item Number</b>                                                                                                                                                                        | 20                                                                                                                                                                            |
| <b>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</b> | Leakage Belt Forest Cover Benchmark Map                                                                                                                                       |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                             | MR: Section 4.4                                                                                                                                                               |
| <b>ESI Findings - Round 1</b>                                                                                                                                                             | Leakage belt contained in forest cover benchmark map Figure 5.1 of MR                                                                                                         |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                 | CL: Unclear if the methodology allows for extension of the project area accuracy assessment to the leakage belt. Please clarify.                                              |
| <b>Response from Client-Round 1</b>                                                                                                                                                       | An accuracy assessment is conducted for the overall classification. For the Purus Project, the classification was performed at the level of the state.                        |
| <b>ESI Findings - Round 2</b>                                                                                                                                                             | Response from PP indicating that the classification accuracy assessment is at the level of the State of Acre is sufficient to meet this requirement. This Item can be closed. |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                                                      | Yes                                                                                                                                                                           |

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| <b>Item Number</b> | 21 |
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| <b>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</b> | Area of recorded deforestation in the leakage belt in stratum I converted to land use u at time t (ADefLB,i,u,t)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                              | MR: Page 23, files from client                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>ESI Findings - Round 1</b>                                                                                                                                                              | Values calculated in GIS, I calculated a value near 89ha                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                  | CL: Please elaborate on how this value was calculated, did you also account for other nonforested areas (i.e. communities)?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Response from Client-Round 1</b>                                                                                                                                                        | <p>The 2012 Acre deforestation dataset has been revised, since our initial submission. We have included the updated dataset as part of our response. The revision was performed by UCEGEO due to a spatial shift in the 2012 data which minimally overlapped preexisting data. Monitoring data related to area calculations reliant on this dataset has been updated as part of the responses to this finding. Net GHG calculations will be updated after the majority of findings have been closed.</p> <p>Areas related to monitoring, including Adef,pa; Adef,lb; and ARRLforest, have been calculated using the below information and steps.</p> <ol style="list-style-type: none"> <li>1) Clip the 2012 Acre deforestation dataset with the boundary of the RRL. Calculate the area of each remaining polygon. Sum these areas. The difference between the total area of the RRL and the sum of these area (i.e., the sum of all deforestation in the RRL) gives you the parameter, ARRLforest2012 = 2,254,559.2 ha.</li> <li>2) Open the attribute table and select all deforestation from 2011 and 2012. Export this data and save as a shapefile.</li> <li>3) Clip the 2011 and 2012 deforestation layer with the project boundary. This results in a shapefile of the 2011 and 2012 deforestation which has occurred within the project boundary.</li> <li>4) An intersect was then performed between the 2011/2012 deforestation in the project area and a spatially explicit map of the Purus Project strata. Calculate the area of each remaining polygon. Sum these areas by year and strata (veg type).<br/> Adef,pa 2011 FAB + FAP 2.7<br/> Adef,pa 2011 FAP – Alluvial 36.2<br/> Adef,pa 2012 FAB + FAP 16.3<br/> Adef,pa 2012 FAP – Alluvial 70.2</li> <li>5) Clip the 2011 and 2012 deforestation layer with the leakage belt boundary. This results in a shapefile of the 2011 and 2012 deforestation which has occurred within the project boundary.</li> <li>6) An intersect was then performed between the 2011/2012 deforestation in the leakage belt area and a spatially explicit map of the Purus leakage belt strata. Calculate the area of each remaining polygon. Sum these areas by year and strata (veg type).</li> <li>7) For the leakage strata, the veg type “Áreas Antropizadas” is considered part of the FAP-Alluvial strata. Due to an error in the typology of the Acre vegetation layer. The total deforestation by year in the FAP-Alluvial strata can be calculated directly, but the deforestation</li> </ol> |

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|                                      | <p>in the FAB + FAP strata has to be calculated as the difference between the total deforestation in the leakage belt per year minus the amount of deforestation in the FAP-Alluvial strata.</p> <p>Adef,lb; 2011 FAB + FAP 45.8</p> <p>Adef,lb 2011 FAP – Alluvial 34.3</p> <p>Adef,lb 2012 FAB + FAP 87.4</p> <p>Adef,lb 2012 FAP – Alluvial 93.4</p> <p>The parameters, Adef,pa; Adef,lb; and ARRLforest, as listed in Section 3.2 of the monitoring report have been updated. Further, changes to calculations dependent on the above parameters will result in updating values in Section 3.2, 4.2, and 4.3 of the monitoring report.</p> |
| <b>ESI Findings - Round 2</b>        | <p>Verified this calculation independently by reproducing GIS analysis using newly derived 2012 deforestation supplied by PP on Oct. 30, 2013. Confirmed updates to the Monitoring Report and 2012_PurusMonitoring 2013.10.30.xls. Item is addressed.</p>                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | <p>Yes</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| <b>Item Number</b>                                                                                                                                                                        | 22                                                                                                                                |
| <p>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</p> | <p>Remaining area of forest in RRL at time t (ARRL,forest,t)</p>                                                                  |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                             | <p>MR: Page 30, Files from client</p>                                                                                             |
| <b>ESI Findings - Round 1</b>                                                                                                                                                             | <p>I calculated a value much higher</p>                                                                                           |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                 | <p>CL: Please clarify if this value was calculated from the entire RRL boundary polygon or if historic nonforest was included</p> |

