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Verification Report

Green Resources Ltd.

Second Periodic Verification of the Registered VCS Project
“REFORESTATION IN GRASSLAND AREAS OF UCHINDILE,
KILOMBERO, TANZANIA & MAPANDA, MUFINDI,
TANZANIA”

Monitoring period: 01/12/2008 – 01/09/2012

Report No. 600501037

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TÜV SÜD Industrie Service GmbH
Carbon Management Service
Westendstrasse 199 - 80686 Munich – GERMANY

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Summary:

TÜV SÜD Industrie Service GmbH (TÜV SÜD) performed the verification of the registered Verified Carbon Standard (VCS) project activity “Reforestation in grassland areas of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania” for the period from 01 Dec 2008 until 01 Sep 2012.

The verification was conducted on the basis of the VCS Standard version 3.3 and respective guidance documents. The verification was performed by means of a document review, follow-up interviews, site inspection including stakeholder interviews, and the resolution of outstanding issues.

The project consists of 6,241 hectares of grasslands subject to reforestation through planting of *Eucalyptus* and *Pine* trees. Of the total project area 5,877 hectare have been planted, but only 3,965 hectare are considered for the second verification as the remaining area was planted in 2011 and 2012 thus the trees have not yet reached the threshold for being measured. The CDM-approved methodology AR-AM0005 Version 3 “Afforestation and reforestation project activities implemented for industrial and/or commercial use” is applied by the project to quantify the GHG emissions reductions and/or removals.

TÜV SÜD confirms that:

- the development and maintenance of records and reporting procedures are in accordance with the registered monitoring plan;
- the project is implemented and managed as planned and described in the registered project design document (PD);
- the monitoring practices being essential for measuring GHG removals by sinks and emission reduction is reliable and appropriate
- the monitoring system is in place and provides data on GHG removals by sinks and emission;
- the GHG removals by sinks and emission are calculated without material misstatements;

The total net removal of GHG in the monitoring period from 01 Dec 2008 to 01 Sep 2012 equals 22,790 t CO₂-equivalent. The request for issuance of VCUs shall be made by the Project Participant in line with the VCS Program Guidelines.

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Abbreviations

AR-AM	Approved Methodology for Afforestation / Reforestation
ARR	Afforestation, Reforestation, Revegetation
AFOLU	Agriculture, Forestry and Other Land Use
CAR	Corrective Action Request
CB	TÜV SÜD Certification Body "climate and energy"
CDM	Clean Development Mechanism
CR	Clarification Request
DOE	Designated Operational Entity
EB	Executive Board at the UNFCCC
EF	Emission Factor
EIA	Environmental Impact Assessment / Environmental Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Green House Gas(es)
GIS	Geographic Information System
GPG	Good Practice Guidance
GPS	Global Positioning System
GRL	Green Resources Limited
IPCC	Intergovernmental Panel on Climate Change
IRL	Information Reference List
KP	Kyoto Protocol
LULUCF	Land-Use, Land-Use Change and Forestry
MP	Monitoring Plan
NGO	Non Governmental Organisation
PD	Project Document
PP	Project Participant
SOP	Standard Operating Procedure
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCU	Verified Carbon Unit
VVB	Validation, Verification Body

1 INTRODUCTION

1.1 Objective

Green Resources Ltd. has commissioned an independent verification by TÜV SÜD Industrie Service GmbH (TÜV SÜD) of its registered VCS project: “Reforestation in grassland areas of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania”.

The objective of the verification work is to comply with the VCS requirements for verification (VCS version 03). According to this assessment TÜV SÜD shall:

- ensure that the project activity has been implemented and operated as per the registered PDD “Reforestation in grassland areas of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania” Version 06. 07 Jul 2009, and that all physical features (technology, project equipment, monitoring and metering equipment) of the project are in place,
- ensure that the published MR and other supporting documents provided are complete, verifiable and in accordance with applicable CDM requirements,
- ensure that the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology,
- evaluate the data recorded and stored as per the “Afforestation and reforestation project activities implemented for industrial and/or commercial use”, AR-AM0005 Version 3.

1.2 Scope and Criteria

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the Validation Verification Body (VVB). The verification is based on the submitted monitoring report, the validated project design documents including its monitoring plan and validation report, previous verification reports, the applied monitoring methodology, relevant decisions, clarifications and guidance from VCS and any other information and references relevant to the project activity’s resulting emission reductions. These documents are reviewed against the requirements of the VCS, including:

- VCS Program Guide version 3.4
- VCS Standard version 3.3 and other relevant requirements defined by VCSA.
- AFOLU Requirements version 3.3
- The approved methodology AR-AM0005 Version 3.

TÜV SÜD has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

The verification considers both quantitative and qualitative information on emission reductions.

The verification is not meant to provide any consultancy towards the client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the monitoring activities.

TÜV SÜD carried out the validation and first verification of the project. However, this verification is in line with the VCS Standard, in particular section 5.3.13, considering footnote 15 of the VCS Standard version 3.3, as the respective contract for this verification was signed in April 2012.

1.3 Level of assurance

The verification report expresses a conclusion with a reasonable level of assurance about whether the reported net anthropogenic GHG removals data is free from material misstatement. TÜV SÜD 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

Project activity:	"Reforestation in Grassland areas of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania"
VCS project ID and Registry:	142
Project Participants:	Green Resources Ltd.
Location of the project:	Location submitted in GIS shape files
Date of registration:	11 Dec 2009
Starting date of the crediting period:	01 Jan 2002

The project activity is the reforestation of grass land with commercial tree species through direct planting in the districts of Kilombero, Morogoro Region and Mufindi, Iringa Region. The selected species are Eucalyptus (Eucalyptus Saligna, E. Globulus, E. Camadulensis) and Pine (Pinus Patula). Until the end of the second monitoring period (01 Sept 2012) 5,877 ha were reforested. The overall objective of the project is to establish and manage forest plantations to supply wood raw material and products. Further the project aims to contribute to carbon sequestration, conservation of adjacent forest ecosystems by reducing pressure, socio-economic development of local communities and improvement of infrastructure in the region. In addition to the VCS certification, the project further aims at receiving FCS certification for sustainable forest management, which is however not subject of this validation.

2 VALIDATION PROCESS, FINDINGS AND CONCLUSION

Not applicable, as the project is a regular periodic verification.

No gap validation is required; no methodology deviations were needed in the verification; and no new instances were added to the project activity.

2.1 Validation Process

2.2 Validation Findings

2.2.1 Gap Validation

2.2.2 Methodology Deviations

2.2.3 New Project Activity Instances

2.3 Validation Conclusion

3 VERIFICATION PROCESS

3.1 Method and Criteria

Verification Process

The verification process is based on the approach depicted in the VCS Standard documents.

Standard auditing techniques have been adopted for the verification process. The verification team performs first a desk review, followed by an on-site visit, which results in the formation of a protocol that includes all the findings. The next step involves the evaluation of the findings through direct communication with the PPs and then finally the preparation of the verification report. This verification report and other supporting documents then undergo an internal quality control by the CB “climate and energy” before final submission.

Verification Team

The appointment of the verification team takes into account the technical area(s), sectoral scope(s) and relevant host country experience required amongst team members for verifying the ER achieved by the project activity in the relevant monitoring period for this verification.

The CB TÜV SÜD operates the following qualification levels for team members that are assigned by formal appointment rules:

- Assessment Team Leader (ATL);
- Verifier (V);
- Verifier Trainee (T);
- Technical Experts (TE).

The verification team consisted of the following members:

Name	Qualification	Coverage of scope	Coverage of technical area	Coverage of financial aspect	Host country experience
Sebastian Hetsch	ATL	☒	☒	☒	
Martin Opitz	V	☒	☒		
Serah Kiragu	TE				☒

Technical reviewer:

- Zhang Rachel
- Martin Seitz, covering the technical area (14.1)

3.2 Document Review

The Monitoring Report (version 01) was submitted by the PP to TÜV SÜD in November 2012. The MR was assessed by the audit team based on all the relevant documents as listed above. The aim of the assessment in the desk review was to:

- verify the completeness of the data and the information presented in the MR; and

- check the compliance of the MR with respect to the monitoring plan depicted in the registered PD and verify that the applied methodology was carried out. Particular attention to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures was paid,
- evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

A complete list of all documents reviewed is available in annex 2 of this report.

3.3 Interviews

Between 09 and 14 December 2012, TÜV SÜD performed interviews with project stakeholders and physical site inspection to confirm relevant information, and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in this context.

Persons Interviewed:

Name	Function, Organisation
Sangito Sumari	General Manager GRL
Eliya Mtupile	Carbon Certification Associate GRL
Christian Constantine	Chief Accountant GRL
Isaac B. Mapunda	Inventory Officer GRL
Peter Nguyeje	Inventory Officer GRL
Jakob Sandven	Mapping and Inventory Manager GRL
Ana Meyer	Carbon Associate GRL
Nicholas Embden	Carbon Manager GRL
John Chekure	District Plantation Manager GRL
Geofrey Kurianganga	Building Manager GRL
Veneranda Msemwa	Head of Planning Unit GRL
Byela Kahangwa	Forester GRL
Lucy Delton	Human Resource Officer GRL
Victor Kimey	FSC Associate GRL
Christel Kiweha	Human Resource Officer GRL
Hamisi Iddi Malinga	Community Development & Public Relation Manager GRL
Anthony A. Kisondella	GIS & Mapping Manger GRL
Joseph Masongo	Plantation Manager Mapanda GRL
Emmanuel Munisi	Plantation Manager Uchindile GRL
Elizabeth Mussami	Community Development Officer – Uchindile GRL
13 village members	Chogo Village
18 village members	Uchindile Village
24 village members	Mapanda Village

3.4 Site Inspections

Between 09 and 14 December 2012, TÜV SÜD performed a physical site inspection to:

- confirm the implementation and operation of the project; and
- review the sample design, measurement of sample plots and the data flow aggregating and reporting the monitoring parameters; and
- confirm the correct implementation of procedures for operations and data collection; and
- cross-check the information provided in the MR documentation with other sources; and
- check the monitoring equipment against the requirements of the PD and the approved methodology, including calibrations, maintenance, etc.; and
- review the calculations and assumptions used to obtain the GHG data and ER; and
- identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.

3.5 Resolution of Any Material Discrepancy

The objective of this phase of the verification process is to resolve any outstanding issues which require clarification for TÜV SÜD's conclusion of the achieved GHG emission reduction. The findings raised as Forward Action Requests (FARs) (if any) indicated in previous reports (validation/verification) were discussed during this phase and, issues raised in the FARs were resolved, during communications between the PP and TÜV SÜD.

Concerns raised in the desk review, the on-site audit assessments and the follow up interviews and the responses provided for the raised concerns are documented in Annex 1 (verification protocol) to guarantee the transparency of the verification process.

A Corrective Action Request is raised where TÜV SÜD identifies:

- non-conformities in monitoring and/or reporting with the monitoring plan and/or methodology;
- that the evidence provided is not sufficient to prove conformity;
- mistakes in assumptions, data or calculations that impair the ER;
- FARs stated during validation that are not solved until the on-site visit.

A Clarification Request is raised where TÜV SÜD does not have enough information or the information is not clear in order to confirm a statement or data.

A Forward Action Request is raised where TÜV SÜD identifies that monitoring and/or reporting require special attention or adjustments for the next verification period.

Information or clarifications provided as a response to a CAR, CL or FAR could also lead to a new request.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project is implemented according to the description presented in the registered PD except the below discussed post registration deviation.

