



VCS VERIFICATION REPORT

“THE CHOCO-DARIEN CONSERVATION CORRIDOR REDD PROJECT ” IN COLOMBIA

MONITORING PERIOD:
18 OCTOBER 2010 TO 15 JUNE 2012

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Prepared By	DET NORSKE VERITAS (U.S.A.) INC.
Contact	Det Norske Veritas USA Inc 155 Grand Avenue, Suite 500 Oakland, CA 94612 Office Phone Number: +1 510 891 0461
Approved By	Weidong Yang
Work Carried Out By	Edwin Aalders, Pablo Reed, Peter Kelly
Technical review by:	Misheck Chomba Kapambwe

Summary:

DNV Climate Change Services AS (DNV) has performed the verification of the emission reductions reported for the "The Choco-Darien Conservation Corridor REDD Project " for the period 18 October 2010 to 15 June 2012, to review and determine the monitored reductions in GHG emissions that have occurred as a result of the project activity.

The verification was performed on the basis of VCSA Programme Guidelines & Standard version 3.3 for the VCS projects, as well as criteria given to provide for consistent project operations, monitoring and reporting. The verification was conducted by means of document review, follow-up interviews and site inspection, and the resolution of outstanding issues.

In our opinion, the GHG emission reductions reported for the project in the monitoring report (version 2.35) 16 July 2012, are fairly stated. The GHG emission reductions were calculated correctly on the basis of approved methodology VM0009 (version 2) and the monitoring plan contained in the VCS PD of 16 July 2012.

Hence, DNV Climate Change Services AS (DNV) is able to certify that the net anthropogenic GHG emission reductions and removals (i.e. net GHG benefits) from the "The Choco-Darien Conservation Corridor REDD Project " during the period amount to 124 497 tonnes CO₂ equivalent. DNV Climate Change Services AS verified that the non-permanence risk rating of the proposed project activity for this verification is 16% which is to be applied to the change in carbon stocks at this verification (i.e. equal to 19 920 tCO₂e). The amount of VCUs to be issued would be 104 577 tCO₂e.

DNV does not assume any responsibility towards the issuance and utilization of the VCUs hereby verified and certified. Request for issuance of VCUs shall be made by the project proponent to an approved VCS Program Registry based on the requirements set out under the most recent version of the VCS Program Guidelines clause on VCS Registration.

The verification of reported emission reductions is based on the information made available to DNV and the engagement conditions detailed in this report. DNV cannot be held liable by any party for decisions made or not made based on this report.

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1 INTRODUCTION

Anthrotect S.A.S. has commissioned DNV Climate Change Services AS (DNV) to carry out the verification and certification of removals and emission reductions reported for the “The Choco-Darien Conservation Corridor REDD Project ” (the project) in the period 18 October 2010 to 15 June 2012. This report contains the findings from the verification and includes a verification statement for the verified carbon units.

1.1 Objective

Verification is the periodic independent review and *ex-post* determination by an accredited Verification Body (VB) of the monitored emissions by sources and removals by sinks that have occurred as a result of the registered VCS project activity during a defined verification period.

A verification statement is the written assurance by a DOE that, during a specific period in time, a project activity achieved the net anthropogenic GHG emissions or removals as verified.

The objective of this verification was to verify the net anthropogenic GHG emissions and removals reported for the “The Choco-Darien Conservation Corridor REDD Project ” for the period 18 October 2010 to 15 June 2012.

1.2 Scope and Criteria

The scope of the verification is:

- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.
- To evaluate the GHG removals and GHG emissions data and express a conclusion with a reasonable level of assurance about whether the reported GHG removals and GHG emissions data is free from material misstatement.
- To verify that reported GHG removals and GHG emissions data is sufficiently supported by evidence.

The verification shall ensure that reported net anthropogenic GHG emissions and removals are complete and accurate in order to be certified.

The criteria of the verification are:

- The approved VCS methodology VM0009 Version 2 /25/
- VCS Standard version 3.3 and other relevant requirements defined by VCSA/26/ /27/
- VCS AFOLU Requirements version 3.3 /29/
- VCS Program Definitions: VCS Version 3.4 /28/
- VCSA: AFOLU requirements: VCS Monitoring Report Template 3.2 /30/

The verification shall ensure that reported emission reductions or removals are complete and accurate in order to be verified.

1.3 Level of assurance

The verification report expresses a conclusion with a reasonable level of assurance about whether the reported net anthropogenic GHG emissions or removals data is free from material misstatement. DNV applied a materiality threshold of 5% with respect to omission or misstatements concerning reported quantities as per VCS standard 5.3.1 4).

1.4 Summary Description of the Project

This project leverages carbon finance in order to avoid mosaic conversion of tropical forests and therefore reduce greenhouse gas emissions. The project employs a Reduced Emissions from Deforestation and Degradation (REDD) project methodology to determine the magnitude of these emissions reductions. Through a combination of forest protection and sustainable development activities, this project is estimated to avoid the emission of 2.8 Million metric tonnes of CO₂e over the project lifetime that would have resulted from deforestation of approximately 50% of the project area over the next thirty years. The project has applied the VCS methodology “VM0009”, version 2.

Project Proponents (Parties):	Anthrotect S.A.S. : Calle 7D #43C-23 Medellin, Colombia (+57 (4) 266-1250.
Title of project activity:	The Choco-Darien Conservation Corridor REDD Project
Baseline and monitoring methodology	VM0009. Version 2.
Location of the project activity	The project is located in the Darien region of Northwest Colombia within the administrative jurisdictions of the department of Choco and the Municipality of Acandi. The project is approximately 250km Northwest of Bogota and 10km southwest of the town of Acandi, and is adjacent to the Colombia-Panama border.
Project’s crediting period:	18 October 2010 to October 17 2040
Period verified in this verification:	18 October 2010 to 15 June 2012

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification was performed through means of the following three phases in accordance with the requirement of the registered VCS PD/1/, the applied methodology, and VCS Standard Version 3.3 /26/ and other relevant VCS requirements:

- A desk review of the monitoring report and all support documents.
- Follow-up interviews with project stakeholders and onsite inspection.
- The resolution of outstanding issues and the issuance of the verification report and statement.

The following sections outline each step in more detail.

The verification of the net GHG emissions or removals has assessed all factors and issues that constitute the basis for GHG removals and emissions from the project. These include:

- i) Review of the monitoring report, the non-permanence risk assessment and other relevant documentation such as Standard Operating Procedures /2/ /3/ /7/ /8/;
- ii) Remote verification of the project boundary using high resolution LANDSAT images, boundary shape files using ArcGis, and visually checking the accuracy of these boundary delineations;
- iii) Forest inventory field data sheets, forest inventory calculation spreadsheets, leakage calculation spread sheets, allometry calculation spreadsheets, and net GHG emission reductions spread sheets /10/ /11/ /12/ /13/ /14/ /15/ /16/ /17/
- iv) Geographical datasets with the delineation of the project area, the project strata, and the location of the permanent sample plots /11/ /12/;

Verification team

The verification team is in accordance with the internal qualification procedures of DNV Climate Change Services AS