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|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Response from Client-Round 1</b></p> | <p>The 2012 Acre deforestation dataset has been revised, since our initial submission. We have included the updated dataset as part of our response. The revision was performed by UCEGEO due to a spatial shift in the 2012 data which minimally overlapped preexisting data. Monitoring data related to area calculations reliant on this dataset has been updated as part of the responses to this finding. Net GHG calculations will be updated after the majority of findings have been closed.</p> <p>Areas related to monitoring, including Adef,pa; Adef,lb; and ARRLforest, have been calculated using the below information and steps.</p> <p>1) Clip the 2012 Acre deforestation dataset with the boundary of the RRL. Calculate the area of each remaining polygon. Sum these areas. The difference between the total area of the RRL and the sum of these area (i.e., the sum of all deforestation in the RRL) gives you the parameter, ARRLforest2012 = 2,254,559.2 ha.</p> <p>2) Open the attribute table and select all deforestation from 2011 and 2012. Export this data and save as a shapefile.</p> <p>3) Clip the 2011 and 2012 deforestation layer with the project boundary. This results in a shapefile of the 2011 and 2012 deforestation which has occurred within the project boundary.</p> <p>4) An intersect was then performed between the 2011/2012 deforestation in the project area and a spatially explicit map of the Purus Project strata. Calculate the area of each remaining polygon. Sum these areas by year and strata (veg type).</p> <p>Adef,pa 2011 FAB + FAP 2.7<br/> Adef,pa 2011 FAP – Alluvial 36.2<br/> Adef,pa 2012 FAB + FAP 16.3<br/> Adef,pa 2012 FAP – Alluvial 70.2</p> <p>5) Clip the 2011 and 2012 deforestation layer with the leakage belt boundary. This results in a shapefile of the 2011 and 2012 deforestation which has occurred within the project boundary.</p> <p>6) An intersect was then performed between the 2011/2012 deforestation in the leakage belt area and a spatially explicit map of the Purus leakage belt strata. Calculate the area of each remaining polygon. Sum these areas by year and strata (veg type).</p> <p>7) For the leakage strata, the veg type “Áreas Antropizadas” is considered part of the FAP-Alluvial strata. Due to an error in the typology of the Acre vegetation layer. The total deforestation by year in the FAP-Alluvial strata can be calculated directly, but the deforestation in the FAB + FAP strata has to be calculated as the difference between the total deforestation in the leakage belt per year minus the amount of deforestation in the FAP-Alluvial strata.</p> <p>Adef,lb; 2011 FAB + FAP 45.8<br/> Adef,lb 2011 FAP – Alluvial 34.3<br/> Adef,lb 2012 FAB + FAP 87.4<br/> Adef,lb 2012 FAP – Alluvial 93.4</p> <p>The parameters, Adef,pa; Adef,lb; and ARRLforest, as listed in Section 3.2 of the monitoring report have been updated. Further, changes to calculations dependent on the above parameters will result in updating values in Section 3.2, 4.2, and 4.3 of the monitoring report.</p> |
| <p><b>ESI Findings - Round 2</b></p>       | <p>The response adequately addresses this CL. Verified this calculation independently by reproducing GIS analysis using newly derived 2012 deforestation supplied by PP on Oct. 30, 2013. Confirmed updates to the Monitoring Report.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes |
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| <b>Item Number</b>                                                                                                                                                                         | 23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>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</b> | Carbon stock in aboveground tree biomass assumed to be killed per unit area resulting from the creation of the skid trail in stratum I (CAB_tree_dest, i)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>ESI Findings - Round 1</b>                                                                                                                                                              | Reference to this parameter could not be located.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                  | CL: It is unclear where this was conducted in the calculations or where justification for not conducting it was provided. Please clarify.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Response from Client-Round 1</b>                                                                                                                                                        | <p>As JP noted when auditing the applicability conditions of this module, "No commercial timber harvest occurs in the baseline or with project case. - this is a forest protection project". As such parameters related to timber harvest were not included in the project document or monitoring report.</p> <p>The following text can be found in Section 3.3 of the monitoring report. "Further as no commercial harvest of timber (including FSC selective logging) occurs in the baseline or with project case, the degradation due to harvest of timber will not be monitored, thus parameter <math>\Delta CP, SelLog, i, t</math> is set to 0."</p> <p>The following text was added to the monitoring report in response to this finding, "As such, parameters related to calculating emissions from commercial timber harvest, including ADECKS, i, t; AROAD, i, t; CAB_tree_dest, i; CBB_tree_dest, i; CS/U, lg; CB, lg; Lsk; VEXT, z, i, t; VEXT, j, z, i, t; and WSKID, are not included in the project."</p> |
| <b>ESI Findings - Round 2</b>                                                                                                                                                              | Text describing that no commercial harvesting activities has been added to Section 3.3 of the monitoring report. As such, delta CP, selllog, i, t has been set equal to 0 and all other related parameters have not been included in the monitoring report. As commercial harvesting is not occurring, these items may be omitted. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                                                       | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| <b>Item Number</b> | 24 |
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| 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 | Carbon stock in belowground tree biomass assumed to be killed per unit area resulting from the creation of the d trail in stratum I (CBB_tree_dest, i)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Location in PD or Supporting Documents                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ESI Findings - Round 1                                                                                                                                                              | Reference to this parameter could not be located.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| NCR/CL/OFI-Round 1                                                                                                                                                                  | CL: It is unclear where this was conducted in the calculations or where justification for not conducting it was provided. Please clarify.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Response from Client-Round 1                                                                                                                                                        | <p>As JP noted when auditing the applicability conditions of this module, "No commercial timber harvest occurs in the baseline or with project case. - this is a forest protection project". As such parameters related to timber harvest were not included in the project document or monitoring report.</p> <p>The following text can be found in Section 3.3 of the monitoring report. "Further as no commercial harvest of timber (including FSC selective logging) occurs in the baseline or with project case, the degradation due to harvest of timber will not be monitored, thus parameter <math>\Delta CP, SelLog, i, t</math> is set to 0."</p> <p>The following text was added to the monitoring report in response to this finding, "As such, parameters related to calculating emissions from commercial timber harvest, including ADECKS, I, t; AROAD, i, t; CAB_tree_dest, i; CBB_tree_dest, i; CS/U, lg; CB, lg; Lsk; VEXT, z, i, t; VEXT, j, z, i, t; and WSKID, are not included in the project."</p> |
| ESI Findings - Round 2                                                                                                                                                              | Text describing that no commercial harvesting activities has been added to Section 3.3 of the monitoring report. As such, delta CP, sellog, i, t has been set equal to 0 and all other related parameters have not been included in the monitoring report. As commercial harvesting is not occurring, these items may be omitted. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NCR/CL/OFI Satisfied (Y or N)                                                                                                                                                       | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| Item Number                                                                                                                                                                         | 25                                                                               |
| 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 | Carbon stock of trees snapped, leaning, or uprooted in logging gap lg (CS/U, lg) |

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| <b>Location in PD or Supporting Documents</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>ESI Findings - Round 1</b>                 | Reference to this parameter could not be located.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>NCR/CL/OFI-Round 1</b>                     | CL: It is unclear where this was conducted in the calculations or where justification for not conducting it was provided. Please clarify.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Response from Client-Round 1</b>           | <p>As JP noted when auditing the applicability conditions of this module, "No commercial timber harvest occurs in the baseline or with project case. - this is a forest protection project". As such parameters related to timber harvest were not included in the project document or monitoring report.</p> <p>The following text can be found in Section 3.3 of the monitoring report. "Further as no commercial harvest of timber (including FSC selective logging) occurs in the baseline or with project case, the degradation due to harvest of timber will not be monitored, thus parameter <math>\Delta CP, SelLog, i, t</math> is set to 0."</p> <p>The following text was added to the monitoring report in response to this finding, "As such, parameters related to calculating emissions from commercial timber harvest, including ADECKS, i, t; AROAD, i, t; CAB_tree_dest, i; CBB_tree_dest, i; CS/U, lg; CB, lg; Lsk; VEXT, z, i, t; VEXT, j, z, i, t; and WSKID, are not included in the project."</p> |
| <b>ESI Findings - Round 2</b>                 | Text describing that no commercial harvesting activities has been added to Section 3.3 of the monitoring report. As such, delta CP, sellog, i, t has been set equal to 0 and all other related parameters have not been included in the monitoring report. As commercial harvesting is not occurring, these items may be omitted. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>          | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| <b>Item Number</b>                                                                                                                                                                         | 26                                                                                                                                        |
| <b>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</b> | Carbon stock of branches knocked to the ground as a direct consequence of tree felling in logging gap lg (CB, lg)                         |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                              |                                                                                                                                           |
| <b>ESI Findings - Round 1</b>                                                                                                                                                              | Reference to this parameter could not be located.                                                                                         |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                  | CL: It is unclear where this was conducted in the calculations or where justification for not conducting it was provided. Please clarify. |