A post registration deviation occurred as described in the following:

Due to a land dispute with the Ministry of Natural Resources and Tourism of Tanzania for part of the area in Uchindile the PPs decide to reduce the area for Uchindile to exclude the disputed land. The disputed area is 5,045 hectares of the overall lease. The PPs had meetings with the Ministry of Natural Resources and Tourism to discuss the issue, and agreed to return the disputed land to the government (IRL 28). Green Resources did not establish plantation in the disputed area and no GHG benefits have been claimed from the disputed area. Green Resources therefore decided to reduce the area of the project by changing the project boundary by excluding the disputed area. The new area under control is 7,076 ha. 6,241 ha of this area is foreseen to be planted in this project activity, and 5,877 ha have actually been planted at the time of the second verification.

The audit team assessed the documentation provided and crosschecked the information through interviews during the onsite visit (IRL 1). The audit team found the described registration deviation to be in compliance with the VCS Standard v.3.3, section 3.6 as neither the applicability of the methodology, nor the additionality or the appropriateness of the baseline scenario are impacted.

Further, the audit team confirms that the deviation is in compliance with the EB 65 Annex 24 Guidance of the CDM ("Guidelines on accounting of specified types of changes in A/R CDM project activities from the description in registered project design documents").

The audit team concludes on basis of the documentation provided that the PPs have the right of use for the remaining area of 7,076 ha of the Uchindile plantation area in compliance with the requirements of the standard.

The verifier confirms, through the visual inspection that all physical features of the proposed VCS project activity including data collecting systems and storage have been implemented in accordance with the registered PD and the above described and accepted deviations.

The project activity is completely operational and the same has been confirmed on-site.

The difference between the values of the data and/or variables presented in the MR and the stated data in the registered PD is not significant. The difference in the values does not lead to a substantial increment of the ER in this period or in future periods in relation to the estimates in the registered PD.

4.2 Accuracy of GHG Emission Reduction or Removal Calculations

Compliance of the Monitoring Plan with the Monitoring Methodology

The monitoring plan is in accordance with the approved methodology, AR-AM0005 Version 3, applied by the proposed VCS project activity.

Compliance of the Monitoring with the Monitoring Plan

The monitoring has been carried out in accordance with the monitoring plan presented in the registered PD except the below described methodology deviations:

- The table below shows a number of parameters that have not been monitored in this monitoring period. These parameters were reviewed and considered not relevant for monitoring of the project and of GHG emission removals as they are either not obtained from field measurement or intermediate values in calculations steps or taken from existing sources.

The audit team assessed the parameters listed and found the non-monitoring of those in line with the VCS Standard v.3.3, section 3.5 as it does not affect the conservativeness of the quantification of GHG emission reductions or removals and does not result in a decrease in precision of the estimate of tree biomass.

Further, the audit team confirms that the deviation is in compliance with the EB 63 Annex 26 Guidance of the CDM (“Guidelines on application of specified versions of A/R CDM methodologies in verification of registered A/R CDM project activities”).

ID number (PDD)	Name of parameter
E.1.1.04	Beacon ID
E.1.1.05	Bearing
E.1.1.06	Distance
E.1.1.07	Natural ID
E.1.2.04	Compartment composition
E.1.2.05	Marking of planting spots
E.1.2.07	Volume of pit
E.1.2.08	Height of seedlings
E.1.2.12	Number of trees survived
E.1.2.14	Stock count
E.1.2.15	Stocking rate
E.1.2.17	Biomass stock per unit area before slash and burn
E.1.3.03	Biomass stock lost per ha during thinning
E.1.3.08	Area allowed to regenerate/ resprout
E.1.3.13	Area re-growth after fire
E.1.3.14	Area of fire breaks
2.1.1.05	Standard deviation of each stratum
2.1.1.09	Tree species
2.1.1.13	Mean DBH
2.1.1.15	Mean tree height
2.1.1.21	Carbon stock in above-ground biomass of plots
2.1.1.22	Carbon stock in below-ground biomass of plots
2.1.1.25	Mean carbon stock in aboveground biomass per unit area per compartment per species
2.1.1.26	Mean carbon stock in belowground biomass per unit area per compartment per species
2.1.1.27	Area of compartment
2.1.1.28	Carbon stock in aboveground biomass of compartment per species

2.1.1.29	Carbon stock in belowground biomass of compartment per species
2.1.1.30	Carbon stock change in aboveground biomass of compartment per species
2.1.1.31	Carbon stock change in belowground biomass of compartment per species
2.1.1.32	Total carbon stock change
2.1.2.01	Area affected by biomass burning
2.1.2.02	Mean above ground biomass stock before burning
2.1.2.06	Loss of aboveground biomass carbon due to biomass burning
2.1.2.07	N/C ratio
2.1.2.08	N ₂ O emission from biomass burning
2.1.2.09	CH ₄ emission from biomass burning
2.1.2.10	Increase in non-CO ₂ emission as a result of biomass burning
2.1.2.11	Total increase in GHG emissions

- The table below shows a number of parameters that were previously stated as being available at validation but which are now monitored. These parameters were and are monitored along with the implementation of the project.

The audit team assessed the parameters listed and found the monitoring of those in line with the VCS Standard v.3.3, section 3.5 as it does not affect the conservativeness of the quantification of GHG emission reductions or removals and does not result in a decrease in precision of the estimate of tree biomass.

ID number (PDD)	Name of parameter
E.1.2.06	Areas cleaned (screefed)
E.1.2.09	Area weeded
E.1.2.10	Area slashed
E.1.2.11	Area planted per stratum
E.2.1.1.01	Stratum ID
E.2.1.1.02	Sub-stratum ID
E.2.1.1.06	Number of sample plots

- Only the four tree heights were measured per permanent sample plot although in the PD it is stated that all tree heights are to be measured. Following the methods used in the studies to determine the volume equations (IRL69), which the project is using, only the dominant heights needs to be measured. This is done by measuring the four largest trees within each plot.
The same deviation was accepted at the first verification (IRL3) and is still considered acceptable, as it is good practice in forest inventory.
The audit team assessed the deviation described; the measurement of only four dominant tree heights in line with the VCS Standard v.3.3, section 3.5 is considered good practice in forestry inventory and does not affect significantly the quantification of GHG emission reductions or removals. Further the deviation does not impact significantly the precision of the estimate of tree biomass.
- The applied methodology AR-AM0005 Version 3 requires a maximum permissible error level is $\pm 10\%$ at the 95% confidence level. Nevertheless a maximum permissible error level $\pm 10\%$ at the 90%

confidence level has been applied for this monitoring period based on the EB 63 Annex 26 and a clarification provided by VCS on 17 September 2012.

In cases where the precision level could not be met, a conservative adjustment was made to the mean carbon stock following the deduction rates of the CDM tool AR Tool 14 Version 03.0.0 “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities” was applied.

The audit team assessed the deviation described and found it in compliance with the Standards in particular as the VCS requires for new methodologies a permissible error level of $\pm 20\%$ at a 90% confidence level and respective deductions in the case the precision level is not met.

The parameters listed below are the once that were directly measured and of relevance for the GHG removal calculation. All other parameters contained in the monitoring plan were reviewed respectively by the audit team and found to be monitored according to the registered PD.

The verification of the parameters required by the monitoring plan is provided as follows:

Data / Parameter:	Area planted per stratum (E1.2.11)
Data unit:	ha
Description:	The hectares of a certain stratum or sub-stratum
Source of data used:	Calculated from data stored in Microforest (Forest Management Software). The geographical coordinates of each parcel of project area that mark the corners of the polygon are measured with a GPS. The area is calculated accordingly in a GIS system.
Means of verification/Comments:	The audit team assessed the GIS shape files provided and verified the boundaries of the project area by using GPS devices. The data obtained in the field have been compared with the data provided by the client.
Cross-check	Cross-checks were made based on visual observation and estimates of the area during the onsite visit.

Data / Parameter:	Area burnt by fire (E1.3.10)
Data unit:	ha
Description:	Area burnt by fire
Source of data used:	Data is recorded and stored in Microforest (Forest Management Software). Measured following the GRL Inventory Guidelines (IRL 13) – see “Loss event report, Reforestation in grassland areas of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania” (IRL 9)
Means of verification/Comments:	The audit team assessed the GIS shape files provided and verified the boundaries of the areas burnt by fire by using GPS devices. The data obtained in the field have been compared with the data provided by the client.
Cross-check	Cross-checks were made based on visual observation and estimates of the area during the onsite visit.

Data / Parameter:	Stratum ID (2.1.1.01)
Data unit:	Alpha numeric
Description:	Each compartment has been given a different alpha numeric ID. Compartments are grouped together to form strata, which are given an alpha numeric name
Source of data used:	Determined through the assessment of PSP data which is measured in each compartment
Means of verification/Comments:	The audit team assessed the Stratum ID provided per PSP by the client by assessing the species planted and year of planting. The data obtained in the field was compared with the data provided by the client.
Cross-check	Not applicable

Data / Parameter:	Plot location (2.1.1.08)
Data unit:	Coordinates
Description:	In this monitoring period, a combination of previously established permanent sample plots were measured as well as newly established plots. For both of these, plot locations were recorded using a GPS in the field and recorded in the field forms. All plots have been established systematically but with a random start.
Source of data used:	Measured with GPS devices
Means of verification/Comments:	The centre point of each permanent sample plot is recorded with a GPS. The data obtained in the field have been compared with the data provided by the client.
Cross-check	Cross-checks were made based on visual observation and estimates of the location of the plot during the onsite visit.

Data / Parameter:	Number of trees (2.1.1.11)
Data unit:	dimensionless
Description:	Number of trees in a sample plot
Source of data used:	Counting the trees in each plot
Means of verification/Comments:	A random selection of sample plots was re-measured during the field visit in the verification
Cross-check	Cross-checks were made on the basis of the ex-ante estimated values based on yield tables

Data / Parameter:	Diameter at Breast Height (DBH) (2.1.1.12)
Data unit:	cm
Description:	DBH of each tree in with DBH >2cm located in each permanent sample plot measured to calculate accumulated biomass
Source of data used:	Measured with diameter tape
Means of verification/Comments:	A random selection of sample plots was re-measured during the field visit in the verification.
Cross-check	Cross-checks were made on the basis of the ex-ante estimated values based on yield tables.

Data / Parameter:	Tree Height (2.1.1.14)
Data unit:	m
Description:	Height of the four tallest trees in each PSP were measured to calculate the accumulated biomass
Source of data used:	Measured with vertex devices
Means of verification/Comments:	A random selection of sample plots was re-measured during the field visit in the verification.
Cross-check	Cross-checks were made on the basis of the ex-ante estimated values based on yield tables.

Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

Data has been available and parameters have been monitored in accordance with the registered monitoring plan, considering the deviations described above. The reported data have been cross-checked against other sources available as explained above in chapter 3.4.

The verifier confirms that the methods and formulae used to estimate the baseline and project emissions are appropriate. The same has been done in accordance with the methods and formulae described in the registered monitoring plan and applicable methodology.

The verifier confirms that the monitoring report includes all parameters and the monitored data at the intervals required by the methodology and PDD.

The verifier confirms that all the assumptions, emission factors and default values have been correctly justified. All the emission factors and default values are explicitly mentioned in the monitoring report.

Uncertainties and Risk

The risk assessment for this monitoring period was conducted according to the “AFOLU Non Permanence Risk Tool”. Each risk category was calculated based on the VCS guidance and the input provided by the PPs. The information was validated and cross-checked through document and literature review, onsite visits of the project area and interviews conducted. Following the VCS guidance, a buffer of 13% is determined (see respective checklist in Annex 1).