Role	Last Name	First Name	Country	Type of involvement					
				Desk review	Site visit / Interviews	Reporting	Supervision of work	Technical review	TA 14.1 competence
Team leader (Validator / Verifier)	Aalders	Edwin	Norway	✓		✓	✓		✓
Program Manager/Site Visit Validator / Verifier	Reed	Pablo Eduardo	USA	✓	✓	✓			✓
Field Assistant / Auditor in Training	Kelly	Peter	USA		✓				
Technical Reviewer	Kapambwe	Misheck	Australia					✓	✓

Duration of verification

Preparations: From 04 June 2012 to 20 June 2012
 On-site verification: From 21 June 2012 to 28 June 2012
 Reporting, calculation checks and QA/QC: From 04 June 2012 to 14 November 2012

2.2 Document Review

The monitoring report of the most recent monitoring period (version 2.32, 16 July 2012) /2/, the non-permanence risk assessment /3/, the monitoring forest and leakage plot measurement protocols /7/ /8/, the forest inventory field data sheets/11/, forest inventory calculation spreadsheet /10/; leakage calculation spread sheet /13/, the net GHG emission reductions spread sheet /10/; the high resolution Landsat images, geo datasets with the delineation of the project area and the project strata, and the geo datasets with the location of the permanent sample plots, were assessed as part of the verification. In addition, the VCS PD (in particular the baseline estimations and the monitoring plan contained in the VCS PD)/1/, and the applicable approved methodology VM0009 Version 2 /25/ were checked.

The following is a comprehensive list of documents provided by the Project Participants that relate directly to the GHG components of the project. These have been used as direct sources of evidence for the periodic verification conclusions, and are usually further checked through interviews with key personnel.

- /1/ Anthrotect and EcoPartners: VCS PD for project activity “The Choco-Darien Conservation Corridor REDD Project ” in Colombia, version 1.60 dated 8 June 2012 reviewed during the desk review and version 1.81 dated 16 July 2012
- /2/ Anthrotect and EcoPartners: *VCS Monitoring Report (MR) for project activity “The Choco-Darien Conservation Corridor REDD Project ” in Colombia*, version 2.24 dated 8 June 2012 reviewed during the desk review and version 2.35 dated 16 July 2012 validated by DNV.
- /3/ Anthrotect: *Non-permanence risk report: VCS version 3 – The Choco-Darien Conservation Corridor REDD Project*, version 1, 16 July 2012
- /4/ Anthrotect and EcoPartners: Monitoring Plan, Version 1, June 11, 2012
- /5/ Anthrotect and EcoPartners: Data and Parameters Monitored, Version 1, June 11, 2012
- /6/ Anthrotect and EcoPartners: Data and parameters available at Validation, Version 1, June 11, 2012
- /7/ Anthrotect and EcoPartners: Forest Measurement Protocol, Version 1, June 11, 2012
- /8/ Anthrotect and EcoPartners: Leakage Plot Sampling Protocol, Version 1, June 11, 2012
- /9/ Anthrotect and EcoPartners: Data and parameters available at Validation, Version 1, June 11, 2012
- /10/ Anthrotect and EcoPartners: NER Worksheet (Excel), Version 1, June 11, 2012
- /11/ Anthrotect and EcoPartners: Inventory (Excel), Version 1, June 11, 2012
- /12/ Anthrotect and EcoPartners: Plot List (Excel), Version 1, June 11, 2012
- /13/ Anthrotect and EcoPartners: Leakage Worksheet (Excel), Version 1, June 11, 2012
- /14/ Anthrotect and EcoPartners: Species Allometry (Excel), Version 1, June 11, 2012
- /15/ Anthrotect and EcoPartners: Allometry Sampling Plot List (Excel), Version 1, June 11, 2012
- /16/ Anthrotect and EcoPartners: Proxy Inventory (Excel), Version 1, June 11, 2012
- /17/ Anthrotect and EcoPartners: , Allometry Sampling Map, Version 1, June 11, 2012

- /18/ Anthrotect and EcoPartners: Destructive Sampling Protocol Trees, Version 1, June 11, 2012
- /19/ Anthrotect and EcoPartners: Destructive Sampling Protocol Palms, Version 1, June 11, 2012
- /20/ Anthrotect and Cocomasur: Administracion del Proyecto: Reunion de Planeacion Estartegica, Monitoreo, y manejo de Inconformidades, Version 1 April, 2012.
- /21/ Anthrotect: Anthrotect_Choco_Darién_Financials_v11, Version 1, July 20, 2012
- /22/ Cocomasur: General Assembly approval of the Chocó-Darién Corridor Conservation REDD Project. October 18, 2010.
- /23/ Instituto Colombiano de Desarrollo Rural: Collective Land Title of Territory for Cocomasur. August 14, 2005.
- /24/ SCS: CCBA Standard Validation Report, Final Versions, February 9, 2012

Background documents related to the design and/or methodologies employed in the design or other reference documents.

- /25/ Anthrotect S.A.S. : *Approved VCS Methodology VM0009 ‘Methodology for Avoided Mosaic Deforestation of Tropical Forests’*, Version 2.0
- /26/ VCSA: *VCS standards: VCS Version 3.3*, 4 October 2012
- /27/ VCSA: *AFOLU Non-Permanence Risk tool: VCS Version 3.2*, 4 October 2012
- /28/ VCSA: *Program Definitions: VCS Version 3.4*, 4 October 2012
- /29/ VCSA: *AFOLU requirements: VCS Version 3.3*, 4 October 2012
- /30/ VCSA: *AFOLU requirements: VCS Monitoring Report Template 3.2*, 1 February 2012

Persons interviewed during the initial verification, or persons who contributed with other information that are not included in the documents listed above.

/31/	Date	Name	Organization	Title
/32/	June 22-28, 2012	Everildys Cordoba	Cocomasur	Coordinator
/33/	June 22-28, 2012	Eusebio Guisao	Cocomasur	Social Coordinator
/34/	June 22-28, 2012	Aurelio C	Cocomasur	Representative
/35/	June 22-28, 2012	Jennifer Vidal	Anafadora	Representative
/36/	June 22-28, 2012	Adriano Torres	Cocomasur	Vocal
/37/	June 22-28, 2012	Fernei Caicedor	Cocomasur	Technician
/38/	June 22-28, 2012	Etiel Cordoba	Cocomasur	Community Technician
/39/	June 22-28, 2012	Rosana Cordoba	Cocomasur	Contadora
/40/	June 22-28, 2012	Brodie Ferguson	Anthrotect	Director
/41/	June 22-28, 2012	Kyle Holland	EcoPartners	Director
/42/	June 22-28, 2012	Fraizer Guisao	Cocomasur	Technician

/43/	June 22-28, 2012	Encarnacion Chu	Cocomasur	Auxiliar
/44/	June 22-28, 2012	Mauricio Salazar	Anthrotect	Forest Engineer
/45/	June 22-28, 2012	Diana Ibarra	Cocomasur	Personell
/46/	June 22-28, 2012	Xiomara Moreno	Cocomasur	Logistics

2.3 Interviews

In the period from 21 to 28 June 2012 DNV conducted various interviews at the project's headquarters in Acandi, Penalosa, and Medellin. The list of interviewed persons is detailed in section 2.2 6.