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| <b>Response from Client-Round 1</b>  | <p>As JP noted when auditing the applicability conditions of this module, "No commercial timber harvest occurs in the baseline or with project case. - this is a forest protection project". As such parameters related to timber harvest were not included in the project document or monitoring report.</p> <p>The following text can be found in Section 3.3 of the monitoring report. "Further as no commercial harvest of timber (including FSC selective logging) occurs in the baseline or with project case, the degradation due to harvest of timber will not be monitored, thus parameter <math>\Delta CP, SelLog, i, t</math> is set to 0."</p> <p>The following text was added to the monitoring report in response to this finding, "As such, parameters related to calculating emissions from commercial timber harvest, including ADECKS, i, t; AROAD, i, t; CAB_tree_dest, i; CBB_tree_dest, i; CS/U, lg; CB, lg; Lsk; VEXT, z, i, t; VEXT, j, z, i, t; and WSKID, are not included in the project."</p> |
| <b>ESI Findings - Round 2</b>        | Text describing that no commercial harvesting activities has been added to Section 3.3 of the monitoring report. As such, delta CP, sellog, i, t has been set equal to 0 and all other related parameters have not been included in the monitoring report. As commercial harvesting is not occurring, these items may be omitted. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| <b>Item Number</b>                                                                                                                                                                         | 27                                                                                                                                        |
| <b>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</b> | Length of skid trail sk (Lsk)                                                                                                             |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                              |                                                                                                                                           |
| <b>ESI Findings - Round 1</b>                                                                                                                                                              | Reference to this parameter could not be located.                                                                                         |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                  | CL: It is unclear where this was conducted in the calculations or where justification for not conducting it was provided. Please clarify. |

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| <b>Response from Client-Round 1</b>  | <p>As JP noted when auditing the applicability conditions of this module, "No commercial timber harvest occurs in the baseline or with project case. - this is a forest protection project". As such parameters related to timber harvest were not included in the project document or monitoring report.</p> <p>The following text can be found in Section 3.3 of the monitoring report. "Further as no commercial harvest of timber (including FSC selective logging) occurs in the baseline or with project case, the degradation due to harvest of timber will not be monitored, thus parameter <math>\Delta CP, SelLog, i, t</math> is set to 0."</p> <p>The following text was added to the monitoring report in response to this finding, "As such, parameters related to calculating emissions from commercial timber harvest, including ADECKS, <math>i, t</math>; AROAD, <math>i, t</math>; CAB_tree_dest, <math>i</math>; CBB_tree_dest, <math>i</math>; CS/U, <math>lg</math>; CB, <math>lg</math>; Lsk; VEXT, <math>z, i, t</math>; VEXT, <math>j, z, i, t</math>; and WSKID, are not included in the project."</p> |
| <b>ESI Findings - Round 2</b>        | Text describing that no commercial harvesting activities has been added to Section 3.3 of the monitoring report. As such, delta CP, sellog, $i, t$ has been set equal to 0 and all other related parameters have not been included in the monitoring report. As commercial harvesting is not occurring, these items may be omitted. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| <b>Item Number</b>                                                                                                                                                                         | 28                                                                                                                                        |
| <b>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</b> | Volume extracted from logging stratum $z$ in stratum $i$ at time $t$ (VEXT, $z, i, t$ )                                                   |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                              |                                                                                                                                           |
| <b>ESI Findings - Round 1</b>                                                                                                                                                              | Reference to this parameter could not be located.                                                                                         |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                  | CL: It is unclear where this was conducted in the calculations or where justification for not conducting it was provided. Please clarify. |

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| <b>Response from Client-Round 1</b>  | <p>As JP noted when auditing the applicability conditions of this module, "No commercial timber harvest occurs in the baseline or with project case. - this is a forest protection project". As such parameters related to timber harvest were not included in the project document or monitoring report.</p> <p>The following text can be found in Section 3.3 of the monitoring report. "Further as no commercial harvest of timber (including FSC selective logging) occurs in the baseline or with project case, the degradation due to harvest of timber will not be monitored, thus parameter <math>\Delta CP, SelLog, i, t</math> is set to 0."</p> <p>The following text was added to the monitoring report in response to this finding, "As such, parameters related to calculating emissions from commercial timber harvest, including ADECKS, <math>i, t</math>; AROAD, <math>i, t</math>; CAB_tree_dest, <math>i</math>; CBB_tree_dest, <math>i</math>; CS/U, <math>lg</math>; CB, <math>lg</math>; Lsk; VEXT, <math>z, i, t</math>; VEXT, <math>j, z, i, t</math>; and WSKID, are not included in the project."</p> |
| <b>ESI Findings - Round 2</b>        | Text describing that no commercial harvesting activities has been added to Section 3.3 of the monitoring report. As such, delta CP, sellog, $i, t$ has been set equal to 0 and all other related parameters have not been included in the monitoring report. As commercial harvesting is not occurring, these items may be omitted. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| <b>Item Number</b>                                                                                                                                                                         | 29                                                                                                                                        |
| <b>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</b> | The volume of timber extracted of species $j$ for logging stratum $z$ , in stratum $i$ at time $t$ ; (VEXT, $j, z, i, t$ )                |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                              |                                                                                                                                           |
| <b>ESI Findings - Round 1</b>                                                                                                                                                              | Reference to this parameter could not be located.                                                                                         |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                  | CL: It is unclear where this was conducted in the calculations or where justification for not conducting it was provided. Please clarify. |

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| <b>Response from Client-Round 1</b>  | <p>As JP noted when auditing the applicability conditions of this module, "No commercial timber harvest occurs in the baseline or with project case. - this is a forest protection project". As such parameters related to timber harvest were not included in the project document or monitoring report.</p> <p>The following text can be found in Section 3.3 of the monitoring report. "Further as no commercial harvest of timber (including FSC selective logging) occurs in the baseline or with project case, the degradation due to harvest of timber will not be monitored, thus parameter <math>\Delta CP, SelLog, i, t</math> is set to 0."</p> <p>The following text was added to the monitoring report in response to this finding, "As such, parameters related to calculating emissions from commercial timber harvest, including ADECKS, i, t; AROAD, i, t; CAB_tree_dest, i; CBB_tree_dest, i; CS/U, lg; CB, lg; Lsk; VEXT, z, i, t; VEXT, j, z, i, t; and WSKID, are not included in the project."</p> |
| <b>ESI Findings - Round 2</b>        | Text describing that no commercial harvesting activities has been added to Section 3.3 of the monitoring report. As such, delta CP, sellog, i, t has been set equal to 0 and all other related parameters have not been included in the monitoring report. As commercial harvesting is not occurring, these items may be omitted. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| <b>Item Number</b>                                                                                                                                                                         | 30                                                                                                                                        |
| <b>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</b> | Mean width of skid trails (WSKID)                                                                                                         |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                              |                                                                                                                                           |
| <b>ESI Findings - Round 1</b>                                                                                                                                                              | Reference to this parameter could not be located.                                                                                         |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                                  | CL: It is unclear where this was conducted in the calculations or where justification for not conducting it was provided. Please clarify. |