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

Among several evidence items submitted, the following relevant and reliable evidence material have been used by the audit team during the verification process:

- GIS files (IRL 10)
- Calculation spreadsheets (including raw data) (6)
- QA/QC on PSPs (IRL 3)
- Uchindile Fire 2009 – Lessons learnt (IRL 68)
- Land dispute correspondence between GRL and the Ministry of natural Resources and Tourism of the Republic of Tanzania (IRL 28)

Sufficient evidence covering the full verification period in the required frequency is available to validate the figures stated in the final MR. The source of the evidence was discussed in chapter 3 of this report. Specific cross-checks have been done in cases that further sources were available. The monitoring report's figures were checked by the audit team against the raw data. The data collection system meets the requirements of the monitoring plan as per the methodology.

4.4 Management and Operational System

Based on the on-site observations and interviews, as well as the provided documents (please refer to IRL), TÜV SÜD considers the management and operational system of this project suitable. The operational structure including the identification of responsibilities is well explained in the validated PD and was confirmed on site.

Similarly, the error handling procedures as well as record keeping and filing procedures are well-defined in the PD and in the monitoring report and were verified on site.

In summary, the quality management and the operational system are well implemented and the responsibilities and procedures are clearly defined.

5 VERIFICATION CONCLUSION

TÜV SÜD Industrie Service GmbH performed the second periodic verification of the VCS project: “Reforestation in Grassland areas of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania”. The verification is based on the currently valid documentation of the VCS.

The management of Green Resources Ltd. is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions on the basis set out within the project’s Monitoring Plan indicated in the registered PD version 06, dated 07-07-2009 and the applied methodology AR-AM0005 Version 3.

The verifier confirms that:

- the development and maintenance of records and reporting procedures are in accordance with the registered monitoring plan;
- the project is implemented as planned and described in the registered project design document;
- the monitoring practices being essential for measuring GHG removals by sinks and emission reduction is reliable and appropriate
- the monitoring system is in place and provides data on GHG removals by sinks and emission;
- the GHG removals by sinks and emissions are calculated without material misstatements;

Our opinion is based on the project’s GHG emissions and resulting GHG emission reductions reported, which have been both determined through the valid and registered project’s baseline, its monitoring plan and its associated documents.

Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: From 01-12-2008 to 01-09-2012 verified GHG removals in the above reporting period:

Carbon stocks in the project area	tCO ₂ e
Above- and below-ground biomass not eligible as VCUs as before project start	29,042
Above- and below-ground biomass at the start of 2. monitoring period in 2008	285,691
Above- and below-ground biomass at the end of 2. monitoring period in 2012	316,319

GHG Emission Reductions or Removals	tCO ₂ e
Change in Carbon Stock at 2. verification event	30,628
Project Emissions	7,838
Leakage	0
Net GHG Removals	22,790

Amount of VCUs	tCO ₂ e
Risk rating at 2. verification event	13 %
Buffer credits required in buffer pool at 2. verification event: <i>Above- and below-ground biomass at the end of 2. monitoring period in 2012 (minus) Above- and below-ground biomass not eligible as VCUs as before project start (multiplied by) Risk rating at 2. verification event</i>	37,346
Buffer credits already in the buffer pool from 1. verification event in 2010	92,906
Additional buffer credits required: <i>Buffer credits to be put in buffer pool at 2. verification event (minus) Buffer credits already in the buffer pool from 1. verification event in 2010</i>	(- 55,560) *
VCUs generated in the 2. monitoring period <i>Net GHG removal in 2. verification period (minus) Buffer credits, which are zero as no buffer credits can be released from the buffer account</i>	22,790
Total VCUs generated in the second monitoring period	22,790

* No further buffer credits need to be deposited in the buffer account, however also no buffer credits can be released, based on respective VCS decision provided by e-mail on July 3rd, 2013.

Munich, 22 July 2013



Eric Tolcach

Certification Body "climate and energy"
TÜV SÜD Industrie Service GmbH

Munich, 22 July 2013



Sebastian Hetsch

Assessment Team Leader
TÜV SÜD Industrie Service GmbH

ANNEX 1: VERIFICATION PROTOCOL

Table 1: VCS Verification Protocol

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
1. Project Details				
1.1 Summary Description of Project				
Is a summary description of the project provided in the Monitoring Report (MR)? Is the project implementation in line with the Monitoring Plan (MP)?	2, 3, 6	A summary description of the project is provided in the MR and was confirmed during onsite visit. The description differs slightly from the PD as further species have been planted as with the time the PPs gained deeper knowledge about the performance of the species planted on the side conditions of the project area. Nevertheless the majority of the species planted still correlates with the PD. The size of the area listed as planted in the MR and the GIS-files does not match the size of the area accounted for as planted in the excel file of the carbon calculations. Further does the size of the area planted differ in section 1.1 and 2.1. <u>Corrective Actions Request 1.</u> Ensure consistency of the area size between the MR, GIS-files, carbon calculation excel file and throughout the different sections of the MR See also comment in section 2.2	CAR 1	☒
1.2 Sectoral Scope and Project Type				
Is the sectoral scope(s) applicable to the project, the AFOLU project category and activity type (if applicable) indicated? Is the project is a grouped project?	2, 3	The sectoral scope 14 is applicable to the project, AFOLU project category as "Afforestation, Reforestation and Revegetation" is indicated as requested. The project is not a grouped project. The information given is in line with the MPD.	☒	☒
1.3 Project Proponent				
Are contact information and roles/responsibilities for the project proponent(s) provided?	2, 3	The PPs are listed, contact information as well as roles/responsibilities are provided and in line with the MPD as required.	☒	☒
Are the PPs same as in the MP?	2, 3	See comment above		
1.4 Other Entities Involved in the Project				
Are contact information and roles/responsibilities for any other project participant(s) provided?	2, 3, 4, 27	In line with the MP affected village governments that receive contractually accorded 10% of the carbon revenues are listed as	☒	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
		required. During onsite visit the disbursement of the “carbon money” could be sustained via interviews with the communities and via bank transfer statements		
1.5 Project Start Date				
Is the project start date, specifying the day, month and year indicated? Is the start date in line with the MP?	2, 3	As start date the 01 January 1997 is indicated and in line with the PD as required.	☒	☒
1.6 Project Crediting Period				
Is the project crediting period indicated and in line with MP? (specifying the day, month and year for the start and end dates and the total number of years)	2, 3	A project crediting period of 99 years (01 Jan 2002 – 31 Dec 2101) is indicated and in line with the MP as required.	☒	☒
1.7 Project Location				
Is the project location and geographic included in the MR and in line with MP?	2, 3	Project location and geographic are provided in the MR and in line with the MPD as required.	☒	☒
Is the project area provided by the PP? Is the area of the project strata provided?	2, 3	GIS shape files of the project area/activity have been provided and assessed by the audit team. See also comments below	☒	☒
Is the monitoring of project boundary carried out in line with MP and methodology?	2, 3	Boundaries have been checked during onsite visit and found to be in compliance with the standard. See also comments in section 3.2	☒	☒
1.8 Title and Reference of Methodology				
Is the title, reference and version number of the methodology(s) applied to the project included in the MR and in line with MP?		Applied methodology (AR-AM0005 / Ver. 03) is listed and in line with the MP as required.	☒	☒
2 IMPLEMENTATION STATUS				
2.1 Implementation Status of the Project Activity				
Describe the implementation status of the project activity(s). Is the implementation in line with the MP? (regarding planting year and species composition)	2, 3, 4	The implementation status is described as required and in line with the MP. <u>Corrective Actions Request 2.</u> No information about area, species and year planted is provided. <u>See also CAR 1.</u>	CAR 2	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
Provide information regarding the operation of the project activity(s) during this monitoring period, including any information on events that may impact the GHG emission reductions or removals and monitoring. Are project activities such as forest management activities and harvesting carried out in line with the MP? Are any project emissions described, in particular fire or any other events leading to GHG emission during the project activity?	2, 3, 4, 9, 29	The MR mentions a large fire event in October 2009 affecting 1,857 ha that has been part of the first verification 2008. According to the estimations of the reporting of the PP the net loss of carbon stock is estimated to be 76,121 tCO ₂ e. Harvesting records have been provided, management activities (weeding etc.) were discussed and inspected during onsite visit and were found to be carried out in line with the MP The burnt area was visited during onsite visit <u>Corrective Actions Request 3.</u> - No GIS file that matches the size of the area burnt provided in the MR is provided. - The GIS files provided do not distinguish between planted and unplanted area burnt.	CAR 3	☒
Are all relevant licences obtained? (e.g. Environmental licences)	2, 3, 4	Environmental licences (EIA / NEMC) have been obtained in the course of obtainment of the land lease title.	☒	☒
Are land titles and carbon rights hold by the PP? In case not all land was under control at validation, is it ensured that 100% of the land is under control of the PP?	2, 3, 4, 28	See also comments in Section 2.2 Since late 2008 there is an on-going dispute regarding the land tenure at the UFP. The area of the UFP is partly located in the districts of Mufindi and Kilombero. In total the area covers 12,121 ha and was approved by the Lands Commission with the Title deed No. 50742. Nevertheless the area in the Mufindi district, in total 5,054 ha is falling under the Government forest reserve (Saohill forest project) which was not clear at the time of the issuance of the Land title deed. Thus GRL remains with 7,076 ha for the UFP. At present GRL is not utilizing the area in dispute and thus the area is not covered by the verification. During onsite visit the PPs presented Land dispute correspondence between GRL and the Ministry of natural Resources and Tourism of the Republic of Tanzania, documenting that GRL is in correspondence with the respective Ministry in these matters. A new land lease title for the remaining 7,076 ha is in the process of being issued meanwhile the old Land lease title is valid. The audit team assessed the documentation provided and found the reduction of the area in compliance with the VCS Standard v.3.3,	☒	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
		section 3.6 as neither the applicability of the methodology, nor the additionality or the appropriateness of the baseline scenario are impacted. Further the audit team confirms that the deviation is in compliance with the EB 65 Annex 24 Guidance of the CDM. The audit team reviewed the information and documentation provided and found that the area covered by the on-going verification is 100% under control of the PPs.		
Is a description of leakage provided? Are leakage monitoring parameters included as per MP and methodology requirement?	2, 3, 4	A description of leakage and respective monitoring parameters are not provided as leakage is does not have to be considered as per MP.	☑	☑
Is a description of the non-permanence risk factors included? (see extra checklist)	2, 3, 4	A description of the non-permanence risk factors is provided. See extra checklist.	☑	☑
2.2 Project Description Deviations				
Has any deviations from the monitoring plan (in the MP) occurred during the monitoring period?	2, 3, 4	Deviations from the MP are described. A number of parameters are listed that are not monitored in compliance with VCS Standard v.3.3, section 3.5.1 as an impact on the conservativeness of the quantification of GHG emissions reductions or removals is not expected. Nevertheless four parameters are listed (E.1.2.04, E.1.2.05, E.1.2.07, E.1.2.08) that are available “before project start” according to the PD and the MP. <u>Corrective Actions Request 4.</u> - Ensure that only parameters are listed that need to be monitored according to the applied methodology and PD. - See also CAR 5 Contrary to the measurement procedures described in the MP as not all <i>heights of the trees</i> per sample plot will be measured but just the dominant heights of the four largest trees. This deviation has been discussed already during the first verification; it was/is accepted as it does not affect the accuracy of the calculations of GHG net anthropogenic removals.	CAR 4	☑