The following issues were checked during these interviews:

- ✓ The information flows for generating, aggregating and reporting the monitoring parameters were checked. The project proponent has in place a forest inventory system, which has Standard Operating Procedures (SOP) or protocols /7/ /8/; in place that governs the collection of data and its recording.
- ✓ Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan of the VCS PD.
- ✓ The assumptions of the GHG calculations of the Monitoring Report (MR) /2/; were checked against the information provided in the hard copy inventory information viewed onsite and the inventory excel spread sheets /11/.
- ✓ The net GHG emissions and removals calculations were presented in an excel spread sheet /10/. The calculations of the spread sheet were checked during this phase.
- ✓ Quality control and quality assurance procedures as part of their quality management system were also checked.

2.4 Site Inspections

On June 22-28 2012, a site inspection was carried out in the project area which is part of the project activity. As part of this inspection the following activities were performed:

- ✓ An assessment of the implementation and operation of the proposed project activity through visual inspection and through interviews with the project proponent's staff.
- ✓ An assessment of the project boundaries and the stratum information were assessed using geographical datasets, maps, GPS receivers, and physical field checks.
- ✓ Revisiting of randomly selected 2 inventory, 2 leakage, and destructive sampling plots which were part of the carbon stock inventory of the ex-ante emissions reductions calculations, which were re-measured by the project proponent's staff under observation of DNV. While the project proponent was carrying out the re-measurement, DNV verified that the operational and data collection procedures were implemented in accordance with the referenced protocols /7/ /8/ indicated in the VCS PD /1/ and verified the information flows for generating, aggregating and reporting the monitoring parameters. Furthermore, the monitoring methods were checked in order to confirm that the monitoring practices followed the requirements of the applicable methodology /21/. Furthermore, DNV performed a consistency check in order to verify the consistency of previous estimations as well as re-measurements, and to verify the correctness of the reported stand volumes.
- ✓ Confirmation that the quality control and quality assurance procedures were in place;

2.5 Resolution of Any Material Discrepancy

A corrective action request (CAR) is issued, where:

- i. Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- ii. Mistakes have been made in applying assumptions, data or calculations of emission reductions which will impair the estimate of emission reductions;
- iii. Issues identified in a FAR during validation to be verified during verification have not been resolved by the project participants.

A clarification request (CL) shall be raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

A forward action request (FAR) is issued for actions if the monitoring and reporting require attention and/or adjustment for the next monitoring period.

As part of the project verification 5 CARs were raised. The CARs were satisfactorily addressed by the project proponent by revising the net anthropogenic removals calculation and the monitoring report.

2 clarification requests (CL) were identified and were satisfactorily addressed by the project proponent by revising the monitoring report. 2 forward action requests (FAR) were identified (refer to Appendix A).

VERIFICATION FINDINGS

This section summarizes the findings from the verification of the GHG removals reported for the “The Choco-Darien Conservation Corridor REDD Project” for the period 18 October 2010 to 15 June 2012.

2.6 Project Implementation Status

2.6.1 Implementation status of the project activity(s)

Project activities are described in detail in section 1.8 of the PD /1/. These project activities are designed to mitigate deforestation and land degradation by developing economic alternatives for local communities, in addition to ensuring that the monetary and other benefits of this project are realized largely by and for local communities.

According to the project proponents, the project activities will pertain to three main themes:

- *Building governance capacity*, by raising awareness of collective identity and rights, developing criteria and procedures for resolving land disputes, constructing collective visions and strategic plans for land use, and improving information, education and communication for effective local governance;
- *Improving enforcement and management*, by demarcating territorial boundaries, establishing regular community surveillance to conserve existing forest, conducting ongoing monitoring of forest carbon stocks, promoting best practices for administrative and financial policies and processes; and,
- *Developing economic alternatives and incentives*, by improving agricultural and silvo-pastoral practices and technologies, developing plans and procedures for equitable and sustainable

timber harvesting, assisting in the regeneration of deforested and degraded areas, identifying and increasing access to credit and markets for non-timber goods and services, educating and raising awareness of ecosystem service values, and increasing access to health and educational resources.

Pertaining to the first theme, the project proponents have already embarked on initiatives to raise community territory awareness and land dispute resolution, as well to promote governance education and communication. This has been done through workshops with community councils and other members of the affected communities. This was verified by DNV through onsite interviews with local stakeholders. Furthermore, the project proponents have had the regular monitoring of implementation activities and expenses by the Fund for Environmental Action, which has also furthered the internal transparency, accountability, and capacity of the project staff and stakeholders.

As for enforcement and management activities, to date, the project proponents have successfully demarcated the boundary of their territory and have begun with initial forest patrols of the same. This was confirmed through on-site inspection and with interviews with the respective project personnel. Likewise, after conducting the required training of the projects' local technicians (which began in December of 2011), the monitoring of the forest carbon stocks has also been underway, and field measurements were completed in May 2012. This was corroborated through onsite inspection and interviews with project personnel, along with pertinent revisions of field data sheets and emissions calculations /10/ /11/ /12/ /13/ /14/ /15/ /16/ /17/.

Finally, administrative and financial best practice initiatives also commenced in April of 2012, when the COCOMASUR bank account was opened, and where administration and finance workshops were also given. This was verified through on-site inspection and through interviews with project personnel and stakeholders.

2.6.2 Implementation status of the monitoring plan and the completeness of monitoring

- Information (data and variables) provided in the monitoring report that is different from that stated in the registered VCS-PD

DNV checked the monitoring plan contained in the registered VCS-PD of 16 July 2012 /1/ and compared it with the monitoring report version 2.35, of 16 July 2012 /2/, to verify whether there was any difference that would cause an increase in estimates of the GHG removals in the current monitoring period.

Since the validation and verification of this project is being carried out concurrently, DNV can confirm that there is no variation between *ex-ante* estimates and *ex-post* estimated/calculated values/measurements.

- Compliance of monitoring with monitoring plan

The monitoring has been carried out in accordance with the monitoring plan and formulae contained in the VCS-PD of 16 July, 2012/1/.

As required by the monitoring plan and the applicable methodology, VM0009 Version 2 /25/, the project proponent effectively monitors the required parameters to determine the project's removals by sinks.

The parameters reported, including source, frequency and review criteria as indicated in the monitoring plan were verified to be correct and in line with the validated monitoring plan of the VCS-PD. Necessary

management system procedures including responsibility and authority of monitoring activities have been verified to be consistent with the VCS PD. Knowledge of personnel associated with the project activity was also found to be satisfactory.

Further information on the verification of the information flow (from data generation, aggregation, to recording, calculation and reporting) was applied for various key example parameters measured during this monitoring period, and is included in Appendix B. Based upon this assessment, DNV can conclude that the project proponents have in place a sound implementation and operational information and data management system that complies with the relevant monitoring plan and procedures as spelled out in the applicable methodology.

2.6.3 *Remaining issues from previous validation or verification*

None, as Validation and this first Verification were carried out concurrently by DNV.

2.6.4 *Previously validated methodology deviations*

DNV checked the VCS PD/1/ and confirmed that the earlier methodological deviations, confirmed and/or approved at the time of validation, were employed during this monitoring period and that no further deviations were employed or considered beyond these.

2.7 Accuracy of GHG Emission Reduction or Removal Calculations

2.7.1 *Baseline emissions and removals*

The project in line with the VCS methodology VM0009 version 2.0 /25/ determined the baseline emissions by observing the historical deforestation in the reference area defined within the yet-to-be registered VCS PD /1/. DNV verified the baseline data used for the calculations by examining the NER (Net Emission Reductions) Worksheet/10/. It found that all the data was transparently recorded and all formulae were correctly applied.