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| <b>Response from Client-Round 1</b>  | <p>As JP noted when auditing the applicability conditions of this module, "No commercial timber harvest occurs in the baseline or with project case. - this is a forest protection project". As such parameters related to timber harvest were not included in the project document or monitoring report.</p> <p>The following text can be found in Section 3.3 of the monitoring report. "Further as no commercial harvest of timber (including FSC selective logging) occurs in the baseline or with project case, the degradation due to harvest of timber will not be monitored, thus parameter <math>\Delta CP, SelLog, i, t</math> is set to 0."</p> <p>The following text was added to the monitoring report in response to this finding, "As such, parameters related to calculating emissions from commercial timber harvest, including ADECKS, I, t; AROAD, i, t; CAB_tree_dest, i; CBB_tree_dest, i; CS/U, lg; CB, lg; Lsk; VEXT, z, i, t; VEXT, j, z, i, t; and WSKID, are not included in the project."</p> |
| <b>ESI Findings - Round 2</b>        | Text describing that no commercial harvesting activities has been added to Section 3.3 of the monitoring report. As such, delta CP, sellog, i, t has been set equal to 0 and all other related parameters have not been included in the monitoring report. As commercial harvesting is not occurring, these items may be omitted. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| <b>Item Number</b>                                                                                                                                                           | 31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Approved VCS Module VMD0017, Version 2.0 (31 July 2012), REDD Methodological Module: ESTIMATION OF UNCERTAINTY FOR REDD PROJECT ACTIVITIES (X-UNC), Sectoral Scope 14</b> | Uncertainty in the baseline rate of deforestation (UncertaintyBSL, RATE) is calculated referencing the 95% confidence limits of the regression model, calculated using standard regression analysis techniques (E.g. Hamilton, L.C. 1992. Regression with Graphics. Duxbury Press. Belmont, California. 363 pp). For the value of the referenced independent variable (time or population) at time t, the half-width of the 95% confidence interval for the dependent variable (predicted deforestation) is calculated as a percent of the dependent variable (modeled) value. Uncertainty cannot be less than zero. This process is represented by Equation 1 on Page 5. |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                | Monitoring Report: Section 4.4 ; Purus Forest Inventory data 2012.10.30.xls; 2012PurusMonitoring_2013.10.13.xls                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>ESI Findings - Round 1</b>                                                                                                                                                | The monitoring report references the "Forest biomass carbon inventory for the Purus REDD Project" this has not been provided to confirm calculations of uncertainty.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                    | NCR: Please provide the reference "Forest biomass carbon inventory for the Purus REDD Project", additionally, please ensure that uncertainty calculations associated with that inventory are transparent, or please provide additional documentation to ensure transparency.                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Response from Client-Round 1</b>                                                                                                                                          | The forest inventory report "Forest biomass carbon inventory for the Purus REDD Project, Acre State, Brazil" has been included as part of the response to this finding. Uncertainty calculations associated with the inventory are clearly documented in Section 7.2 of the forest inventory report.                                                                                                                                                                                                                                                                                                                                                                      |

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| <b>ESI Findings - Round 2</b>        | Uncertainty calculations have been performed in the "Purus Forest Inventory data 2012.10.30.xls" file. N/A as neither the regression nor the population driver approaches were used. The application of quantification of uncertainty is assessed elsewhere. This item can be closed. |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                   |

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| <b>Item Number</b>                                                                                                                                                          | 32                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Approved VCS Module VMD0017,Version 2.0 (31 July 2012), REDD Methodological Module: ESTIMATION OF UNCERTAINTY FOR REDD PROJECT ACTIVITIES (X-UNC), Sectoral Scope 14</b> | <b>Carbon stock or GHG sources (e.g. trees, dead wood, soil organic carbon, emission from fertilizer addition, emission from biomass burning etc.) in the baseline case (EBSL SS,i, pool#)</b>                                                                                                                                                                                                                                             |
| <b>Location in PD or Supporting Documents</b>                                                                                                                               | Monitoring Report: Section 4.4 ; Purus Forest Inventory data 2012.10.30.xls; 2012PurusMonitoring_2013.10.13.xls                                                                                                                                                                                                                                                                                                                            |
| <b>ESI Findings - Round 1</b>                                                                                                                                               | The parameter EBSL is not included in the monitoring report.                                                                                                                                                                                                                                                                                                                                                                               |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                   | NCR: Please include the parameter Ebsl ss,i,pool# in the monitoring report.                                                                                                                                                                                                                                                                                                                                                                |
| <b>Response from Client-Round 1</b>                                                                                                                                         | The parameters, EBSL,SS,i,pool# and UBSL,SS,i,pool# were added to Section 3.2 of the monitoring report. Further, uncertainty calculations were added to the "2012PurusMonitoring" workbook. Calculation of uncertainty followed the steps in the X-UNC module and resulted in a baseline C stock uncertainty of 10.1%. As there is no uncertainty in the baseline rate or the with project case, the uncertainty for the project is 10.1%. |
| <b>ESI Findings - Round 2</b>                                                                                                                                               | This parameter has been included in calculations and in section 3.2 of the monitoring report. The item has been addressed.                                                                                                                                                                                                                                                                                                                 |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                                        | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| <b>Item Number</b>                                                                                                                                                          | 33                                                                                                                                                                                                    |
| <b>Approved VCS Module VMD0017,Version 2.0 (31 July 2012), REDD Methodological Module: ESTIMATION OF UNCERTAINTY FOR REDD PROJECT ACTIVITIES (X-UNC), Sectoral Scope 14</b> | <b>Carbon stock or GHG sources (e.g. trees, down dead wood, soil organic carbon, emission from fertilizer addition, emission from biomass burning etc.) in the with-project case (EP,SS,i, Pool#)</b> |
| <b>Location in PD or Supporting Documents</b>                                                                                                                               | Monitoring Report: Section 4.4 ; Purus Forest Inventory data 2012.10.30.xls; 2012PurusMonitoring_2013.10.13.xls                                                                                       |