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
		The Confidence interval has been changed from 95% to 90% in line with the methodology requirements of the VCS Standard described in Section 4.1.4. <u>Corrective Actions Request 5.</u> • Ensure to use the section titles provided by the template • Provide information/justification for all kinds of deviation from the original project description and ensure compliance with the Section 3.5 of the Standard. • The deviation in project area due to the land dispute as described in section 2.1 is not mentioned as required.	CAR 5	
2.3 Grouped Project				
For a grouped project, provide relevant information about new instances of the project activity(s) and demonstrate that each new instance of the project activity(s) meets the eligibility criteria set out in the project description.	2	The project is not a grouped project.	☒	☒
3 DATA AND PARAMETERS				
3.1 Data and Parameters Available at Validation				
Are all parameters “available at validation” listed as per MP and applied methodology?	2, 3, 4	Not all parameter available at validation (“before the start of the project”) and accordingly listed in the methodology and/or the MP are listed as required. <u>Corrective Actions Request 6.</u> List all parameters available at validation (“before project start”) as required by the standard.	CAR 6	☒
Are all data and parameters “available at validation” described using the VCS table format?	2, 3, 4	The VCS table format has been used as required.	☒	☒
Monitoring of the project boundary				

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
<i>Parameter Project ID:</i> is the parameter included as per MP?	2, 3, 4	Project ID is listed on the front page of the MR as required.	☒	☒
<i>Parameter Project location:</i> is the parameter included as per MP?	2, 3, 4	Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
Monitoring of forest establishment				
<i>Parameter Compartment ID:</i> is the parameter included as per MP?	2, 3, 4	Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter Compartment location:</i> is the parameter included as per MP?	2, 3, 4	Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter Compartment size:</i> is the parameter included as per MP?	2, 3, 4	Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter Compartment composition:</i> is the parameter included as per MP?	2, 3, 4	Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter Marking of planting spots:</i> is the parameter included as per MP?	2, 3, 4	Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter Areas cleaned (screefed):</i> is the parameter included as per MP?	2, 3, 4	Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter Volume of pit:</i> is the parameter included as per MP?	2, 3, 4	Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter Height of seedlings:</i> is the parameter included as per MP?	2, 3, 4	Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter Area weeded:</i> is the parameter included as per MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter Area slashed:</i> is the parameter included as per MP?	2, 3, 4	Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter Area planted per stratum:</i> is the parameter included as per MP?	2, 3, 4	Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
Monitoring of actual net GHG removals by sink				
<i>Parameter Stratum ID:</i> is the parameter included in the MR?		Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
<i>Parameter Sub-stratum ID</i> : is the parameter included in the MR?		Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter Confidence level</i> : is the parameter included in the MR?		Parameter is listed as required	☒	☒
<i>Parameter Accuracy</i> : is the parameter included in the MR?		The Parameter named "Error level" and listed as required. <u>Corrective Actions Request 7.</u> Ensure to use the same naming as the PD and the MP	CAR 7	☒
<i>Parameter Standard deviation of each stratum</i> : is the parameter included in the MR?		Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter Number of sample plots</i> : is the parameter included in the MR?		Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
<i>Parameter N/C ratio</i> : is the parameter included in the MR?		Parameter is not listed as required. <u>See CAR 6.</u>	CAR 6	☒
3.2 Data and Parameters Monitored				
Are all "monitoring" parameters listed as per MP and applied methodology?	2, 3, 4	Not all parameter to be monitored and accordingly listed in the PD and/or the MP are listed as required. Further are not all the values monitored listed as required. <u>Corrective Actions Request 8.</u> List all parameters to be monitored as required by the standard. <u>Corrective Actions Request 9.</u> Provide the value monitored for all parameters as required.	CAR 8 CAR 9	☒ ☒
Are all data and parameters "to be monitored" described using the VCS table format?	2, 3, 4	The VCS table format has been used as required.	☒	☒
Monitoring of the project boundary				
<i>Parameter Beacon ID</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
<i>Parameter Bearing</i> :is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Distance</i> :is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Natural ID</i> :is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
Monitoring of forest establishment				
<i>Parameter Numbers of trees survived</i> :is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	The parameter is not included in compliance with VCS Standard v.3.3, section 3.5.1	☒	☒
<i>Parameter Survival rate</i> :is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc?	2, 3, 4	Parameter is listed as required Frequency, data unit and source of data is listed Information on SOP and QA/QC is provided as required and found to be in compliance with good practice	☒	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?				
<i>Parameter Stock count</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☑
<i>Parameter Stocking rate</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☑
<i>Parameter Area of fire line and fire breaks</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is listed Frequency, data unit and source of data is listed. Fire lines are monitored and cleaned accordingly before the dry/fire season. During onsite visit the fire lines could have been observed. The appearance of the grass vegetation on the fire lines proved that the clearing via fire was done properly. The value monitored is not listed.	☑	☑
<i>Parameter biomass stock per unit area before slash and burn</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	The parameter is not included in compliance with VCS Standard v.3.3, section 3.5.1	☑	☑
Monitoring of forest management				
<i>Parameter Area of thinning</i> : is the parameter	2, 3,	Parameter is listed	☑	☑

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	4, 29	Frequency, data unit and source of data is listed, procedures provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been observed and found to be in line with good practice.		
<i>Parameter Biomass stock lost per ha during thinning:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	The parameter is not included in compliance with VCS Standard v.3.3, section 3.5.1	☑	☑
<i>Parameter Harvesting location:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4, 29	Parameter is listed Frequency, data unit and source of data is listed, Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice	☑	☑
<i>Parameter Area of harvest:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is listed Frequency, data unit and source of data is listed, Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice <u>See CAR 9.</u>	CAR 9	☑
<i>Parameter Volume harvested:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC	2, 3, 4	Parameter is listed Frequency, data unit and source of data is listed, Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice	CAR 9	☑

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
described in line with MP and methodology?		<u>See CAR 9.</u>		
<i>Parameter Area replanted</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is listed Frequency, data unit and source of data is listed, Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice	☒	☒
<i>Parameter Area allowed to regenerate/resprout</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	The parameter is not included in compliance with VCS Standard v.3.3, section 3.5.1	☒	☒
<i>Parameter Area affected by diseases and pest</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is listed. Frequency is not listed as required. Data unit and source of data is listed, Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice.	CAR 9	☒
		<u>Corrective Actions Request 10.</u> No information about the frequency of the monitoring is provided. <u>See CAR 9.</u>	CAR 10	☒
<i>Parameter Area burnt by fire</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4, 9, 13	Parameter is listed. Frequency, data unit and source of data is listed, Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice. Further is a Loss Event Report available at the VCS-webpage	☒	☒
<i>Parameter Location burnt</i> : is the parameter included in the MR as per MP and methodology,	2, 3, 4, 9,	Parameter is listed Frequency, data unit and source of data is listed,	☒	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	13	Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice. Further is a Loss Event Report available at the VCS-webpage		
<i>Parameter Volume of biomass lost due to fire:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4, 9, 13	Parameter is listed Frequency, data unit and source of data is listed, Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice. Further is a Loss Event Report available at the VCS-webpage. <u>See CAR 9.</u>	CAR 9	☑
<i>Parameter Area re-growth after fire:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	The parameter is not included in compliance with VCS Standard v.3.3, section 3.5.1	☑	☑
<i>Parameter Area of fire breaks:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☑
Monitoring of actual net GHG removals by sink				
<i>Parameter Sample plot ID:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly?	2, 3, 4	Parameter is listed Frequency, data unit and source of data is listed, Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line	CAR 9	☑

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?		with good practice. <u>See CAR 9.</u>		
<i>Parameter Plot location:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is listed Frequency, data unit and source of data is listed, Procedures are provided. QAQC are provided. The data is stored/processed in/with the plantation GIS software. During onsite visit the procedures have been discussed and found to be in line with good practice.	☒	☒
<i>Parameter tree species:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Age of plantation:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is listed Frequency, data unit and source of data is listed, Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice.	☒	☒
<i>Parameter Number of trees:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is listed Frequency, data unit and source of data is listed, Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice.	☒	☒
<i>Parameter Diameter at breast height (DBH):</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency,	2, 3, 4	Parameter is listed Frequency, data unit and source of data is listed, Procedures are provided. QAQC are provided. The data is	☒	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?		stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice.		
<i>Parameter Mean DBH:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☑
<i>Parameter Tree height:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is listed Frequency, data unit and source of data is listed, Procedures are provided. QAQC are provided. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice.	☑	☑
<i>Parameter Mean tree height:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☑
<i>Parameter Merchantable (standing) volume:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is listed Frequency, data unit and source of data is listed, Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice. <u>See CAR 9.</u>	CAR 9	☑
<i>Parameter Wood density:</i> is the parameter	2, 3,	Parameter is listed	☑	☑

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	4, 8	Frequency, data unit and source of data are listed. The sources provided have been assessed by the audit team. Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice.		
<i>Parameter Biomass expansion factor (BEF)</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4, 7	Parameter is listed Frequency, data unit and source of data are listed. The sources provided have been assessed by the audit team. Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice.	☑	☑
<i>Parameter Carbon fraction</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☑
<i>Parameter Root-shoot ratio</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4, 7	Parameter is listed Frequency, data unit and source of data are listed. The sources provided have been assessed by the audit team. Procedures are provided. QAQC are not applicable. The data is stored/processed in/with the plantation software MicroForest. During onsite visit the procedures have been discussed and found to be in line with good practice.	☑	☑
<i>Parameter Carbon stock in above-ground biomass of plots</i> : is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☑