Component	First Monitoring Period (m ₁)	Total
Gross NERs	124,497 tCO _{2e}	124,497 tCO _{2e}
16% buffer tonnes to VCS	19,920	19,920
Net NERs	104,577	104,577

2.7.2 *Project emissions and removals*

During the monitoring period no project emissions were recorded since no disturbance events occurred during the monitoring period. DNV checked the events log book of the project and interviewed project personnel and stakeholders to confirm that no events occurred within the project areas that would lead to project emissions.

2.7.3 Leakage

In line with the VCS methodology VM0009 version 2.0 /25/ the project applied leakage emission by observing degradation and deforestation in the leakage area defined in the registered VCS-PD/1/. In line with the internal leakage protocol /8/ randomly selected plots were observed for evidence of degradation and deforestation and no leakage was observed. DNV verified the leakage assessment performed by the project by reassessing a sample of the randomly selected plots and confirms that the leakage protocol was correctly applied and no leakage was observed during this monitoring period.

2.7.4 Confidence deduction

DNV, through its review of the pertinent NER worksheets proportioned by the project proponent /27/, can verify that deductions for uncertainty for the project were determined correctly and in compliance with the respective methodology. These deductions were determined using equation F.53 of VCS methodology, VM0009 version 2.0 /25/, and were then later employed to determine the confidence deduction by using equation [E.46] of the methodology, which is a linear combination of weighted standard errors of estimates from the Biomass Emissions Model and carbon stock measurements, and, as such, are not based on a simple propagation of error. The confidence deduction for the project was determined and verified to be set to zero.

2.7.5 Buffer credits – Non-permanence risk assessment

Following the provisions of paragraph 3.19.2 of the VCS Standard /26/, the project participant has conducted a non-permanence risk assessment /3/ following the provisions of the latest version of the non-permanence risk tool/27/. According to this assessment /3/ the overall non-permanence risk rating of the proposed project activity is 16%.

Risk Category	Rating
a) Internal Risk	16
b) External Risk	0
c) Natural Risk	0
Overall Risk Rating (a + b + c)	16 %

Table 1. Risk ratings for the different risk categories of the proposed project activity.

DNV confirmed that the non-permanence assessment has been carried out adequately and applying conservative assumptions where needed. A detailed assessment of the risk analysis carried out by the project proponent in the non-permanence report can be found in Table 2 of Appendix C of this report.

2.7.6 Net anthropogenic GHG emission reductions and removals

No significant reporting risks have been identified for the data reported. All the data required for net anthropogenic GHG emission reductions and removals calculations are obtained following the Standard Operating Procedures and protocols /7/ /8/. There are QA/QC measures in place to check the consistency and the correctness of the collected data /4/. After these checks, data is then transferred to specific databases in which a new quality check is done. Through measures taken by the project’s head forester, sampling plots that were used during the transects design to conduct the project inventory are

randomly checked and revisited by the management responsible and the carbon project responsible to ensure the transparency and accuracy of the data being monitored and recorded /11/ /12/. all reported and consolidated data from the inventory database is processed in order to calculate the net anthropogenic GHG removals by sinks. Data collection procedures, QA/QC procedures and its implementation, and the specific databases were verified by DNV.

As the forest inventory was potentially identified as a major source of inherent risk, DNV performed a field verification in order to confirm that the inventory was performed following the SOP's and protocols in place, as well as to confirm volumes and other values used for emissions estimations and allometric equations. DNV requested the project entity to revisit 2 randomly located sampling, leakage, and allometry sampling plots to repeat measurements following the SOP in place.

The field verification confirmed that the SOPs were followed during the forest inventory and that any potential source of bias was reduced (i.e. operation of equipment; calibration). Furthermore, it was confirmed that the number of trees per plot and approximate diameter class of each tree were consistent with the previous carried out inventory.

As outlined above, the input data for calculating the net anthropogenic GHG removals, the calculating process and the result are complete and transparent /1/. Therefore, DNV is able to confirm the accuracy of the net anthropogenic GHG removals by sinks (i.e. net GHG benefits) and the VCU's to be issued.

2.8 Quality of Evidence to Determine GHG Emission Reductions or Removals

The net anthropogenic GHG removals by sinks in the monitoring period 18 October 2010 to 15 June 2012 was verified to be 113 296 tCO₂e.

Sufficient evidence was presented for the reported net anthropogenic GHG removals. The project entity has in place a monitoring system which has specific procedures for the main activities in which are defined responsibilities for the supervision of the activity, a description of the activity, the QA/QC measures in place, and the recording and archiving of the relevant information. As part of the quality system periodical internal audits are carried out by the quality management responsible to ensure the transparency and accuracy of the data being monitored and recorded. DNV verified that this system is in place and confirms the existence of a clear audit trail.

Furthermore, the recording, archiving and reporting of all data is done through a database, which assure that information is recorded and maintained. DNV verified the information stored in these systems and confirmed that these are consistent with invoices (inventory collection system, etc.).

2.9 Management and Operational System

The project proponent has established management procedures and implemented the same effectively to ensure that the process is consistent. The procedures cover management responsibilities, data monitoring procedures, training procedures, periodical internal audits, management reviews and

corrective actions in case of any deviations effectively. Quality control and quality assurance measures and calibration processes are followed as per defined procedures and carried out periodically.

The responsibility of gathering all data and performing the calculation of the net removals calculation is with the carbon projects manager. The responsibility to ensure that there is no data misstatement on the forest inventory data and the operational data is with the Office Manager. Periodical internal audits are carried out to ensure the transparency and accuracy of the data being monitored and recorded. DNV was able to confirm that the responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities stated in the monitoring plan.

3 VERIFICATION CONCLUSION

DNV Climate Change Services AS (DNV) has performed the verification of the net anthropogenic GHG removals that have been reported for the “The Choco-Darien Conservation Corridor REDD Project ” for the period 18 October 2010 to 15 June 2012.

The project proponents are responsible for the collection of data in accordance with the monitoring plan and the reporting of the net anthropogenic GHG removals from the project.

DNV conducted the verification on the basis of VCS requirements, the monitoring methodology VM0009 version 2, the monitoring plan contained in the registered VCS-PD of 16 July 2012, the monitoring report (version 2.35), dated 16 July 2012, and the non-permanence risk report (version 1), dated 16 July 2012. The verification included:

- i) checking whether the project has been implemented in accordance with the project description;
- ii) checking whether the provisions of the monitoring plan were consistently and appropriately applied;
- iii) the collection of evidence supporting the reported data; and
- iv) the assessment of the non-permanence risk analysis.

DNV’s verification approach draws on an understanding of the risks associated with reporting of GHG removals and GHG emissions data, and the controls in place to mitigate these. DNV planned and performed the verification by obtaining evidence and other information and explanations that DNV considers necessary to give reasonable assurance that reported net anthropogenic GHG removals are fairly stated.

In our opinion the net anthropogenic GHG removals of the “The Choco-Darien Conservation Corridor REDD Project ” for the period 18 October 2010 to 15 June 2012 are fairly stated in the monitoring report (version 2.35), dated 16 July 2012.

The net anthropogenic GHG removals were calculated correctly on the basis of the approved baseline and monitoring methodology VM0009 version 2 and the monitoring plan contained in the registered VCS-PD of 16 July 2012.