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| <b>ESI Findings - Round 1</b>        | The parameter EP, SS,I,Pool# is not included in the monitoring report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>NCR/CL/OFI-Round 1</b>            | NCR: Please include the parameter EP ss,I,pool# in the monitoring report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Response from Client-Round 1</b>  | The following text was added to Section 4.4 of the monitoring report in response to this finding, "As stated in the uncertainty module "where no ex post (re-)measurements of carbon pools or GHG sources have been made, i.e. uncertainty from these sources is already included in UncertaintyBSL,t*, cumulative project uncertainty through time t is therefore equal to uncertainty in baseline estimates." As no ex post measurements of carbon pools or GHG sources have occurred, parameters related to calculating uncertainty in the with-project scenario, including EP,SS,i, Pool# and UP,SS,i,pool#, are not been included in the project." |
| <b>ESI Findings - Round 2</b>        | This parameter is not required for the monitoring period as ex-post measurements have not been taken. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| <b>Item Number</b>                                                                                                                                                          | 34                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Approved VCS Module VMD0017,Version 2.0 (31 July 2012), REDD Methodological Module: ESTIMATION OF UNCERTAINTY FOR REDD PROJECT ACTIVITIES (X-UNC), Sectoral Scope 14</b> | Percentage uncertainty (expressed as 95% confidence interval as a percentage of the mean where appropriate) for carbon stocks and greenhouse gas sources in the baseline case (1,2...n represent different carbon pools and/or GHG sources) (UBSL,SS,i,pool#)                                                                                                                                                                              |
| <b>Location in PD or Supporting Documents</b>                                                                                                                               | Monitoring Report: Section 4.4 ; Purus Forest Inventory data 2012.10.30.xls; 2012PurusMonitoring_2013.10.13.xls                                                                                                                                                                                                                                                                                                                            |
| <b>ESI Findings - Round 1</b>                                                                                                                                               | The parameter UB, SS,I,Pool# is not included in the monitoring report.                                                                                                                                                                                                                                                                                                                                                                     |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                   | NCR: Please include the parameter UB ss,I,pool# in the monitoring report.                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Response from Client-Round 1</b>                                                                                                                                         | The parameters, EBSL,SS,i,pool# and UBSL,SS,i,pool# were added to Section 3.2 of the monitoring report. Further, uncertainty calculations were added to the "2012PurusMonitoring" workbook. Calculation of uncertainty followed the steps in the X-UNC module and resulted in a baseline C stock uncertainty of 10.1%. As there is no uncertainty in the baseline rate or the with project case, the uncertainty for the project is 10.1%. |
| <b>ESI Findings - Round 2</b>                                                                                                                                               | This parameter has been included in calculations and in section 3.2 of the monitoring report. The item has been addressed.                                                                                                                                                                                                                                                                                                                 |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                                        | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| <b>Item Number</b> | 35 |
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| <b>Approved VCS Module VMD0017,Version 2.0 (31 July 2012), REDD Methodological Module: ESTIMATION OF UNCERTAINTY FOR REDD PROJECT ACTIVITIES (X-UNC), Sectoral Scope 14</b> | Percentage uncertainty (expressed as 95% confidence interval as a percentage of the mean where appropriate) for carbon stocks and greenhouse gas sources in the with-project case (1,2...n represent different carbon pools and/or GHG sources) (UP,SS,i,pool#)                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Location in PD or Supporting Documents</b>                                                                                                                               | Monitoring Report: Section 4.4 ; Purus Forest Inventory data 2012.10.30.xls; 2012PurusMonitoring_2013.10.13.xls                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>ESI Findings - Round 1</b>                                                                                                                                               | The parameter UP, SS,I,Pool# is not included in the monitoring report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                                                   | NCR: Please include the parameter UP ss,I,pool# in the monitoring report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Response from Client-Round 1</b>                                                                                                                                         | The following text was added to Section 4.4 of the monitoring report in response to this finding, "As stated in the uncertainty module "where no ex post (re-)measurements of carbon pools or GHG sources have been made, i.e. uncertainty from these sources is already included in UncertaintyBSL,t*, cumulative project uncertainty through time t is therefore equal to uncertainty in baseline estimates." As no ex post measurements of carbon pools or GHG sources have occurred, parameters related to calculating uncertainty in the with-project scenario, including EP,SS,i, Pool# and UP,SS,i,pool#, are not been included in the project." |
| <b>ESI Findings - Round 2</b>                                                                                                                                               | This parameter is not required for the monitoring period as ex-post measurements have not been taken. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                                        | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| <b>Item Number</b>                                                                                                                                                                  | 36                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Approved VCS Module VMD0013,Version 1.0 (3 December 2010), REDD Methodological Module: Estimation of greenhouse gas emissions from biomass burning (E-BB), Sectoral Scope 14</b> | The average aboveground biomass stock before burning for a particular stratum ( $B_{i,t}$ in Equation 1) is estimated using <u><b>Equation 2 on Page 2</b></u>                                                                                                                                                                                                                                                                                                          |
| <b>Location in PD or Supporting Documents</b>                                                                                                                                       | Monitoring Report Section 3.2; 2012_PurusMonitoring 2013.07.05.xls; PD Section 4.3                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>ESI Findings - Round 1</b>                                                                                                                                                       | Calculation of $B_{i,t}$ is not shown in 2012_PurusMonitoring 2013.07.05.xls. The verifier cannot confirm that the values used for $B_{i,t}$ are reflective of $CAB_{tree,i,t} + CDW_{i,t}$ because the values for these two parameters have not been provided. Moreover, MR and PD both state that for $B_{i,t}$ it is "Conservatively assumed to be the carbon stock in all pools in the baseline case ( $CSBL,i$ ). The values used are not reflective of $CSBL,i$ . |

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| <b>NCR/CL/OFI-Round 1</b>            | NCR: Please justify why the values of $B_{i,t}$ are not reflective of $CSBL_{i,t}$ and provide the Forest Inventory Report so that the verifier can confirm that the values used for $B_{i,t}$ are reflective of $CAB_{tree,i,t} + CDW_{i,t}$ . Else, conservatively assume that $B_{i,t}$ is equal to $CSBL_{i,t}$ as stated in the PD. $B_{i,t}$ values of 196.2 tdm/ha and 155.0 tdm/ha for FAP-alluvial and FAB +FAP do not correlate to $CSBL_{i,t}$ (in tdm/ha) for those strata.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Response from Client-Round 1</b>  | <p>The forest inventory report "Forest biomass carbon inventory for the Purus REDD Project, Acre State, Brazil" has been included as part of the response to this finding. Further, strata specific values for the parameter <math>B_{i,t}</math> have been calculated in the revised "2012 Purus Monitoring" workbook. These calculations use information from Table 7.2 of the forest inventory report to calculate <math>B_{i,t}</math> values of 196.2 tdm/ha and 155.0 tdm/ha for FAP-alluvial and FAB +FAP, respectively.</p> <p>The following text in Table 3.3, "Conservatively assumed to be the carbon stock in all pools in the baseline case (<math>CSBL_{i,t}</math>)" was changed to read "Conservatively assumed to be the average aboveground biomass stock in the baseline case". This text was revised as the parameter <math>B_{i,t}</math> references units of "tonnes d. m. ha<sup>-1</sup>" rather than "t CO<sub>2</sub>e" as for the parameter <math>CSBL_{i,t}</math>. Further <math>CSBL_{i,t}</math> includes root biomass which was not in accordance with equation 2 of the E-BB module.</p> |
| <b>ESI Findings - Round 2</b>        | The calculation of the $B_{i,t}$ values was calculated based on inventory data. The calculation has been examined and confirmed. The item has been addressed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| <b>Item Number</b>                                                 | 37                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>VCS AFOLU Non-Permanence Risk Tool, Version 3.2 04 Oct 2012</b> | Project cash flow breakeven point is less than 4 years from the current risk assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Location in PD or Supporting Documents</b>                      | 2012_PurusMonitoring 2013.07.05.doc, pro forma for Purus and Valparaiso project.xls ( CCO's Valparaiso Proforma tab.); CarbonCo's Bank Statement.pdf; CFO Letter of Support for Purus, Russas, and Valparaiso Projects.pdf; CarbonCoCarbonNeutralSignedVERPADecember 302012.pdf                                                                                                                                                                                                                                                                                                                                    |
| <b>ESI Findings - Round 1</b>                                      | <p>Project cash flow breakeven point is 4 years or less from the current risk assessment. Details are provided in a cash flow analysis which can be found in the project database.</p> <p>The project financial prospects show that the project would reach break even well before the 4 year mark, however there is no support documentation for these numbers as required by the risk tool. It is not clear if any interest expenses, repayment of loans or forward purchase agreements, and any required equity distributions are considered, as stated as a minimum demonstration requirement in the tool.</p> |