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
described in line with MP and methodology?				
<i>Parameter Carbon stock in below-ground biomass of plots:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Mean Carbon stock in aboveground biomass per unit area per compartment per species:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Mean Carbon stock in belowground biomass per unit area per compartment per species:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Area of compartment:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Carbon stock in aboveground biomass of compartment per species:</i> is the parameter	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?				
<i>Parameter Carbon stock in belowground biomass of compartment per species:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Carbon stock change in aboveground biomass of compartment per species:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Carbon stock change in belowground biomass of compartment per species:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Total carbon stock change:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency,	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?				
Monitoring of GHG emissions by resources that are increased as a result of the implementation of the project within the boundary				
<i>Parameter Area affected by biomass burning:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Mean aboveground biomass stock before burning:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Proportion of biomass burned:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Biomass combustion efficiency:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?				
<i>Parameter Carbon fraction:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Loss of aboveground biomass carbon due to biomass burning:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter N2O emission from biomass burning:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter CH4 emission from biomass burning:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
<i>Parameter Increase in non-CO2 emission as a result of biomass burning:</i> is the parameter included in	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?				
<i>Parameter Total increase in GHG emission:</i> is the parameter included in the MR as per MP and methodology, including monitoring frequency, data unit, source of data, etc? Is the value of the parameter listed correctly? Are monitoring equipment, SOP, QA/QC described in line with MP and methodology?	2, 3, 4	Parameter is not listed as required. <u>See CAR 8.</u>	CAR 8	☒
3.3 Description of the Monitoring Plan				
Is the monitoring plan described?	2, 3, 4, 13	There is a brief description of the procedures and the staff in charge of the monitoring provided in the MR. A Inventory Guideline is provided. It has been assessed by the audit team and found to comply with good practice.	☒	☒
Are organizational structure, responsibilities and competencies identified in the MR?	2, 3, 4	Staff and positions are listed. According the MR all staff has competences due to work experience in other plantation projects of GRL throughout Tanzania. The list of persons presented in the MR are not up to date as other/more personal was met during the onsite visit. Interviews were held with the members of the staff. The interviews gave no reason to question the competence of the staff. <u>Corrective Actions Request 11.</u> No list of personal involved in mapping, monitoring and reporting is provided in line with the observations made during onsite visit.	CAR 11	☒
Are methods described for: Data generation (see also SOPs for each parameter)	2, 3, 4, 12	Data generation is described in the Inventory Guideline. Inventory staff is trained before the measurement is conducted. Field notes of measurements are processed into the computer and tested via plausibility checks by the inventory officers. <u>Corrective Actions Request 12.</u> Provide scans of the field-sheet data as discussed during onsite visit.	CAR 12	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
Data handling, in particular transcribing field data to digital calculation sheets (<i>see also SOPs for each parameter</i>)	2, 3, 4, 12	Data handling is described in the Inventory Guideline See also comments above.	☒	☒
Data storage, including back-up of the field sheets and digital data	2, 3, 4	All field data is stored via drop box and hard drive in GRAS London office as well as MicroForest in South Africa.	☒	☒
QA/QC procedures (e.g. re-check of data measurement, data entry, etc - <i>see also SOPs for each parameter</i>)	2, 3, 4, 13	QA/QC for field measurements are described in the inventory guidelines. Analysis of QA/QC of field data is provided in Section 5 of the MR. According to the MR the acceptable error on the volume has to be lower than +/- 10% whereas in the Inventory Guideline an acceptable deviation between measurement and re-measurement is defined with 5%. <u>Clarification Request 1.</u> Clarify which error percentage for QA/QC is acceptable.	CR 1	☒
Are procedures described for handling internal auditing and non-conformities?	2, 3, 4	It is not clarified how the project deals with measurement errors above the acceptable threshold. <u>Clarification Request 2.</u> Clarify how the project deals with errors above the acceptable threshold.	CR 2	☒
<i>Is a line diagram used to display the GHG collection and management system</i>	2, 3, 4	A diagram is provided giving an overview of GRL monitoring system and the different levels and stages to arrive at the estimate of carbon stocks.	☒	☒
Sample design				
Are sample plots laid out as per Monitoring Plan in the MP?	2, 3, 4	The inventory is based on a systematic grid based sampling design with a random start. GIS files of the sample plots have been provided.	☒	☒
Are the location of the sample plot selected on an unbiased basis?	2, 3, 4	The onsite visit gave no reason for questioning the unbiased sampling design.	☒	☒
Stratification				
Is the ex-post stratification carried out in line with the MP (in the MP) and Methodology?	2, 3, 4	Stratification is carried out after the fire event on basis of the planting year and the species planted.	☒	☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
Precision				
Is the required precision level met (at the relevant Confidence Interval)? (Usually 10% around the mean at 90 or 95% CI) (If relevant, check per strata)	2, 3, 4, 6	See comments below	☑	☑
4. Quantification of GHG Emission Reductions and Removals				
4.1 Baseline GHG removals / emissions				
Are baseline net GHG removals quantified correctly, and in line with the applied methodology and MP?	2, 3, 4, 6	In line with the methodology and the MP Baseline GHG removals by sink are set to zero and thus are not monitored.	☑	☑
4.2 Project GHG removals / emissions				
Are project <u>net GHG removals</u> quantified correctly, and in line with the applied methodology and MP?	2, 3, 4, 6, 9	<u>Assessment of the calculation files provided:</u> There are inconsistencies of the area size between the MR, GIS-files, carbon calculation excel file and throughout the different sections of the MR. <u>See also CAR 1.</u> The calculation file contains several calculations: 1. The calculation of the carbon and the margin of error 2. The re-calculation of the carbon stock at the 1st. of January 2002 as more recent and accurate default values are used. The 1st verification period started at the 1st of January 2002 even though the plantation was partly installed earlier. Thus the carbon of the 1st verification period was calculated by subtracting the carbon stock at that time of the 1st of January 2002 from the carbon stock measured at the end of the 1st verification period. As more recent and accurate default values are used since the 1st verification the carbon stock at the time of the 1st January 2002 had to be recalculated in order to calculate and issue the correct value of carbon for the 2nd verification period. 3. Non-CO2 emissions 4. The raw data of the measurements.	CAR 1	☑

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
		Ad1) The calculation of the carbon is correct. The degrees of freedom used for the calculation of the margin of error for each stratum is not correct. Four strata reach a margin of error above the selected threshold of the 28th meeting of the AR Working group of 20%. <u>Corrective Actions Request 13.</u> Provide correct error calculations and thus carbon calculations in line with the 28th meeting of the AR Working group. Ad2) The calculations provided are not fully interlinked and traceable <u>See also CAR 14.</u> Ad3) The calculations provided are not fully interlinked and traceable The area burnt does not match the area burnt in the GIS files and the loss event report. The source of the default values used is not provided (See also CARs in Section 3.2) For the calculation of the aboveground biomass before fire a value of 1,1 is used which is not further explained <u>Corrective Actions Request 14.</u> Provide fully interlinked and traceable calculations files Ensure consistency of the areas used throughout the calculations and documentations provided Sustain all values used and provide respective sources Ad4) The data contains values of trees without a tree number The data contains the values of the QC re-measurements thus single	CAR 13 CAR 14 CAR	☒ ☒ ☒

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
		trees have partly two values. <u>Corrective Actions Request 15.</u> Ensure that only values measured at the time of the inventory or if necessary due to QC re-measured values are used when calculating the carbon. <u>Result of the re-measurement conducted onsite:</u> During onsite visit 25 plots were re-measured. The DBH and height were re-measured. The majority of the permanent sample plots re-measured was done in line with the monitoring plan and good practice. The differences between the DBH- and height values provided and re-measured were statistically assessed and found to be in the range of increment expected in the period between original measurement and re-measurement during onsite. Nevertheless the re-measurement during onsite visit showed that the numbering of the trees at the sample plots measured by the group "Hosea" were mixed up so that it was impossible to identify the right tree. <u>Corrective Actions Request 16.</u> No complete and correct set of data is provided for calculation of the above ground biomass as required.	15 CAR 16	
Is the required precision level met for net GHG removals?	2, 3, 4, 6	The Confidence interval as been changed from 95% to 90% based on the EB 63 Annex 26 and a Clarification provided by Carolyn Ching / Senior Program Officer of VCS via Mail on September 17th 2012. <u>See also CAR 13</u>	CAR 13	☒
Are project net GHG emission sources listed in line with the applied methodology and MP? Are these emission sources quantified correctly and in line with the applied methodology and MP?	2, 3, 4, 6, 9	Project net GHG emission sources are listed in line with the methodology and the MP. The PPs listed emissions due to a fire event in 2009. <u>See also CAR 14</u>	CAR 14	☒
4.3 Leakage				

VCS Requirement	Ref	Verification Findings	Draft Concl.	Final Concl.
Are sources of leakage listed in line with the applied methodology and MP?	2, 3, 4	In line with the MP Baseline the project does not anticipate any leakage.	☒	☒
Is leakage quantified correctly, and in line with the applied methodology and MP?	2, 3, 4	See comment above	☒	☒
4.4 Summary of GHG Emission Reductions and Removals				
Are the net GHG emission reductions and removals quantified correctly and in line with the applied methodology and MP? Are net changes in carbon stocks included?	2, 3, 4	A table is provided listing the outcome of all calculation steps. See also CARs in section 4.2	☒	☒
Are the deductions of VCUs due to the buffer calculated correctly?		See comments in VCS Risk Checklist	-	☒
If applicable, is the release of VCUs from the buffer calculated correctly?		See comments in VCS Risk Checklist	-	☒
5 ADDITIONAL INFORMATION				
Are any additional relevant information listed?	2, 3, 4	n.a.	-	-

Verification Protocol for the VCS non-permanence risk assessment

Criteria for non-permanence Risk Assessment	Ref.	COMMENTS	Draft Concl	Final Concl
Internal Risk				
1. <u>Project Management</u>				
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.	5	The species planted are associated with more than 25% of the stock on which GHG credits have previously been issued. Based on the project activity and other forestry projects in the region (Sao Hill Forest Plantation) it is proven that the species planted are adapted to the geological and meteorological conditions of the project.	0	0
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.	5, 27	According to the PPs there is sufficient land for subsistence agriculture surrounding the project area. Further are the adjacent communities contractually benefiting 10% of the carbon revenues of the project. During onsite visit the disbursement of the "carbon money" could be sustained via interviews with the communities and via bank transfer statements	0	0
c. Management team does not include individuals with significant experience in all skills necessary to successfully undertake all project activities (ie, any area of required experience is not covered by at least one individual with at least 5 years experience in the area).	5	The PPs provide CVs of the staff in charge of the plantations of the project activity proving the experience of its members in plantation forestry. During onsite visit interviews were held with the members of the staff. The interviews gave no reason to question the competence of the staff illustrated in the CVs provided.	0	0
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.	5	90% of the staff members are located in a range of 80 to 110 km of the project areas, every part of the project area can be visited within 1-2 hours; the remaining staff is located in Dar Es Salam. During onsite visit it could be sustained that the majority of the staff lives at Sao Hill or the plantations.	0	0
e. Mitigation: Management team includes individuals with significant experience in AFOLU	5	The management team was involved in the validation and first verification of the project as well as the validation of the A/R CDM	-2	-2

Criteria for non-permanence Risk Assessment	Ref.	COMMENTS	Draft Concl	Final Concl
<i>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.</i>		project "Kachung Forest Project in Uganda.		
f. Mitigation: Adaptive management plan in place.	5	<u>n/a</u>	0	0
Total Score Project Management		(a+b+c+d+e+f) = 0+0+0+0-2+0	-2	-2
2. Financial Viability				
Project cash flow breakeven point from the current risk assessment: - greater than 10 years - between 7 and up to 10 years - between 4 and up to 7 years - less than 4 years	5	An elaborated investment calculation has been provided showing that the cash flow breakeven point will be reached in the 5th year (2017). The investment calculations were discussed in depth during the onsite visit. The discussion showed that parts of the input values of the calculations are still based on assumptions even though concrete data is available. Also the area not covered by the verification is still taken into account although this part is not utilized and thus does not lead to costs. A part of the calculations is interlinked with an excel-file that was not provided. <u>Corrective Actions Request 17.</u> • No concrete data for the input values is provided. • Not all input-parameters and factors are sustained and justified. • Area related costs are not adjusted to the area covered by the verification. • The calculations are not fully interlinked and traceable	CAR 17	0
Amount of funding that the project has secured needed to cover the total cash out before the project reaches breakeven - less than 15% - 15% to less than 40% - 40% to less than 80%	5, 30	Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven GRL is securing the financing at the group level across all subsidiaries which enables the company to become cash flow positive within 5 years. The funding is loan financing from Norfund and Finfund and	0	0

Criteria for non-permanence Risk Assessment	Ref.	COMMENTS	Draft Concl	Final Concl
- 80% or more		explicitly covers financing of Uchindile/Mapanda. The contracts were provided during onsite visit and assessed by the audit team.		
<i>i. Mitigation: Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven</i>	5	n/a	-	0
<i>Total Score Financial Viability</i>		(a, b, c or d)+(e, f, g or h)+i = 0+0+0		0
3. Opportunity Cost				
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	5	n/a	-	0
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	5	n/a	-	0
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	5	n/a	-	0
d. NPV from the most profitable alternative land use activity is expected to be between 20% more than and up to 20% less than from project activities; or where baseline activities are subsistence-driven, net positive community impacts are demonstrated	5	According to the PD and the Validation Report the only alternative land use activity is continuation of the prior land use which is the continuation of unmanaged grassland with frequent fire and low level subsistence agriculture. During onsite visit the project activity was also validated and verified against the CCBA Standard. In the course of the validation/verification the audit team assumes that the project activity leads to a net positive impact on the communities.	0	0
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	5	n/a	-	0