DNV Climate Change Services AS verified that the net anthropogenic GHG removals from the “The Choco-Darien Conservation Corridor REDD Project ” in the reporting period from 18 October 2010 to 15 June 2012 are:

GHG Emission Reductions or Removals	tCO ₂ e
Avoided Baseline Emissions	124 497
Project Emissions	0
Leakage	0
Net GHG emission reductions	124 497

Buffer (16%)	19 920
VCUs	104 577

DNV Climate Change Services AS confirms that this is below the maximum issuance limit equivalent to the long-term GHG benefits defined in the VCS-PD of 16 July 2012.

DNV Climate Change Services AS verified that the non-permanence risk rating of the proposed project activity for this verification is 16% which is to be applied to the change in carbon stocks at this verification equal to 19 920 tCO₂e. The amount of VCUs to be issued would be **104 577 tCO₂e**.

San Francisco, 14 November 2012.



Edwin Aalders
VCS Verifier
DNV Oslo

Approver
DNV Climate Change Services AS

APPENDIX A

CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS

Corrective action requests and clarification requests

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
CAR1	<p><u>Requirement</u> On page 12 of the VCS monitoring report, the project proponents provide a table listing project activities designed to mitigate deforestation by developing economic alternatives for local communities.</p> <p><u>Evidence and failure</u> No objective evidence is presented of the undertaking of the activities</p>	<p>Inserted dates and other objective evidence for project activities which are being implemented.</p>	<p>All actions were found to be documented based on the references provided in the Monitoring Report</p> <p>CAR 1 is Closed.</p>
CAR2	<p><u>Requirement</u> On page 13 of the VCS monitoring report, the project proponents provide a table listing project activities designed to mitigate deforestation by developing economic alternatives for local communities.</p> <p><u>Evidence and failure</u> Monitoring Report contains activities that are not covered during the monitoring period.</p>	<p>Deleted activities from table in section 2.1 which fall outside the monitoring period.</p>	<p>All future actions have been removed from the Monitoring Report and only activities within the monitoring period are now included in the Monitoring Report</p> <p>CAR 2 is closed.</p>
CAR3	<p><u>Requirement</u> “Deviations from the measurement methods set out in Appendix B, or current VCS requirement.” VCS Monitoring Template.</p> <p><u>Evidence and failure</u> Identified deviations do not reflect a deviation from the VCS PD</p>	<p>Removed description of deviations from section 2.2, and added reference to PD and statement that no additional deviations have occurred.</p>	<p>Monitoring Report is updated in line with the VCS requirements.</p> <p>CAR 3 is closed.</p>
CAR4	<p><u>Requirement</u> According to the VCS methodology,</p>	<p>Revised the Monitoring Report's Annex H – Monitoring Plan (also Annex Y to the PD) to</p>	<p>Upon review of the revised annexes provided by the project proponents, DNV can now</p>

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	<p>monitoring plan template, the project proponent must provide the following within the project's monitoring plan:</p> <ul style="list-style-type: none"> • MR.75 Documentation of training for field crews. • MR.77 Documentation of data quality assessment such as a check cruise and plots of the data such as diameter distributions by strata or plot. • MR.80 Description of plot size and layout (such as the use of nests and their sizes) for each carbon pool. • MR.82 The estimated carbon stock, standard error of the total for each stock, and the sample size for each stratum in the area selected. • MR.85 The frequency of monitoring each plot for all plots – all plots should be measured for the first verification, and all proxy and project accounting area plots at least every 5-10 years, or after a significant event that changes stocks. <p><u>Evidence and Failure</u></p> <p>As the project monitoring report provided for by the project proponent now stands, there is no information provided for how project monitoring will be conducted beyond the</p>	<p>reflect project proponent's current and future plans and procedures for monitoring GHG removals and emissions. Revisions include detailed information regarding perimeter observation for encroachment into the project area, plot measurement and documentation, identification of significant disturbances, and recordation of log production.</p>	<p>conclude that the monitoring plan is in conformance with the required monitoring plan template, methodology and VCS standards.</p> <p>CAR 4 is closed.</p>

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	<p>first monitoring period and for the rest of the life of the project (i.e. the frequency of how plots will be monitored in future years). Monitoring Report fails to provide justification for the exclusion of the different Monitoring Requirements as stated in the approved methodology</p>		
<p>CAR5</p>	<p><u>Requirement</u> The VCS methodology monitoring plan template, section MR.73, requires that project proponents show the quality assurance and quality control measures employed for each of the data and parameters available at time of project validation.</p> <p><u>Evidence and Failure</u> Although the project proponent refers to Annex F for compliance with this requirement, no quality assurance or quality control measures are listed for any of the data or parameters listed.</p>	<p>Revised Annex F – Data and Parameters Available at Validation to include quality assurance and quality control measures for all data and parameters listed.</p>	<p>The updated Annex F now includes quality assurance and quality control measures for all data and parameters listed, and is now in line with both VCS and methodological requirements.</p> <p>CAR 5 is closed.</p>

Clarification requests

CL ID	Clarification request	Response by project proponents	DNV's assessment of response by project proponents
<p>CL1</p>	<p><u>Evidence and Clarification</u> During interviews regarding financial risk, the project proponent specified that a 10% discount rate was used to perform NPV opportunity cost assessments for members of the community. Please clarify and justify the choice of discount rate.</p>	<p>A discount rate of 10% was used to determine the present value of future cash flows. This value was selected in order to facilitate comparisons with alternative land uses published in the scientific literature. Observed discount rates in the Chocó are typically much higher than the market-based time value of money, due to imperfect market access and higher transaction costs in rural areas affected by conflict. (Reference: Ferguson 2010, http://purl.stanford.edu/vx509zp1832.)</p>	<p>Through review of the pertinent literature cited within the VCS PD, as well as this new source provided, DNV can now justify that the discount rate of 10% for the area and for the project is justified.</p> <p>CL 1 is closed.</p>
<p>CL2</p>	<p><u>Evidence and Clarification</u> During interviews regarding the assessment of the use of the AFOLU tool for non-permanence risk and buffer determination, it was determined that the project proponents were still hoping to change some variables and analysis within the same. DNV seeks clarification on what is considered the most recent non-permanence analysis, with its corresponding evidence.</p>	<p>Most recent analysis of non-permanence risks provided to auditor in the appendix tool provided.</p>	<p>With the most recent analysis of non-permanence risk at hand, DNV can now corroborate each of the scores selected by the project proponents through review of new evidence, now also provided for (financial spreadsheet with sources, the project's adaptive management plan), along with evidence witnessed during the onsite inspection (legal agreements and commitments, land titles, peer reviewed literature for natural risk assessments).</p> <p>CL2 is closed.</p>

Forward action requests from previous verification

FAR ID	Forward action request	Response by project proponents	DNV's assessment of response by project proponents
FAR1	As this is the first verification, no Forward Action Requests were identified from the previous verification process.	Not applicable.	Not applicable.