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| <b>NCR/CL/OFI-Round 1</b>            | <p>NCR: It is unclear what details were provided for evidence of this item. AFOLU Risk Tool indicates that "Projects may demonstrate that funding has been secured through, for example, financial statements, bank records, executed commodity purchase agreements, executed emission reduction purchase agreements, or other signed contractual agreements. Evidence shall be provided that agreement counterparties are in good financial standing, to demonstrate the ability to meet the financial obligations."</p> <p>Please provide appropriate evidence.</p> |
| <b>Response from Client-Round 1</b>  | <p>To demonstrate CarbonCo has sufficient financial resources, CarbonCo provided to ESI: 1) a CFO Letter of Support for the Purus, Russas and Valparaiso Projects 2) a bank statement for CarbonCo and 3) a Verified Emission Reduction Purchase Agreement executed between CarbonCo and a buyer.</p> <p>These three documents were uploaded to the Risk Assessment subfolder in the shared DropBox folder entitled CarbonCo Project Archive.</p>                                                                                                                     |
| <b>ESI Findings - Round 2</b>        | <p>The verifier has reviewed the support documentation provided by the PP. 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. The item has been addressed.</p>                                                                                                                                                                                                        |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| <b>Item Number</b>                                                 | 38                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>VCS AFOLU Non-Permanence Risk Tool, Version 3.2 04 Oct 2012</b> | Mitigation: Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Location in PD or Supporting Documents</b>                      | 2012_PurusMonitoring 2013.07.05.doc; CarbonCo's Bank Statement.pdf; CFO Letter of Support for Purus, Russas, and Valparaiso Projects.pdf; CarbonCoCarbonNeutralSignedVERPADecember 302012.pdf                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>ESI Findings - Round 1</b>                                      | <p>Project has available at least 50% of the total cash out before project reaches breakeven. Project proponents are utilizing internal, non-restricted funds as evidenced in the project database.</p> <p>Callable financial resources are those not included in secured funding, but that are readily available to the project. The availability of such resources may be indicated through letters of credit, revolving credit lines or other financial backing, as evidenced by signed agreements and which demonstrate the project's ability to access funding as needed.</p> <p>It does not appear that the project has provided evidence that they have callable resources available.</p> |

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| <b>NCR/CL/OFI-Round 1</b>            | NCR: Please provide evidence of callable financial resources including "letters of credit, revolving credit lines or other financial backing, as evidenced by signed agreements and which demonstrate the project's ability to access funding as needed."                                                                                                                                                                                         |
| <b>Response from Client-Round 1</b>  | <p>To demonstrate CarbonCo has sufficient financial resources, CarbonCo provided to ESI: 1) a CFO Letter of Support for the Purus, Russas and Valparaíso Projects 2) a bank statement for CarbonCo and 3) a Verified Emission Reduction Purchase Agreement executed between CarbonCo and a buyer.</p> <p>These three documents were uploaded to the Risk Assessment subfolder in the shared DropBox folder entitled CarbonCo Project Archive.</p> |
| <b>ESI Findings - Round 2</b>        | 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. The item has been addressed.                                         |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| <b>Item Number</b>                                                 | 39                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>VCS AFOLU Non-Permanence Risk Tool, Version 3.2 04 Oct 2012</b> | Mitigation: Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over the length of the project crediting period                                                                                                                                                                                 |
| <b>Location in PD or Supporting Documents</b>                      | 2012_PurusMonitoring 2013.07.05.doc                                                                                                                                                                                                                                                                                                                                                         |
| <b>ESI Findings - Round 1</b>                                      | 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. There are a couple legal contracts available in the project files. The tri party agreement appears to be a legally binding contract within the United States and explicitly states as such. |
| <b>NCR/CL/OFI-Round 1</b>                                          | CL: Please explain the legal agreement's enforceability as a means of protecting the carbon stocks within the State of Acre and/or Brazil.                                                                                                                                                                                                                                                  |

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| <b>Response from Client-Round 1</b>  | <p>As stated by the Consulate General of Brazil in Washington, “any document which originates outside Brazil requires legalization by the Consulate to be recognized and to ensure the validity of the document. The legalization consists of the recognition of the signature or authentication of the actual document” (See <a href="http://cgwashington.itamaraty.gov.br/en-us/procedures_for_legalization_and_authentication_of_documents.xml">http://cgwashington.itamaraty.gov.br/en-us/procedures_for_legalization_and_authentication_of_documents.xml</a>). In accordance with the Consulate’s guidance, CarbonCo undertook the following steps to ensure the Tri-Party Agreements are legally-binding in both Brazil and the United States of America:</p> <ul style="list-style-type: none"> <li>• Counterparties in Brazil sign identical Tri-Party Agreements in English and Portuguese and then have their signatures notarized.</li> <li>• The Chief Executive Officer of CarbonCo signs the Tri-Party Agreements, with original signatures of our counterparties, and the CEO’s signature is also notarized.</li> <li>• The fully-signed Agreements are brought to the Office of the Clerk of the Circuit Court for Montgomery County (note: CarbonCo is based in Bethesda, Maryland of Montgomery County) to certify that the notarizer of CarbonCo’s CEO signature “is a commissioned/appointed and qualified notary public.”</li> <li>• The Agreements are then sent to the Office of the Secretary of State for Maryland to provide a statement declaring the Clerk of the Circuit Court is “the duly elected and qualified Clerk of the Circuit Court for Montgomery County whose official acts as such should be given full faith and credit in all Courts of Justice and elsewhere.”</li> <li>• Finally, the Agreements are brought to the Consulate General of Brazil in Washington for the legalization and authentication of the Agreement to be used in both Brazil and the United States of America. This final process is demonstrated with a seal affixed to the Tri-Party Agreements.</li> </ul> |
| <b>ESI Findings - Round 2</b>        | The verifier reviewed the Consulate General of Brazil website. Based on the provided response from the proponent and the web review it is clear that the tri-party document has been legalized within Brazil based on the affixed seal. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| <b>Item Number</b>                                                 | 40                                                                  |
| <b>VCS AFOLU Non-Permanence Risk Tool, Version 3.2 04 Oct 2012</b> | Ownership and resource access/use rights are held by same entity(s) |
| <b>Location in PD or Supporting Documents</b>                      | 2012_PurusMonitoring 2013.07.05.doc and site visit.                 |