Criteria for non-permanence Risk Assessment	Ref.	COMMENTS	Draft Concl	Final Concl
f. NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity	5	n/a	-	0
g. Mitigation: Project proponent is a non-profit organization	5	n/a	-	0
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	5	n/a	-	0
i. Mitigation: Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over at least 100 years	5	n/a	-	0
Total Score Opportunity Cost		(a, b, c, d or e)+(g, h or i) = 0+0	0	0
4. Project Longevity				
Without legal agreement or requirement to continue the management practice	2, 3, 4, 5	GRL holds land titles for both sites for 99 years and give the right to occupancy for the purpose of agriculture and pasture, including forestry. According to the PPs GRL has an full business plan from 1997 up to 2040 (43 years). Further the project has been certified under FSC since 2008 During onsite visit the management and the future investments respectively development steps were discussed with several members of the staff. The audit team can confirm that the project activity is designed as a long term investment.	4.2	4.2
With legal agreement or requirement to continue the management practice	5	n/a	-	0
Total Score Project Logevity		$(24 - (\text{project longevity}/5)) = (24 - (99 / 5)) =$	4.2	4.2

Criteria for non-permanence Risk Assessment	Ref.	COMMENTS	Draft Concl	Final Concl
Summary Internal risk				
Project Management			-2	-2
Financial Viability				0
Opportunity Cost			0	0
Project Longevity			4.2	4.2
Total Internal Risk			2.2	2.2
External risk				
5. Land Tenure				
a. Ownership and resource access/use rights are held by same entity(s)	5	n/a	-	0
b. Ownership and resource access/use rights are held by different entity(s) (eg, land is government owned and the project proponent holds a lease or concession)	5, 28	The land is owned by the government of Tanzania. The PPs hold a 99 year lease contract for both project sides. Since late 2008 there is an on-going dispute regarding the land tenure at the UFP. The area of the UFP is partly located in the districts of Mufindi and Kilombero. In total the area covers 12,121 ha and was approved by the Lands Commission with the Title deed No. 50742. Nevertheless the area in the Mufindi district, in total 5,054 ha is falling under the Government forest reserve (Saohill forest project) which was not clear at the time of the issuance of the land title deed. Thus GRL remains with 7,076 ha for the UFP. At present GRL is not utilizing the area in dispute and thus the area is not covered by the verification. During onsite visit the PPs presented Land dispute correspondence between GRL and the Ministry of natural Resources and Tourism of the Republic of Tanzania, documenting that GRL is in correspondence with the respective Ministry in these matters. A new land lease title for the remaining 7,076 ha is in the process of being issued meanwhile the old Land lease title is valid. The audit team assessed the documentation provided and found the reduction of the area in compliance with the VCS Standard v.3.3, section 3.6 as neither the applicability of the methodology, nor the additionality or the appropriateness of the baseline scenario	2	2

Criteria for non-permanence Risk Assessment	Ref.	COMMENTS	Draft Concl	Final Concl
		are impacted. Further the audit team confirms that the deviation is in compliance with the EB 65 Annex 24 Guidance of the CDM. The audit team reviewed the information and documentation provided and found that the area covered by the on-going verification is 100% under control of the PPs.		
c. In more than 5% of the project area, there exist disputes over land tenure or ownership	5, 28	According to the PPs and the Ministry of Natural Resources and Tourism there is a dispute about the legal land use for forestry purposes between the government forest plantation Sao Hill Forest Plantation and GRL. The area affected exceeds 5% of the total project area. <u>For more information see comment above.</u> As described above the management staff of GRL is not expecting to get the area under dispute back thus it was decided that the verification is covering only the area that is 100% under control of the PPs.	0	0
d. There exist disputes over access/use rights (or overlapping rights)	5	See comments above	0	0
e. Mitigation: Project area is protected by legally binding commitment (eg, a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period	5	n/a	0	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	5	n/a	0	0
Total Score Land Tenure		(a or b) + c + d + e + f + g = 2 + 0 + 0 + 0 + 0 + 0	2	2
6. Community Engagement				
a. Less than 50 percent of households living within	5, 25	According to the PPs no household are to be found within the	0	0

Criteria for non-permanence Risk Assessment	Ref.	COMMENTS	Draft Concl	Final Concl
the project area who are reliant on the project area, have been consulted		project side. Agreements have been found to relocate the activities further are all communities permanently informed about planning and conducting of management activities. During onsite visit the audit team could confirm that no household were living within the project area. The villagers left the project area in 1974 as the republic of Tanzania wanted the people to live in villages. Those villagers that have been using the land inside the project area for subsistence agriculture have been compensated in accordance with the legal framework of the host country. Respective documentation was assessed during onsite visit by the audit team and could be confirmed during village meetings and interviews.		
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	5, 32	According to the PPs more than 20% of the households living within 20 km of the project boundary outside the project area and reliant on the project area have been consulted. Further it is stated that due to the pure infrastructure even neighbouring communities were hardly reliant to the project area, which was confirmed during onsite visit. The neighbouring villages (Uchindile, Kitete, Lugala and Mapanda, Chogo) have been involved in consultations regarding the project activity. During onsite visit the audit team could confirm that the villagers have been engaged and involved in the planning process of the project activity. The PPs are conducting village consulting meetings on regular basis as well as provide village development officers in order to be informed about the needs of the communities.	0	0
c. Mitigation: <i>The project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area</i>	5, 14, 15, 16, 17, 32	According to the FSC Report the project is generating a net positive benefit on the surrounding communities. Further is the project CCBA validated underlining the positive effect of the project to the affected communities. During onsite visit the audit team could confirm that there is a net positive impact on the social and economic well-being of the local communities who derive livelihoods from the project area via	-5	-5

Criteria for non-permanence Risk Assessment	Ref.	COMMENTS	Draft Concl	Final Concl
		Interview in the course of the CCBA assessment. See also respective CCBA Report.		
<i>Total Score Community Engagement</i>		a + b + c = 0 + 0 - 5	-5	-5
7. Political Risk				
Governance score	5, 20	An mean governance score for Tanzania across the six governance indicators of the World Bank Institute's Worldwide Governance Indicators (WGI) of -0,35 was correctly applied	4	4
f.Mitigation: Country is implementing REDD+ Readiness or other activities, as set out in this Section 2.3.3 of VCS AFOLU Non-Permanence Risk Tool v. 3	5, 18, 19	Tanzania is in the implementation phase of a REDD + program since the national program has been accepted and the key program staff has arrived in June 2011. Further is Tanzania participating in the REDD + Social and Environmental Standard Program	-2	-2
<i>Total Score Political Risk</i>		(a, b, c, d or e) + f) = 4 - 2 =	2	2
Summary External risk				
Land Tenure			2	2
Community Engagement			-5	-5
Political Risk			2	2
Total External Risk			0	0
8 Natural risk				
a. Are all natural risk factors applicable to the project been assessed using the Likelihood and significance (LS) and mitigation (M) (if any) approach? (See Table 10 of VCS Non-Permanence tool v.3)	5	All potential natural risk factors have been assessed using the Likelihood and significance and mitigation approach as required.	-	☒
8.1 Fire Risk				
b. Has evidence been provided for assessing the risk of fire occurring in the project area?	5	. There was one major fire event in 2009 leading to a loss of 33% of the carbon stock. The loss was assessed by a South African Fire expert. Beside this a few small fires occurred since the last verification on both project areas. On basis of the comparison of the amount of carbon stored between the 1 st and 2 nd verification the PPs are opting for an insignificant significance although the full recovery of lost carbon		10

Criteria for non-permanence Risk Assessment	Ref.	COMMENTS	Draft Concl	Final Concl
		stock did not take place on the burnt area only. <u>Clarification Request No 3</u> Clarify if the area burnt will most likely fully recover within 10 years of any event. A list of several mitigation measures has been provided. The mitigation measures follow good practice. • Compartmentalization • Roads • Fire breaks • Fire towers • Fire Patrolling • Mapping • Community involvement in fire reporting and fighting • Training of fire fighters • Fire fighting tools and equipment • Recording and replanting of damaged area During onsite visit the mitigation measures could be observed by the audit team. Interviews with the plantation managers showed that after the fire event in 2009 the mitigation measures have been adapted due to the lesson learned. <u>Corrective Actions Request 18.</u> Provide information regarding the adaptation of the fire mitigation measures due to the fire event and the lessons learned.	CR 3 CAR 18	
8.2 Pest and diseases outbreaks				
a. Has evidence been provided for assessing the risk of incidence of pests and disease attack?	5	A few minor observation of potential biotic pest and disease vectors have been described. A list of mitigation measures has been provided. The mitigation measures follow good practice. • Surveillance programmes and practices	0	0

Criteria for non-permanence Risk Assessment	Ref.	COMMENTS	Draft Concl	Final Concl
		Training to staff and communities to identify and report cases. The LS and M approach was correctly applied. During onsite visit the audit team could confirm via interviews that the mentioned mitigation measures are in place		
8.3 Extreme weather				
a. Has evidence been provided for assessing the risk of extreme climatic events (e.g. floods, droughts, winds, frost) occurring?	5	Extreme weather occasions occurred only in terms of late start and early termination of the rain season which lead according to the PPs to loss only on recently planted stands which do not account as carbon sinks yet. The losses have been balanced by replanting. Mitigation measures are in place in form of the usage of adapted species.	0	0
8.4 Geological risks				
a. Has evidence been provided for assessing the geological risk (e.g. volcanoes, earthquakes, landslides)?	5, 70	According to the PPs there are no records of earthquake incidents, volcanic eruptions or landslides in the southern highlands of Tanzania for the last 100 years. The information provided was assessed by the audit team and found to be correct.	0	0
8.5 other natural risk				
a. Are there any other natural risks identified for the project area? Has evidence been provided for assessing these risks?	5	n.a.	0	0
Summary Natural risk Determined by (LS × M)				
Fire (F)				10
Pest and Disease Outbreaks (PD)			0	0
Extreme Weather (W)			0	0
Geological Risk (G)			0	0
Other natural risk (ON)			0	0
Total Natural Risk				10



Overall Risk Rating

Risk Category	Rating
a) Internal Risk	2.2
b) External Risk	0
c) Natural Risk	10
Overall risk rating (a + b + c)	13

Table 2: Summary of Requests and Responses

Clarifications and Corrective Action Requests	PD Sect.	Summary of PP Response	Audit Team Conclusion
<u>Corrective Actions Request 1.</u> Ensure consistency of the area size between the MR, GIS-files, carbon calculation excel file and throughout the different sections of the MR	1.1, 2.1, 4.2	Areas updated in line with GIS files	The area size between the MR, GIS-files, carbon calculation excel file are synchronized correctly. Consistency throughout all documents is guaranteed. ☒ Request closed
<u>Corrective Actions Request 2.</u> Provide information about area, species and year planted.	2.1	Included in MR	A table visualizing the implementation status of the project in terms of area, species and year planted is provided in the MR. ☒ Request closed
<u>Corrective Actions Request 3.</u> - No GIS file that matches the size of the area burnt provided in the MR is provided. - The GIS files provided do not distinguish between planted and unplanted area burnt.	2.1	GIS shapefile provided showing total area affected by fire between 2009 and 2012. Total area = 2389.2 ha	GIS shapefiles are provided showing the area affected by fires since the last verification (between 2009 and 2012). The area sizes are consistent throughout the documents provided. ☒ Request closed
<u>Corrective Actions Request 4.</u> Ensure that only parameters are listed that need to be monitored according to the applied methodology and PD. See also CAR 5.	2.2	MR updated	The list of parameters listed contains parameters that are available before project start according to the PD and thus are not monitored. In compliance with VCS Standard v.3.3, section 3.5.1 deviation from the criteria and procedures relating to monitoring or measurement set out in the methodology (ie, deviations are permitted where they relate to data and parameters available at validation, data and parameters monitored, or the monitoring plan) are allowed if no negative impact on the conservativeness of the quantification of GHG emissions reductions or removals is expected. Thus the set of parameters listed is in line with the requirements.