Forward action requests from this verification

FAR ID	Forward action request	Response by project proponents	DNV's assessment of response by project proponents
FAR1	<p><u>Requirement</u></p> <p>“To ensure that carbon stocks are estimated in a way that is accurate, verifiable, transparent, and consistent across measurement periods, the project proponent must establish and document clear standard operating procedures and procedures for ensuring data quality” (c.f. Section 13.11 of /25/.</p> <p><u>Evidence and action request</u></p> <p>As part of the site visit DNV confirmed that, although a non-written procedure is in place for the training of inventory and leakage monitoring of the project personnel, this is not written, and as such, is still not a standard procedure, nor are records now being kept as to who got trained when, etc. This might represent a risk for future monitoring periods. The project proponent is requested to</p>		<p>FAR 1 is open.</p>

FAR ID	Forward action request	Response by project proponents	DNV's assessment of response by project proponents
	<p>establish a Standard Operating Procedure (SOP) for the periodical training and revision of project staff and that this be in place by the next verification.</p>		
FAR2	<p><u>Requirement</u> To ensure that carbon stocks are estimated in a way that is accurate, verifiable, transparent, and consistent across measurement periods, the auditing team should re-measure project permanent plots to establish that these are comparable to the ones measure by the project proponents.</p> <p><u>Evidence and action request</u> Due to the difficulty of reaching many project plots, the available time for the audit, and for some safety and security concerns, the verifying auditors were only able to reach two permanent project plots for re-measurement. DNV requests that more permanent plots be re-measured during the next verification, and specifically, that several of these be chosen for the southern section of the project accounting area, as this is the area most difficult to reach.</p>		<p>FAR 2 is open.</p>

APPENDIX B

ASSESSMENT OF COMPLIANCE OF MONITORING WITH THE MONITORING PLAN

Key Measured Parameters (most pertinent for this verification period)

Data / Parameter:		Measuring frequency/ Reporting frequency:	1) How this parameter is monitored? 2) How were the values in the monitoring report verified? 3) Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting and are necessary QA/QC processes in place?
$J, J_{[m]}$	The set of all observations of deforestation. When superscripted with a monitoring period, the deforestation observations are taken for leakage analysis.	Re-evaluated whenever the baseline model is reassessed or, for leakage analysis, at every monitoring period.	<ol style="list-style-type: none"> 1. Remote sensing image interpretation or field observations in the leakage area. 2. Remote sensing data set analyzed at time of validation. Field observations verified through leakage assessment plots and onsite inspection of leakage plots and management/quality control systems. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
\mathcal{M}	The set of all monitoring periods prior to $[m]$	Every Monitoring Period	<ol style="list-style-type: none"> 1. Monitoring Records. 2. Correct application of Methodology equations [E.27], [E.28],[E.30], [E.44] 3. Data management system and field procedures are in accordance to SOP and validated data management system.
AP_1 $[m]$	Area of project area stratum 1 at the end of current monitoring period.	Every Monitoring Period	<ol style="list-style-type: none"> 1. GIS analysis prior to sampling. 2. Correct application of Methodology equations [E.22] and onsite inspection. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
AP_n $[m]$	Area of project area stratum n at the end of the current	Every Monitoring Period	<ol style="list-style-type: none"> 1. GIS analysis prior to sampling. 2. Correct application of Methodology equations [E.22] and onsite inspection.

Data / Parameter:		Measuring frequency/ Reporting frequency:	1) How this parameter is monitored? 2) How were the values in the monitoring report verified? 3) Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting and are necessary QA/QC processes in place?
	monitoring period		3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
AAA	Area of <i>accounting area</i>	Re-evaluated whenever the baseline model is reassessed	1. GIS analysis prior to sampling. 2. Correct application of Methodology equations [E.2], [E.3], [E.4], [E.5], [E.6], [E.40] and onsite inspection. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
ADF	Deforested area in the project area at the project start date	Re-evaluated whenever the baseline model is reassessed	1. Remote sensing image interpretation. 2. Correct application of Methodology equations [E.4], [E.6] and onsite inspection. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
CAGMT [m□0]	Carbon stocks in above-ground commercial trees	At project start	1. Project area sampling. 2. Correct application of Methodology equations [E.1] and onsite inspection of SOPs and sample plots. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
CB [m]	Baseline carbon stocks at the end of the current monitoring	Every Monitoring Period	1. Proxy area sampling 2. Correct application of Methodology equations [E.2], [E.3], [E.4], [E.6], [E.40] and onsite inspection of SOPs and proxy

Data / Parameter:		Measuring frequency/ Reporting frequency:	1) How this parameter is monitored? 2) How were the values in the monitoring report verified? 3) Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting and are necessary QA/QC processes in place?
	period		area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
<i>C_{B Δ}</i> <i>BGB</i>	Change in belowground biomass carbon stocks at the end of the current monitoring period	Every Monitoring Period	1. Project area sampling 2. Correct application of Methodology equations [E.12], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
<i>C_{B Δ}</i> <i>DW</i> <i>[m]</i>	Change in dead wood carbon stocks at the end of the current monitoring period	Every Monitoring Period	1. Project area sampling 2. Correct application of Methodology equations [E.12], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
<i>C_{B Δ}</i> <i>SOC</i> <i>[m]</i>	Change in soil carbon stocks at the end of the current monitoring period	Every Monitoring Period	1. Project area sampling 2. Correct application of Methodology equations [E.12], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system. Soil samples are also sent to a third party soil analysis lab.
<i>C_{B Δ}</i> <i>WP</i> <i>[m]</i>	Change in wood products carbon stocks at the end of	Every Monitoring Period	1. Project area sampling 2. Correct application of Methodology equations [E.12], and onsite inspection of SOPs and project area.

Data / Parameter:		Measuring frequency/ Reporting frequency:	1) How this parameter is monitored? 2) How were the values in the monitoring report verified? 3) Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting and are necessary QA/QC processes in place?
	the current monitoring period		Data management system and field procedures are in accordance to SOP and pre-designed data management system.
CB AGMT [m]	Baseline carbon stocks in above-ground commercial trees at the end of the current monitoring period	Every Monitoring Period	1. Proxy area sampling 2. Correct application of Methodology equations [E.31], [E.32], [E.33], and onsite inspection of SOPs and proxy area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
CB BGMT [m]	Baseline carbon stocks in below-ground merchantable trees at the end of the current monitoring period	Every Monitoring Period	1. Stumpage or inventory data 2. Correct application of Methodology equations [E.1], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
CB b [m]	Baseline carbon stocks in below-ground trees at the end of the current monitoring period	Every Monitoring Period	1. Proxy area sampling 2. Correct application of Methodology equations [E.14], [E.17], [E.22], and onsite inspection of SOPs and proxy area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
CBBM [m]	Baseline carbon stocks in biomass at the end of the current monitoring period	Every Monitoring Period	1. Proxy area sampling 2. Correct application of Methodology equations [E.16], [E.18], [E.22], and onsite inspection of SOPs and proxy area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management.

Data / Parameter:		Measuring frequency/ Reporting frequency:	1) How this parameter is monitored? 2) How were the values in the monitoring report verified? 3) Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting and are necessary QA/QC processes in place?
<i>CB SOC</i> [m]	Baseline soil carbon stocks at the end of the current monitoring period	Every Monitoring Period	<ol style="list-style-type: none"> 1. Proxy area sampling 2. Correct application of Methodology equations [E.5], [E.23], [E.25], and onsite inspection of SOPs and proxy area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management.
<i>CB TOTAL</i> [m]	Total baseline carbon stocks at the end of the current monitoring period	Every Monitoring Period	<ol style="list-style-type: none"> 1. Proxy area sampling 2. Correct application of Methodology equations [E.46], and onsite inspection of SOPs and proxy area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management.
<i>CB WP</i> [m]	Baseline carbon stocks in wood products at the end of the current monitoring period	Every Monitoring Period	<ol style="list-style-type: none"> 1. Proxy area sampling 2. Correct application of Methodology equations [E.34], and onsite inspection of SOPs and proxy area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management.
<i>CL p</i>	Carbon stocks in project leakage Leakage area sampling	Every Monitoring Period	<ol style="list-style-type: none"> 1. Leakage area sampling 2. Correct application of Methodology equations [E.42], and onsite inspection of SOPs and leakage area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management.
<i>CP</i> [m]	Project carbon stocks at the end of the current monitoring period	Every Monitoring Period	<ol style="list-style-type: none"> 1. Project area sampling 2. Correct application of Methodology equations [E.2], [E.3],[E.4], [E.6],[E.40] and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management.