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| <b>ESI Findings - Round 1</b>        | <p>The landowners, whom are also project proponents (Moura &amp; Rosa), own the project area outright (see PD Section 1.12) and have full resource access/use rights, who are not shared with anyone. The property was geo-referenced and officially registered in the cadaster (Cadastro Ambiental Rural), a process which involved on the ground assessment of all property boundaries and consultations with neighboring landowners and resolution of any existing boundary disputes.</p> <p>The ownership of the project area was fairly obvious with regards to the interviews conducted while on the site visit. It was clear that the community members knew that they were not the owners of the property. They were however slowly encroaching into the forest with their deforestation activities.</p>                                                                                                                                                                                                                                                 |
| <b>NCR/CL/OFI-Round 1</b>            | CL: Please present evidence of ownership.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Response from Client-Round 1</b>  | Four documents have been uploaded to a newly created subfolder on DropBox entitled, "08 Title Documentation." These documents were provided at validation to demonstrate landownership by Moura & Rosa. The first Purchase and Sales document demonstrates that in 2009 Wanderley and Normando bought the Itatinga parcel from Sidenei Delbem and Acir Israel Caccia who were the previous landowners. The three remaining documents make up the "certidao de inteiro teor" for the Itatinga and Porto Central parcels.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>ESI Findings - Round 2</b>        | <p>The provided documents were translated to the best of the verifier's ability and reviewed. 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 &amp; ROSA HOLDINGS LTD in 2009. M&amp;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 Mora &amp; Rosa in December 2009. M&amp;R - Certid_oNegativaAç_es - Matricula-nº 1920 - PortoCentral - 14.03.12.pdf and M&amp;R - Cetid_o Matricúla-nº1920-PortoCentral - 14.03.12.pdf indicate that Norman Sales Rodrigues has full ownership rights to the Seringal Porto Central Property. The certification documents are dated March 2012. This item is addressed.</p> |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| <b>Item Number</b>                                                 | 41                                                                                                                                                                                                                                |
| <b>VCS AFOLU Non-Permanence Risk Tool, Version 3.2 04 Oct 2012</b> | Mitigation: Project area is protected by legally binding commitment (e.g., a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period |
| <b>Location in PD or Supporting Documents</b>                      | 2012_PurusMonitoring 2013.07.05.doc and site visit and two agreements given to verifiers. Tri party agreement and community agreement.                                                                                            |

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| <b>ESI Findings - Round 1</b>        | 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.<br>The tri Party agreement does indicate that it is a legally binding contract within the US, however it is not clear if it is legally binding in Brazil.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>NCR/CL/OFI-Round 1</b>            | NCR: Please provide evidence that the agreement is legally binding in Brazil.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Response from Client-Round 1</b>  | As stated by the Consulate General of Brazil in Washington, “any document which originates outside Brazil requires legalization by the Consulate to be recognized and to ensure the validity of the document. The legalization consists of the recognition of the signature or authentication of the actual document” (See <a href="http://cgwashington.itamaraty.gov.br/en-us/procedures_for_legalization_and_authentication_of_documents.xml">http://cgwashington.itamaraty.gov.br/en-us/procedures_for_legalization_and_authentication_of_documents.xml</a> ). In accordance with the Consulate’s guidance, CarbonCo undertook the following steps to ensure the Tri-Party Agreements are legally-binding in both Brazil and the United States of America:<br><ul style="list-style-type: none"> <li>• Counterparties in Brazil sign identical Tri-Party Agreements in English and Portuguese and then have their signatures notarized.</li> <li>• The Chief Executive Officer of CarbonCo signs the Tri-Party Agreements, with original signatures of our counterparties, and the CEO’s signature is also notarized.</li> <li>• The fully-signed Agreements are brought to the Office of the Clerk of the Circuit Court for Montgomery County (note: CarbonCo is based in Bethesda, Maryland of Montgomery County) to certify that the notarizer of CarbonCo’s CEO signature “is a commissioned/appointed and qualified notary public.”</li> <li>• The Agreements are then sent to the Office of the Secretary of State for Maryland to provide a statement declaring the Clerk of the Circuit Court is “the duly elected and qualified Clerk of the Circuit Court for Montgomery County whose official acts as such should be given full faith and credit in all Courts of Justice and elsewhere.”</li> <li>• Finally, the Agreements are brought to the Consulate General of Brazil in Washington for the legalization and authentication of the Agreement to be used in both Brazil and the United States of America. This final process is demonstrated with a seal affixed to the Tri-Party Agreements.</li> </ul> |
| <b>ESI Findings - Round 2</b>        | The verifier reviewed the Consulate General of Brazil website. Based on the provided response from the proponent and the web review it is clear that the tri-party document has been legalized within Brazil based on the affixed seal. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| <b>Item Number</b>                                                 | 42                                                                                                                                                                    |
| <b>VCS AFOLU Non-Permanence Risk Tool, Version 3.2 04 Oct 2012</b> | Less than 20 percent of households living within 20 km of the project boundary outside the project area, and who are reliant on the project area, have been consulted |
| <b>Location in PD or Supporting Documents</b>                      | 2012_PurusMonitoring 2013.07.05.doc and site visit                                                                                                                    |

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| <b>ESI Findings - Round 1</b>        | <p>All households living on the Purus property directly adjacent to the project area have been consulted and to their knowledge, all families reliant on the project area have been contacted.</p> <p>Verifiers observations confirm that this is the case and have no reason to believe that any communities within the project area have been passed over. Several personal meetings with residents in and outside the project area during the site visit confirm this finding. However, the only instance where the risk tool permits a score of "0" here is if there are no communities reliant on the project area, which is not the case.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>NCR/CL/OFI-Round 1</b>            | A score of zero has been provided, however that is only possible where there are no communities reliant on the project area. It appears a score of "5" is appropriate here. Please address.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Response from Client-Round 1</b>  | <p>The VCS AFOLU Non-Permanence Risk Tool guidance states, "Community engagement shall be assessed for projects where local populations, including those living within or surrounding the project area (given as within 20 km of the project boundary), are reliant on the project area, such as for essential food, fuel, fodder, medicines or building materials. Where local populations are not reliant on the project area, the risk is not relevant to the project and the risk rating for community engagement (CE) shall be zero. Evidence may include social assessments such as household surveys and participatory rural appraisals." Thus, there are two scenarios when a score of zero is justified. The first scenario is when no local populations are reliant on the project area. The second scenario is when all the communities reliant on the project area have been consulted, which is the case for the Purus Project.</p> <p>We think the confusion stems from the fact that this risk section is assessed differently from the other sections, this is not an A or B. For this section, both A and B are assessed independently. Where the answer to question A is "no", a risk of zero is scored for A. Where the answer to questions B is "no", a risk of zero is scored for B.</p> |
| <b>ESI Findings - Round 2</b>        | 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. The item has been addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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| <b>Item Number</b>                                                 | 43   |
| <b>VCS AFOLU Non-Permanence Risk Tool, Version 3.2 04 Oct 2012</b> | Fire |

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| <b>Location in PD or Supporting Documents</b> | 2012_PurusMonitoring 2013.07.05.doc<br>-Cochrane M.A.& Laurance W.F., 2002. Fire as a large-scale edge effect in Amazonian forests, Journal Of Tropical Ecology, 18:311-325.<br>-Cochrane M.A., Alencar A., Schulze M.D., Souza C.M., Nepstad D.C., Lefebvre P. & Davidson E.A., 1999. Positive feedbacks in the fire dynamic of closed canopy tropical forests, Science, 284(5421):1832-1835.<br>-Cochrane M.A.& Schulze M.D., 1999. Fire as a recurrent event in tropical forests of the eastern Amazon: Effects on forest structure, biomass, and species composition, Biotropica, 31(1):2-16.<br>66 Cochrane M.A.& Laurance W.F., 2002. Fire as a large-scale edge effect in Amazonian forests, Journal of Tropical Ecology, 18:311-325.                                                                                                                                                                                                                                                                                                                                                                             |
| <b>ESI Findings - Round 1</b>                 | <p>The project proponent makes the case that frequency is tied to anthropogenic sources and forest edge, that severity is likely to be limited due to incomplete combustion of live aboveground biomass and that drought is key to both frequency and intensity.</p> <p>While it is agreed that proportionally there is limited forest edge, the droughts of 2005 and 2010 were some of the worst on record for the region and literature (e.g.. "The Incidence of Fire in Amazonian Forests with Implications for REDD", Luiz E. O. C. Aragão, Yosio E. Shimabukuro) appears to support an increased frequency of fires and drought. Further the project proponent states that "Despite fire induced tree mortality, tree mortality itself is unlikely to result in the loss of substantial biomass due to incomplete combustion of live aboveground biomass. Biomass is merely transferred from the live biomass to dead biomass pool, which is also accounted for in this project." however if drought conditions occur in subsequent years, subsequent fires will likely occur which would result in reductions.</p> |
| <b>NCR/CL/OFI-Round 1</b>                     | Please provide further justification for the fire return interval of 10-25 years as the study provided by the project proponent was from another part of the Amazon and other literature appears to support an increased fire frequency. Please provide additional support for the severity score within the context of the 2005 and 2010 droughts as the potential for subsequent fires is possible when drought conditions reoccur with greater frequency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