Clarifications and Corrective Action Requests	PD Sect.	Summary of PP Response	Audit Team Conclusion
			☒ Request closed
<u>Corrective Actions Request 5.</u> • Ensure to use the section titles provided by the template • Provide information/justification for all kinds of deviation from the original project description as required. • The deviation in project area due to the land dispute as described in section 2.1 is not mentioned as required.	2.2	Section title amended in line with VCS template. Justification provided for all deviations. Land dispute deviation was added to section 2.2	• The sections titles provided by the VCS MR template are used. • Several parameters have been listed as not to be monitored. The deviation of the monitoring plan are in line with the standard as they do not affect the conservativeness of the quantification of GHG emission reductions or removals and thus can be considered acceptable. Justifications for the deviations are provided as required by the MR-template. The justification were assessed by the audit team and found to be in compliance with good practice. • The deviations in project area due to the land dispute are provided and described in section 2.2 as required.
			☒ Request closed
<u>Corrective Actions Request 6.</u> List all parameters available at validation ("before project start") as required by the standard.	3.1	MR updated	<u>Response Audit Team 13/03/13:</u> Not all parameters available before project start and thus available at validation are listed as required.
		<u>Response PP 26/03/13:</u> MR has been updated with all parameters that were available at validation. It was found that some parameters had been listed incorrectly in the PDD. These have been amended in the MR and justified in the comments section.	<u>Response Audit Team 27/03/13:</u> All Parameters listed in the PDD are now listed in the MR. The PPs made modification by listing the following parameters: "Areas cleaned (screefed)", "Area weeded", "Area slashed", "Area planted per stratum", "Stratum ID", "Substratum ID" and "Numbers of sample plots" as parameters to be monitored instead of parameters available at validation. The modification was assessed by the audit team and are found not to be in

Clarifications and Corrective Action Requests	PD Sect.	Summary of PP Response	Audit Team Conclusion
			compliance with good practice and to contradict with VCS requirements. ☒ Request closed
<u>Corrective Actions Request 7.</u> Ensure to use the same naming as the PD and the MP	3.1	MR updated	<u>Response Audit Team 13/03/13:</u> The parameter "Error level" is not named in line with the PD and methodology applied.
		<u>Response PP 26/03/13:</u> MR has been updated with the "Error Level" replaced with "Accuracy"	<u>Response Audit Team 27/03/13:</u> The naming of the parameter is now in line with the PDD ☒ Request closed
<u>Corrective Actions Request 8.</u> List all parameters to be monitored as required by the standard.	3.2	MR updated	<u>Response Audit Team 13/03/13:</u> Not all parameters to be determined annually, every 5 years, after planting, once every 3 or 10 years and thus monitored are listed as required.
		<u>Response PP 26/03/13:</u> All the MP parameters which are monitored have been included. The frequency for each parameter has been updated based on what is happening on the ground – if this is different to the PDD then it has been justified in the comments section.	<u>Response Audit Team 27/03/13:</u> All parameters to be monitored have been listed if not listed in the section regarding deviations from the monitoring. Further parameters were added that were formally considered available at validation (see also comment CAR6) which was assessed by the audit team and found to be in line with good practice and to contradict with VCS requirements. ☒ Request closed
<u>Corrective Actions Request 9.</u> Provide the value monitored for all parameters as required.	3.2	Reference to compartment information file or GIS files added for parameters without values included.	For the parameters listed values monitored are provided respectively are referenced in the MR as required. ☒ Request closed
<u>Corrective Actions Request 10.</u> No information about the frequency of the monitoring	3.2	MR updated	According to the MR workers are advised to report any unusual signs spotted during their work in order to detect "Areas affected by

Clarifications and Corrective Action Requests	PD Sect.	Summary of PP Response	Audit Team Conclusion
is provided.			pests and/or diseases" which is in line with good practice. Thus the frequency of monitoring of the parameter "area affected by diseases and pest" is specified. ☒ Request closed
<u>Corrective Actions Request 11.</u> No list of personal involved in mapping, monitoring and reporting is provided in line with the observations made during onsite visit.	3.3	List of personal updated	A list of personal was provided which is in line with the personal met during onsite visit. The requirement of the report template is met. ☒ Request closed
<u>Corrective Actions Request 12.</u> Provide scans of the field-sheet data as discussed during onsite visit.	3.3	This is provided as a supporting file for VCS (see dropbox)	Field-sheets of the inventory is provided and was assessed against the digital inventory data by the audit team. The audit team crosschecked the digital data of the re-measured sample plots with the field sheets provided and found the data to be correct. ☒ Request closed
<u>Clarification Request 1.</u> Clarify which error percentage for QA/QC is acceptable.	3.3	This was corrected in the Inventory Guidelines as it was a mistake; acceptable error should be +/- 10% The Inventory Guidelines are provided as a supporting file for VCS (see dropbox)	Updated Inventory guidelines are provided and were assessed by the audit team. The acceptable error is now 10% as described in the MR. ☒ Request closed
<u>Clarification Request 2.</u> Clarify how the project deals with errors above the acceptable threshold.	3.3	Information regarding the steps taken if error levels are above the acceptable thresholds are explained in the QC/QA section of the MR – see page 53.	Consequences in the case of error levels above the accepted threshold are defined in the MR. A stepwise analysis of the error has to be applied which could lead to the re-measurements of certain parameters in the sample plots of an affected measurement team. The approach chosen is in line with good practice for QA/QC procedures. ☒ Request closed
<u>Corrective Actions Request 13.</u>	4.2	Error calculation updated -	Error calculations are updated.

Clarifications and Corrective Action Requests	PD Sect.	Summary of PP Response	Audit Team Conclusion
Provide correct error calculations and thus carbon calculations in line with the 28 th meeting of the AR Working group.		correct t_{val} used.	Instead of applying carbon calculations in line with the 28th meeting of the AR Working group, the PPs chose to apply conservativeness deduction rates of the CDM tool AR Tool 14 Version 03.0.0 "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" was applied. The audit team assessed the deviation described and found it in compliance with the Standards in particular as the VCS requires for new methodologies a permissible error level of $\pm 20\%$ at a 90% confidence level and respective deductions in the case the precision level is not met. ☒ Request closed
<u>Corrective Actions Request 14.</u> Provide fully interlinked and traceable calculations files Ensure consistency of the areas used throughout the calculations and documentations provided Sustain all values used and provide respective sources	4.2	2002 carbon stock is still to be made fully traceable – this will be amended Areas made consistent and all values sustained.	Provide fully inter-linked and traceable calculations files are provided. In the case of values not interlinked respective calculation files are provided thus all calculations can be traced back and crosschecked by the audit team. ☒ Request closed
<u>Corrective Actions Request 15.</u> Ensure the only values measured at the time of the inventory or if necessary due to QC re-measured values are used when calculating the carbon.	4.2	Carbon model updated.	The raw data was revised only values from the time of the inventory or necessary due to QC re-measurements are used for the calculation of the carbon. ☒ Request closed
<u>Corrective Actions Request 16.</u> No complete and correct set of data is provided for calculation of the above ground biomass as required.	4.2	Re-measurements provided as a supporting file and data integrated into raw data used in carbon calculations.	Re-measured data from the group Hosea is provided and integrated in the raw data of the carbon calculations thus a complete and correct data-set for calculating the above ground biomass is provided.

Clarifications and Corrective Action Requests	PD Sect.	Summary of PP Response	Audit Team Conclusion
			☒ Request closed
<u>Corrective Actions Request 17.</u> • No concrete data for the input values is provided. • Not all input-parameters and factors are sustained and justified. • Area related costs are not adjusted to the area covered by the verification. • The calculations are not fully interlinked and traceable	Risk 2	Input data revised in line with supporting documentation. Area adjusted in line with reduced area.	Input values applied comply with the actual situation/circumstances of the forest projects and are sustained with evidence. The area related figures are adjusted in line with the actual area of the forest projects. The calculations are fully interlinked and traceable as required. ☒ Request closed
<u>Clarification Request 3.</u> Clarify if the area burnt will most likely fully recover within 10 years of any event.	Risk 8.1	No longer pursuing the fire risk as transient.	On basis of the Fire Event Loss Report the PP classifies its fire risk as major. The audit team assessed the documents provided and found the risk classification in compliance with the LS guidance of the Standard ☒ Request closed
<u>Corrective Actions Request 18.</u> Provide information regarding the adaptation of the fire mitigation measures due to the fire event and the lessons learned.	Risk 8.1	Awaiting the Integrated Fire Management Document from Tz team	Documentation is provided summarizing the lessons learnt during the fire event in 2008. The documentation analyzing the fire event and how it was fought by giving instructions and upon the experience made how the fire mitigation measures can be improved accordingly. Respective fire fighting facilities were observed during onsite visit. ☒ Request closed