Data / Parameter:		Measuring frequency/ Reporting frequency:	1) How this parameter is monitored? 2) How were the values in the monitoring report verified? 3) Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting and are necessary QA/QC processes in place?
CP 1 BM [m]	Project carbon stocks in biomass in stratum 1 at the end of the current monitoring period	Every Monitoring Period	<ol style="list-style-type: none"> 1. Project area sampling 2. Correct application of Methodology equations [E.22], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management.
CP n BM	Project carbon stocks in biomass in stratum <i>n</i> at the end of the current monitoring period.	Every Monitoring Period	<ol style="list-style-type: none"> 1. Project area sampling 2. Correct application of Methodology equations [E.22], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
CP AGMT	Project carbon stocks in above-ground commercial trees at the end of the current monitoring period	Every Monitoring Period	<ol style="list-style-type: none"> 1. Project area sampling 2. Correct application of Methodology equations [E.31], [E.32], [E.33], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
CP EPA	Project carbon stocks in the <i>accounting area</i> at the end of the current monitoring period	Every Monitoring Period	<ol style="list-style-type: none"> 1. Project area sampling 2. Correct application of Methodology equations [E.39], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
CP BM [m]	Project carbon stocks in biomass at the end	Every Monitoring Period	<ol style="list-style-type: none"> 1. Project area sampling 2. Correct application of Methodology equations [E.16], [E.17],

Data / Parameter:		Measuring frequency/ Reporting frequency:	1) How this parameter is monitored? 2) How were the values in the monitoring report verified? 3) Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting and are necessary QA/QC processes in place?
	of the current monitoring period		[E.18], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
<i>CP b</i> [m]	Average carbon in biomass in the project area	Every Monitoring Period	1. Project area sampling 2. Correct application of Methodology equations [E.12], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
<i>CP s b</i> [m]	Average carbon in biomass for each project area stratum <i>s</i>	Every Monitoring Period	1. Project area sampling 2. Correct application of Methodology equations [E.21], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
<i>CP SOC</i> [m]	Project soil carbon stocks at the end of the current monitoring period	Every Monitoring Period	1. Project area sampling 2. Correct application of Methodology equations [E.5], [E.23], [E.25], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system. Soil samples are also sent to a third party soil analysis lab.
<i>CP TOTAL</i> [m]	Total project carbon stocks at the end of the current	Every Monitoring Period	1. Project area sampling 2. Correct application of Methodology equations [E.46], and onsite inspection of SOPs and project area.

Data / Parameter:		Measuring frequency/ Reporting frequency:	1) How this parameter is monitored? 2) How were the values in the monitoring report verified? 3) Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting and are necessary QA/QC processes in place?
	monitoring period		3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
<i>CPWP</i>	Project carbon stocks in wood products at the end of the current monitoring period	Every Monitoring Period	1. Project area sampling 2. Correct application of Methodology equations [E.35], and onsite inspection of SOPs and project area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
<i>E_[m]</i>	Cumulative emissions at the end of the current monitoring period	Every Monitoring period	1. Baseline emissions 2. Correct application of Methodology equations [E.7], and onsite inspection of SOPs and proxy area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.
<i>x</i>	Covariate values	Reevaluated whenever the baseline model is reassessed.	1. Participatory Rural Appraisal, analysis of public records, and/or expert interpretation of inventory data or remotely sensed imagery 2. Correct application of Methodology equations [E.4], [E.5],[E.6], [E.40], and onsite inspection of SOPs and proxy area. 3. Data management system and field procedures are in accordance to SOP and pre-designed data management system.

APPENDIX C

VCS NON-PERMANENCE RISK ASSESSMENT

Table 2 VCS Risk assessment checklist

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
1 Internal Risks				
3.1 Project Management				
a) Species planted (where applicable) associated with more than 25% of the stocks on which GHG credits have previously been issued are not native or proven to be adapted to the same or similar agro-ecological zone(s) in which the project is located (Score 2).	0	Not applicable.		
b) Ongoing enforcement to prevent encroachment by outside actors is required to protect more than 50% of stocks on which GHG credits have previously been issued (Score 2).	2	Through onsite inspection and interviews, DNV was able to verify that deforestation agents are expected to continue to threaten the forest in and around the project area for the duration of the project.		ok
c) Management team does not include individuals with significant experience in all skills necessary to successfully undertake all project activities (i.e., any area of required experience is not covered by at least one individual with at least 5 years experience in the area) (Score 2).	0	Not applicable.		

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
d) Management team does not maintain a presence in the country or is located more than a day of travel from the project site, considering all parcels or polygons in the project area (Score 2).	0	Not applicable.		
e) Mitigation: Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting (eg, individuals who have successfully managed projects through validation, verification and issuance of GHG credits) under the VCS Program or other approved GHG programs (Score -2).	-2	DNV verified through onsite inspection and interviews that the project management team to be involved through the life of the project has ample experience in carbon accounting and management projects.		ok
f) Mitigation: Adaptive management plan in place (Score -2).	-2	DNV verified that the project proponents do have an adaptive management plan in place and in practice /1/. /1/.		ok
Total Project Management (PM)	-2			
3.2 Financial viability				
a) Project cash flow breakeven point is greater than 10 years from the current risk assessment	c) 1	According to the financial spreadsheet provided for by the project proponents, and the evidence presented within it /2/, and confirmed through onsite inspection, DNV can confirm that the cash flow breakeven point for the project occurs in year 7.		

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
b) Project cash flow breakeven point is between 7 and up to 10 years from the current risk assessment c) Project cash flow breakeven point between 4 and up to 7 years from the current risk assessment d) Project cash flow breakeven point is less than 4 years from the current risk assessment				ok
e) Project has secured less than 15% of funding needed to cover the total cash out before the project reaches breakeven f) Project has secured 15% to less than 40% of funding needed to cover the total cash out required before the project reaches breakeven g) Project has secured 40% to less than 80% of funding needed to cover the total cash out required before the project reaches breakeven h) Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven	g) 2	According to the financial spreadsheet provided for by the project proponents, and the evidence presented within it /3/, and confirmed through onsite inspection, DNV can confirm that the project has secured 40% to less than 80% of funding needed to cover the total cash out required before it reaches breakeven.		ok
i) Mitigation: Project has available	0			

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
as callable financial resources at least 50% of total cash out before project reaches breakeven				
Total Financial Viability (FV)	3			
3.3 Opportunity Cost				
<p>a) NPV from the most profitable alternative land use activity is expected to be at least 100% more than that associated with project activities; or where baseline activities are subsistence-driven, net positive community impacts are not demonstrated</p> <p>b) NPV from the most profitable alternative land use activity is expected to be between 50% and up to 100% more than from project activities</p> <p>c) NPV from the most profitable alternative land use activity is expected to be between 20% and up to 50% more than from project activities</p> <p>d) NPV from the most profitable alternative land use activity is expected to be between 20% more than and up to 20% less</p>	d) 0	Through onsite inspection, interviews with local stakeholders, and through financial documentation /4/, DNV can verify that the most profitable alternative land use activity (cattle ranching) can be expected to be comparable with project activities, given the variability of both cattle prices and GHG credits, as well as available markets, geographical conditions (slopes, remoteness), infrastructure and other tendencies for cattle ranching by local communities.		