**Response from Client-  
Round 1**

Incidence of fire in the Amazon has increased with recent severe droughts of 1998, 2005 and 2010, all of which preceded the project validation date and informed the risk assessment. While drought conditions facilitate forest fire, fire still requires sufficient fuel loads (typically produced from previous disturbance) and an ignition source, both of which can reasonably be assumed to be less (and by extension, fire incidence should be less) in the large, intact block of forest at Purus (and maintained through project-funded protection activities) than in the surrounding land use matrix. The referenced paper (Aragao and Shimbukuro 2010) in fact shows that the state of Acre, which has large blocks of intact forest, has no observed increase in fire incidence from 1998 to 2006 (Figure 1b.), as compared with more developed and impacted areas of the eastern and central Amazon (e.g. Para, Mato Grosso, Rondonia and Maranhao). Consequently, the rates of fire incidence referenced in the project risk report (Cochrane and Laurance 2002), based on data from Para state, should be considered overestimates of expected incidence in Acre, and therefore clearly conservative.

Aragao and Shimbukuro (2010) further observe that “fire-free land-management can substantially reduce fire incidence by as much as 69%.” The state of Acre, as part of its State System of Incentives for Environmental Services (SISA), has instituted state-wide fire control and monitoring activities since 2010, and should be expected to show results similar to those areas of fire-free land-management witnessed (between 1998 and 2006) by Arago and Shimbukuro. The Purus project area should be expected to benefit in terms of reduced fire risk from decreased fire incidence and proximal ignition sources in the surrounding land use matrix.

The original validated severity score for forest fire (Minor; < 25% loss of carbon stocks) is consistent with expected severity with increased incidence of droughts (and likely conservative). A severe burn (subsequent to initial lighter burns) can result in up to 40% mortality of stems. Assuming this represents ~40% of aboveground biomass (often mortality will be mostly in smaller, less resilient stems), equivalent to ~33% reduction of total above- and belowground biomass (assuming an average belowground component equal to 20% of aboveground biomass), a 25% loss of project carbon stocks would require a severe burn on ~3/4 of the entire project area ( $26,289 \text{ ha} = 34,702 \text{ ha} * 0.25 * (1/0.33)$ ). (note this calculation does not even consider that all biomass is killed stems is not immediately oxidized at the time of burn, but instead emitted gradually through decomposition, and some is locked up in recalcitrant charcoal) A fire covering this extent of the project area would be highly unlikely – not only would it be an exceptionally large area for a single burn, but it would have to cross the Purus River to affect 26,289 ha of the project area (the largest continuous block of the project area, “Central”, located north of the river, is only 17,735 ha), and thus probably impossible.

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|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ESI Findings - Round 2</b>        | Additional justification for the 10-25 year return interval seem 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. This item has been addressed. |
| <b>NCR/CL/OFI Satisfied (Y or N)</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| <b>Item Number</b>                                                                                                                                  | 44                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Approved VCS Methodology VM0007 Version 1.3, 20 November 2012 REDD Methodology Module REDD Methodology Framework (REDD-MF) Sectoral Scope 14</b> | All land areas registered under the CDM or under any other carbon trading scheme (both voluntary and compliance-orientated) must be transparently reported and excluded from the project area. The exclusion of land in the project area from any other carbon trading scheme shall be monitored over time and reported in the monitoring reports                                                                             |
| <b>Location in PD or Supporting Documents</b>                                                                                                       | PD Section 2.2                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>ESI Findings - Round 1</b>                                                                                                                       | PD States "The Purus Project is not registered in any carbon trading scheme or program." - This would have been assessed at validation. While it is clear that the project area has not changed, the Monitoring Report makes no mention of this requirement of monitoring.                                                                                                                                                    |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                           | NCR: Please include in the Monitoring Report a statement regarding the monitoring of exclusion of land from the project area due to registration under another carbon trading scheme. Please identify where this information was added.                                                                                                                                                                                       |
| <b>Response from Client-Round 1</b>                                                                                                                 | The following text was added to Section 3.3 of the monitoring plan: "None of the project area has been or will be registered under another carbon trading scheme during the VCS project lifetime, other than CCBA. Further, the property is under the private ownership of Moura & Rosa, a project proponent, and registration under the CDM or under any other carbon trading scheme is not feasible without their consent." |
| <b>ESI Findings - Round 2</b>                                                                                                                       | The stated revision to the Monitoring Report is adequate for closing this. Confirmed revision was added as indicated. Item is addressed.                                                                                                                                                                                                                                                                                      |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                | Yes                                                                                                                                                                                                                                                                                                                                                                                                                           |

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| <b>Item Number</b>                                                                                                                                  | <b>45</b>                                                                                                                                                                |
| <b>Approved VCS Methodology VM0007 Version 1.3, 20 November 2012 REDD Methodology Module REDD Methodology Framework (REDD-MF) Sectoral Scope 14</b> | To estimate the number of Verified Carbon Units (VCUs) for the monitoring period $T = t_2 - t_1$ , this methodology uses <b><u>equation 8 on Page 19</u></b>             |
| <b>Location in PD or Supporting Documents</b>                                                                                                       | MR Section 4.4                                                                                                                                                           |
| <b>ESI Findings - Round 1</b>                                                                                                                       | Confirmed application of the equation (pending X-UNC items). Also, the values for VCUs in MR Table 4.11 sum to 163,055 vs. 163,056, This is clearly due to rounding.     |
| <b>NCR/CL/OFI-Round 1</b>                                                                                                                           | CL: Please report the total VCU value of 163,055 in Monitoring Report Table 4.11. Else, indicate that the values for 2011 and 2012 do not sum correctly due to rounding. |
| <b>Response from Client-Round 1</b>                                                                                                                 | The following text was added to the header of Table 4.11 "Values in this table have been rounded to the nearest whole number."                                           |
| <b>ESI Findings - Round 2</b>                                                                                                                       | The stated revision to the Monitoring Report is adequate for closing this. Confirmed revision was added as indicated. Item is addressed.                                 |
| <b>NCR/CL/OFI Satisfied (Y or N)</b>                                                                                                                | Yes                                                                                                                                                                      |