ANNEX 2: INFORMATION REFERENCE LIST

Ref. No.	Author/Editor / Issuer	Title, Type of Document	Date																																																																								
1.		Interviewed Persons: <table><thead><tr><th></th><th>Name</th><th>Position, Organisation</th></tr></thead><tbody><tr><td>1.</td><td>Sangito Sumari</td><td>General Manager GRL</td></tr><tr><td>2.</td><td>Eliya Mtupile</td><td>Carbon Certification Associate</td></tr><tr><td>3.</td><td>Christian Constantine</td><td>Chief Accountant</td></tr><tr><td>4.</td><td>Isaac B. Mapunda</td><td>Inventory Officer</td></tr><tr><td>5.</td><td>Peter Nguyeje</td><td>Inventory Officer</td></tr><tr><td>6.</td><td>Jakob Sandven</td><td>Mapping and Inventory Manager</td></tr><tr><td>7.</td><td>Ana Meyer</td><td>Carbon Associate</td></tr><tr><td>8.</td><td>Nicholas Embden</td><td>Carbon Manager</td></tr><tr><td>9.</td><td>John Chekure</td><td>District Plantation Manager</td></tr><tr><td>10.</td><td>Geofrey Kurianganga</td><td>Building Manager</td></tr><tr><td>11.</td><td>Veneranda Msemwa</td><td>Head of Planning Unit</td></tr><tr><td>12.</td><td>Byela Kahangwa</td><td>Forester</td></tr><tr><td>13.</td><td>Lucy Delton</td><td>Human Resource Officer</td></tr><tr><td>14.</td><td>Victor Kimey</td><td>FSC Associate</td></tr><tr><td>15.</td><td>Christel Kiweha</td><td>Human Resource Officer</td></tr><tr><td>16.</td><td>Hamisi Iddi Malinga</td><td>Community Development & Public Relation Manager</td></tr><tr><td>17.</td><td>Anthony A. Kisondella</td><td>GIS & Mapping Manger</td></tr><tr><td>18.</td><td>Joseph Masongo</td><td>Plantation Manager Mapanda</td></tr><tr><td>19.</td><td>Emmanuel Munisi</td><td>Plantation Manager Uchindile</td></tr><tr><td>20.</td><td>Elizabeth Mussami</td><td>Community Development Officer - Uchindile</td></tr><tr><td>21.</td><td>13 village members</td><td>Chogo Village</td></tr><tr><td>22.</td><td>18 village members</td><td>Uchindile Village</td></tr><tr><td>23.</td><td>24 village members</td><td>Mapanda Village</td></tr></tbody></table>		Name	Position, Organisation	1.	Sangito Sumari	General Manager GRL	2.	Eliya Mtupile	Carbon Certification Associate	3.	Christian Constantine	Chief Accountant	4.	Isaac B. Mapunda	Inventory Officer	5.	Peter Nguyeje	Inventory Officer	6.	Jakob Sandven	Mapping and Inventory Manager	7.	Ana Meyer	Carbon Associate	8.	Nicholas Embden	Carbon Manager	9.	John Chekure	District Plantation Manager	10.	Geofrey Kurianganga	Building Manager	11.	Veneranda Msemwa	Head of Planning Unit	12.	Byela Kahangwa	Forester	13.	Lucy Delton	Human Resource Officer	14.	Victor Kimey	FSC Associate	15.	Christel Kiweha	Human Resource Officer	16.	Hamisi Iddi Malinga	Community Development & Public Relation Manager	17.	Anthony A. Kisondella	GIS & Mapping Manger	18.	Joseph Masongo	Plantation Manager Mapanda	19.	Emmanuel Munisi	Plantation Manager Uchindile	20.	Elizabeth Mussami	Community Development Officer - Uchindile	21.	13 village members	Chogo Village	22.	18 village members	Uchindile Village	23.	24 village members	Mapanda Village	
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2.	GRL	Project Design Document: Reforestation in grassland area of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania	07 Jul 2009
3.	GRL	VCS Monitoring report: (01.12.2008 – 01.09.2012) Reforestation in grassland areas of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania	01 May 2013
4.	Tüv-Süd	Verification Report : Report No. 1261941	04 Aug 2010
5.	GRL	NON-PERMANENCE RISK REPORT: Reforestation in grassland area of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania	20 Feb 2013
6.	GRL	UMFP Inventory Carbon Model 130430.xlsx	Apr 2013
7.	IPCC	IPCC 03 Annex 3A.1	
8.	J.M.Bryce	The Commercial Timbers of Tanzania	1999
9.	GRL	Loss event report, Reforestation in grassland areas of Uchindile, Kilombero, Tanzania & Mapanda Mufindi, Tanzania Ver. 01	20 Oct 2011
10.	GRL	GIS shapefiles	Nov 2012
11.	Tüv-Süd	Verification Report : Report No. 1261941	17 Jul 2009
12.	GRL	SOPs	Nov 2012
13.	GRL	Inventory Guidelines for Green Resources AS, Version 5	17 Jul 2011
14.	GRL	Community Monitoring Plan, Version 1	Sep 2012
15.	GRL	Community Monitoring Results, 1st Jan 1997 to 1st Sep 2012	Sep 2012
16.	GRL	Biodiversity Monitoring Plan, Version 1	Sep 2012
17.	GRL	Biodiversity Monitoring Results, 1st Jan 1997 to 1st Sep 2012	Sep 2012
18.	UN_REDD	http://www.un-redd.org/UNREDDProgramme/CountryActions/Tanzania/tabid/1028/language/en-US/Default.aspx	
19.	REDD+ Social&Environmental Standard	http://www.redd-standards.org/index.php?option=com_content&view=article&id=22&Itemid=131	
20.	World Bank	http://info.worldbank.org/governance/wqi/sc_country.asp	

Ref. No.	Author/Editor / Issuer	Title, Type of Document	Date
21.	GRL	Climate, Community and Biodiversity Standards project design document (first edition) / Reforestation in Grassland areas of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania, Version 05	02 Oct 2009
22.	TüvSüd	Validation Report No. 1031163-CCBA; CCBA Project Reforestation in Grassland areas of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania	16 Oct 2009
23.	GRL	CCBA Implementation Report for Verification under the climate, community and Biodiversity alliance second edition, Version 01	04 Nov 2012
24.	GRL	Climate, Community and Biodiversity Standards project design document (second edition) / Reforestation in Grassland areas of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania, Version 01	05 Nov 2012
25.	GRL	Physical Verification and Assessment of Compensation Value (Mapanda) (two versions covering different people)	Oct 2010
26.	Orgut Consulting Tanzania Branch	Environmental Impact of the Forest plantation project at Uchindile and Lugala villages in Kilombero district Tanzania	Aug 1999
27.	GRL	Bank transfer statements; sustaining the Payment of “carbon money” to village bank accounts (checked onsite)	Dec 2012
28.	GRL	Land dispute correspondence between GRL and the Ministry of natural Resources and Tourism of the Republic of Tanzania. - Stakeholders meeting to discuss and resolve land dispute covering about 5.474 ha between Sao Hill Forest Plantations and Green Resources Limited Held on 24th June 2009 at Green Resources Limited Headquarter Office (signed by: Chairman of the Kilombero District Council, Director of Forestry and Beekeeping Division, Representative of the Mufindi District Council, Director of Green Resources Limited) - Summary of the above mentioned stakeholder meeting, 26th June 2009 (signed by the Permanent Secretary of the Ministry of Natural Resources and Tourism) - Letter of Green Resources Limited to the Director of Forest and Beekeeping (DFB) regarding planting activities of the DFB on the land in dispute with a copy to the Ministry of Natural Resources and Tourism, 14th March 2011 - Answer by the Ministry of Natural Resources and Tourism requesting the DFB to stop the planting activities on the land in dispute, 18th March 2011 (Ref.NoFD/33/15/47)	from June 2009 onwards

Ref. No.	Author/Editor / Issuer	Title, Type of Document	Date
29.	GRL	Thinning and Harvesting.Operations by Location 2011&12_121010	Nov 2012
30.	GRL	Loan contracts with Scandinavian development funds (Finfund & Norfund)	Dec 2012
31.	GRL	UMFP Cash Flow for NPRRI 130220.xlsx	Feb 2013
32.	GRL	Maps showing villages in 20 km extent from project area	Dec 2012
33.	GRL	HIGH CONSERVATION VALUE FOREST (HCVF) FOR GRL PLANTATIONS	2012
34.	GRL	Graves and Ritual Sites Report 2012	Jul 2012
35.	SACCOS; Chris Constantine	MBAO SACCOS – AN OVERVIEW	Jun 2012
36.	Government of the Republic of Tanzania	Subsidiary Legislation, Government Notice No. 172, published 30/4/2010	Apr 2010
37.	GRL	TGA (Tree Growers Association) Farm Forests Summary; Green Resources Company Report	Oct 2012
38.	GRL	TGA Gender report	Oct 2010
39.	GRAS	Environmental Policy	May 2011
40.	GRL	Report of Training of GRAS Staff on the Application of Community Monitoring Guidelines for Green Resources Forestry Projects	Oct 2010
41.	GRL	TRAINING ON RTE SPECIES, INVASIVE SPECIES AND HCV FORESTS (Report on trainings held in adjacent villages)	May-Mar 2010
42.	Ministry of Natural Resources and Tourism Division of Forestry and Bee Keeping	Compendium on Education for Fire Fighting, Mufindi District	Aug 2009
43.	Evans, Steven W. et al	Habitat selection by blue swallows <i>Hirundo atrocaerulea</i> Sundevall, 1850 breeding in South Africa and its implications for conservation, African Journal of Ecology 48, 871–879	2009

Ref. No.	Author/Editor / Issuer	Title, Type of Document	Date
44.	GRL	Minutes of the Focus Group, Key Informant Interviews	Sep 2011
45.	GRL	Signed document receiving forms	Jun 2011
46.	GRL	Stakeholder comments summarized	Dec 2012
47.	GRL	Human Resource Training Report	Dec 2012
48.	GRL	GRL Training Matrix 2012	Dec 2012
49.	GRAS	Employee Handbook (English/Swahili)	Aug 2011
50.	GRL	List of relevant laws	Dec 2012
51.	National environmental management council (NEMC)	ENVIRONMENTAL IMPACT ASSESSMENT ON PROPOSED MAPANDA AND IDETE FOREST PROJECTS IN MUFINDI DISTRICT IRINGA REGION, TANZANIA (REVISED REPORT)	Jan 2008
52.	Munishi PKT	The eucalyptus Controversy in Tanzania; Paper Presented at TAF Annual General Meeting (AGM), 23rd – 24th 2007 Dodoma Tanzania	2007
53.	Colin Smith	Sustainability of forest plantations, South African Forestry Handbook	
54.	Gessesse Dessie et al	Planted Forests and Trees Working Papers Eucalyptus in East Africa Socio-economic and environmental issues, Working Paper FP46/E, FAO, Rome, Italy	May 2011
55.	Nshubemuki, L.	ANTITHETICAL VIEWS ON EUCALYPTS CULTIVATION: PREJUDICIAL DISPOSITION VERSUS UNTAPPED PROSPECTS?, Paper presented to the 14th Annual Scientific Meeting of the Tanzania Association of Foresters, TAF; Dodoma	Oct 2007
56.	Davidson, John	Ecological Aspects of Eucalyptus Plantations; http://www.fao.org/docrep/005/ac777e/ac777e06.htm	Accessed Jan 2013
57.	Munishi PKT	ANNUAL ECOLOGICAL SURVEY AND MONITORING IN GRL AFFORESTATION PROJECTS IN IDETE, MAPANDA AND UCHINDILE	Mar 2010
58.	Serah Kiragu; University Bayreuth	Summary Report: Verification of a CCBA and VCS Project – Reforestation in grassland areas of Uchindile, Kilombero, Tanzania & Mapanda, Mufindi, Tanzania.	Jan 2012
59.	GRL	Biodiversity Monitoring Plan	Dec 2012

Ref. No.	Author/Editor / Issuer	Title, Type of Document	Date
60.	GRL	Translated document containing main contents of PDD as information for the communities (checked onsite)	Dec 2012
61.	Nomogaia	Green Resources Human Rights Impact Assessment	Dec 2010
62.	Timberwatch	CDM Carbon Sink Tree Plantations - A case study in Tanzania	Mar 2011
63.	GRAS	Directors Report 2010	2010
64.	GRAS	Annual Report 2008	2008
65.	Munishi PKT	Ecological survey in the Kilombero Forest Project at Uchindile Kilombero district Tanzania	Jun 2006
66.	WILDLIFE CONSERVATION SOCIETY OF TANZANIA	CONSULTANCY REPORT ON ECOLOGICAL SURVEY OF UCHINDILE AND MAPANDA REFORESTATION PROJECTS IN THE SOUTHERN HIGHLANDS – TANZANIA	Mar 08
67.	Tanzania Tree Seed Agency	REPORT ON BOTANICAL SURVEY, GREEN RESOURCES LIMITED, IRINGA – TANZANIA	Feb 2006
68.	GRL	Uchindile Fire 2009 – Lessons learnt	Nov 2009
69.	INDUFOR Ministry of Natural Resources and Tourism	Tanzania Forest Conservation and Management Project; Provision of Consultancy Services for Implementation of Private Sector Involvement Activities; Part V YIELD MODELS	07 May 2008
70.	Geological Survey of Tanzania	http://www.gst.go.tz/geohazards.html	Accessed 29/04/2013
71.	Eliya Mtupile and Samson Msilu,	Faecal Ecoliform Survey Report for the Uchindile, Mapanda and Idete Forest Projects	Aug 2012