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
<p>than from project activities; or where baseline activities are subsistence-driven, net positive community impacts are demonstrated</p> <p>e) NPV from project activities is expected to be between 20% and up to 50% more profitable than the most profitable alternative land use activity</p> <p>f) NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity</p>				
<p>g) Mitigation: Project proponent is a non-profit organization</p>	0			
<p>h) 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</p>	-2	DNV has confirmed this through onsite inspection interviews, and document inspection /2/.		ok
<p>i) Mitigation: Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks</p>	0	Not Applicable		

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
over at least 100 years				
Total Opportunity Cost (OC)	0			
3.4 Project Longevity				
a) Without legal agreement or requirement to continue the management practice (Score is 24 - (project longevity/5)	b) 30 – 30/2 = 15	DNV has confirmed this through onsite inspection interviews, and document inspection /3/.		ok
b) With legal agreement or requirement to continue the management practice (Score is 30 - (project longevity/2)				
Total Project Longevity (PL)	15			
3.5 Total Internal Risk				
Total Internal Risks (PM+FV+OC+PL)	16			
4 External Risks				
4.1 Land Ownership and Resource Access/Use Rights				
a) Ownership and resource access/use rights are held by same entity(s)	a) 0	DNV has confirmed this through onsite inspection interviews, and document inspection /27/.		
b) Ownership and resource access/use rights are held by different entity(s) (e.g., land is government owned and the				

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
project proponent holds a lease or concession)				
c) In more than 5% of the project area, there exist disputes over land tenure or ownership	0			
d) There exist disputes over access/use rights (or overlapping rights)	5	DNV can confirm this through onsite inspection and with interviews with local stakeholders and project staff.		
e) 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	0			
f) Mitigation: Where disputes over land tenure, ownership or access/use rights exist, documented evidence is provided that projects have implemented activities to resolve the disputes or clarify overlapping claims	-2	DNV can corroborate this claim through onsite inspection, interviews and revised documentation agreement, adaptive management plan		
Total Land Tenure (LT)	3			
4.2 Community Engagement				
a) Less than 50 percent of households living within the	0			

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
project area who are reliant on the project area, have been consulted				
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	0			
c) Mitigation: The project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area	-5	DNV has verified this through the results of the CCBA standard validation.		ok
Total Community Engagement (CE)	-5			
4.3 Political Risk				
a) Governance score of less than -0.79 (Score 6)	b) 4	DNV checked the non-permanence risk report /3/ and confirmed that it has been updated with the latest available information. Using the latest available data from the period 2006-2010, the average index would be .39. Therefore a risk of 4 would have to be considered.		Ok
b) Governance score of -0.79 to less than -0.32 (Score 4)				
c) Governance score of -0.32 to less than 0.19 (Score 2)				
d) Governance score of 0.19 to less than 0.82 (Score 1)				
e) Governance score of 0.82 or higher (Score 0)				
f) Mitigation: Country is	-2	DNV checked the sites of the Forest Carbon Partnership Facility and confirmed		ok

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
implementing REDD+ Readiness or other activities, as set out in this Section 2.3.3.		that Colombia has prepared a Readiness preparation proposal to be approved by the World Bank. Furthermore, Colombia has an established DNA under the CDM and has various CDM Afforestation/Reforestation project activities registered.		
Total Political Risk (PC)	2	The total political risk is 2.		Ok
4.4 Total External Risk				
Total External Risk (LT+CE+PC)	0			
5 Natural Risks				
5.1 Fire (F)				
5.1.1 Significance and Likelihood (LS)	Significance: Major (up to 50% loss) LS: Not applicable			
5.1.2 Mitigation (M)	1	Although large fires are common in some areas of Colombia (e.g., Orinoco region of eastern Colombia), the Chocó-Darién is a wet tropical ecosystem and the risk of reversals from fire is deemed to be very low. Furthermore, project activities which maintain or reduce the prevalence of human activities (e.g., forest monitoring and enforcement to deter slash-and-burn land clearing) will ensure that human-caused fire risk will remain low. (Source: http://www.oecoamazonia.com/en/news/colombia/368-fogo-ameaca-florestas-na-colombia)		ok
5.1.3 Score (LSxM)	0			

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
5.2 Pest and Disease Outbreaks (PD)				
5.2.1 Significance and Likelihood (LS)	Significance: Insignificant (less than 5% loss) LS: Less than once every 50 years			
5.2.2 Mitigation (M)	1	The risk of insect pest infestation affecting carbon stocks is very low. Only 1.2% of Columbia's forest plantations have suffered severe defoliating outbreaks, and overall mortality is only 0.48% of plantation area in these cases. Furthermore, growth and recovery after these attacks is about 60%. (Source: Madrigal 1993 (http://www.fao.org/docrep/012/ak986e/ak986e00.pdf)).		ok
5.2.3 Score (LSxM)	0			
5.3 Extreme Weather (W)				
5.3.1 Significance and Likelihood (LS)	Significance: Insignificant (less than 5% loss) LS: Less than once every 50 years			
5.3.2 Mitigation (M)	1	The risk of extreme weather affecting carbon stocks is deemed to be low. The most significant risk affecting carbon stocks are landslides caused by flooding, and		ok

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
		risk of landslides near the project area is high (Fell et al. 2005). However, hazard assessment revealed that most of these landslides were triggered by human activities related to highway construction, deforestation and population settlements (Montero 2003 in Fell et al. 2005). To the extent that the project area is a remote, rugged region unlikely to attract major road construction projects, and such projects will not be allowed under the implementation of this REDD project, carbon stocks are thus at low risk.		
5.3.3 Score (LSxM)	0			
5.4 Geological Risk (G)				
5.4.1 Significance and Likelihood (LS)	Significance: No loss LS: Not applicable			
5.4.2 Mitigation (M)	1			
5.4.3 Score (LSxM)	0			
5.5 Other Natural Risk (ON)				
5.5.1 Significance and Likelihood (LS)	Significance: No loss LS: Not applicable			
5.5.2 Mitigation (M)	0	The risk of geologic events affecting carbon stocks is deemed to be very low. There is no volcanic activity near the project area. One major earthquake (magnitude 7.3) has occurred near the Panama-Colombia border since 1974, and although there is a continuing risk of earthquakes near Chocó-Darién, such an event poses no risk to carbon stocks. (Sources: http://earthquake.usgs.gov/earthquakes/world/historical_country.php#colombia , http://earthquake.usgs.gov/earthquakes/world/colombia/gshap.php .)		ok

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
5.5.3 Score (LSxM)	0			
5.6 Total Natural Risks				
Total Natural Risks (F + PD + W + G + ON)	0			
6 Total Risk				
Overall Risk Rating	16			ok