SOIL CARBON IMPROVEMENT PROJECT THROUGH GRASSLAND MANAGEMENT, IN SOUTH AFRICA

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Project title	Verification report for “Soil carbon improvement Project through Grassland Management, in South Africa”
Project ID	2710
Verification period	01-July-2018 to 31-December-2022
Original date of issue	18/12/2024
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Version	3.1
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Client	WeAct Pty Ltd

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Summary:

A brief description of the verification and the project

The grouped project aims to remove greenhouse gas (GHG) from atmosphere by implementing sustainable grazing management and controlled fire over a multiple grasslands of Drakensberg area in South Africa. The first instance includes four land areas Kwazulu Natal (KZN, 67,85.4 ha), Eastern Cape (EC, 70,737.5 ha), Mpumalanga (MPL, 3,773.5 ha) and Free State Province (10,654.3 ha). For the current monitoring period, this first instance recovers around 91,950.6 ha of land degraded by unrestricted grazing and uncontrolled fire through the implementation of planned rotational grazing and controlled burning.

The overall purpose of this initiative is to develop soil carbon storage through improved grassland management and expected to result in significant removal of CO2 from the atmosphere, as documented using the VCS methodology, "VM0026 – Sustainable Grassland Management". For the current monitoring period, total CO_2 removals is 984,785 tCO_2e, without considering buffer, of which 805,971 tCO_2e correspond to VCUs considering a 18% non-permanence risk deduction (178,814 tCO_2e)

The purpose and scope of verification

4KES has been contracted by 'WeAct Pty Ltd to perform a verification of the Verified Carbon Standard (VCS) project 'Soil carbon improvement Project through Grassland Management', in South Africa (VCS Ref. No. 2710) in Republic of South Africa (RSA). The project has been registered under the VCS Program in June 2024.

The verification's goal is to ensure that the " Soil carbon improvement Project through Grassland Management Project" and all associated project documentation comply with all guidelines and specifications of the VCS Standard v4.7, VCS Methodology Requirements, the applied GHG methodology " VCS VM0026 methodology (Sustainable Grassland Management") Version 1.1 " and its accompanying tools

and modules, as well as the VCS Non-Permanence Risk Tool, v4.0, and Tool for Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities v03.

Monitoring period

01-July-2018 to 31-December-2022

The method and criteria used for verification

The scope of the verification is defined as an independent and objective review of the VCS Monitoring Report document, the project's baseline study, the monitoring plan, the ex-post estimations and other relevant documents. The information in these documents is reviewed against the requirements of 'VCS Validation and Verification Manual v3.2', VCS Standard v4.7 and all other associated VCS requirements and rules.

The report is based on the assessment of the VCS Monitoring Report document, application of standard auditing techniques including but not limited to desk review, site visits and follow-up actions and the review of the applicable approved methodological and relevant tools. The validation procedure was free of any uncertainties.

The number of findings raised during verification

During the validation process 15 corrective actions, concerning verification were raised. All these issues where appropriately closed using corrections, more clear explanations and other supported documents. No CLs and FARs were raised in this verification event.

Any uncertainties associated with the verification

The assessment team has no restrictions or uncertainties concerning the compliance of the project with the verification criteria.

Summary of the verification conclusion

In conclusion, according to 4KES, the project "Soil carbon improvement Project through Grassland Management", in South Africa satisfies all pertinent requirements for VCS standards and guidelines and correctly implements the approved VCS methodology for calculating ex-post GHG removals/ reductions throughout its current monitoring period, which starts on 01/07/2018 and ends on 31/12/2022. Hence, the audit team concludes that the ex-post GHG removals for the lands included in the project boundary have been estimated in accordance with VCS rules.

CONTENTS

1 INTRODUCTION

1.1 Objective

4KES has been contracted by 'WeAct Pty Ltd." to perform a verification of the VCS project 'Soil Carbon Improvement Project through Grassland Management', in South Africa (VCS Ref. No. 2710)[1] in the Republic of South Africa (RSA).

The objective of verification is defined as an independent third-party assessment of the ex-post determination of the monitored GHG removals by the sink that have occurred because of the project activity implemented during a defined monitoring period. The information in these documents is reviewed against the VCS Validation and Verification Manual v3.2 requirements, ISO 14064-3:2019, and all other associated VCS requirements and rules.

All VCS projects must undergo independent third-party verification to assure the VCS and other stakeholders of the project's quality and quantified Verified Carbon Units (VCUs) from the project.

1.2 Scope and Criteria

The scope of this audit included the verification of the ex-post achieved removals/emission reductions against the VCS requirements for the first monitoring period (01-July-2018 to 31-December-2022)

The scope of work covered in the verification is described below:

(a) the actual monitoring system and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan of the project design /7/ and MR /56/;

(b) the GHG removals by sink data and express a conclusion with a reasonable level of assurance about whether he reported GHG removals by sink data are free from material misstatement.

(c) the reported GHG emissions data is sufficiently supported by evidence.

The criteria for verification were the VCS Version 4, including the following documents:

- VCS Standard v4.7 issued 16 April 2024
- VCS Program Guide v4.4 issued 29 August 2023
- Program Definitions v4.4 issued 29 August 2023

[1] https://registry.verra.org/app/projectDetail/VCS/2710

- AFOLU Non-Permanence Risk Tool v4.0 issued 19 November 2019[2]
- VCS Registration and Issuance Process, v4.6 issued 16th October 2024[3]
- VM0026 v1.1 Sustainable Grassland Management issued 24 June 2021[4]

The verification team assessed and confirmed that the implementation and operation of the project activity, as well as the procedures for reporting GHG removals by sinks, comply with VCS rules. The verification process included a thorough review of relevant documentation and interviews with the project participants.

It is important to note that verification does not involve providing consultancy to the project participants. However, requests for clarifications, corrective and forward actions may have indirectly contributed to improving the monitoring processes.

1.3 Level of Assurance

The level of assurance is used to determine the depth of detail that the verifier places in the Verification and Sampling Plan to determine if there are any errors, omissions, or misrepresentations. For this VCS verification, 4K Earth Science Private Limited assessed the project (general principles, data, sampling descriptions, documentation, calculations, etc.) to provide reasonable assurance to meet the project-level requirements of the VCS Program, described in Section 4.1.10(1) and 4.1.2(2) of the VCS Standard v4.7. Based on the verification findings, a final evaluation statement reasonably assures that the project GHG representations are materially accurate. The evidence used to achieve a reasonable level of assurance is specified in subsequent sections of this report.

All the versions of the verification report were subjected to an independent internal technical review before being submitted to the client to confirm that all verification activities had been completed according to the pertinent VVB instructions required. The technical review was performed by a technical reviewer qualified in accordance with VVB's qualification scheme for VCS validation.

[2] https://verra.org/wp-content/uploads/2025/02/Clarification-to-Verra-Program-Rules-and-Requirements-AFOLU-NPRT-v4.pdf per the revised clarification by VERRA dated 18th Feb 2025, the project is requesting verification approval for a verification period that includes vintages of 2022 and earlier only can apply v4 of the NPRT.

[3] https://verra.org/wp-content/uploads/2024/10/Registration-and-Issuance-Process-v4.6-1.pdf

[4] https://verra.org/methodologies/vm0026-methodology-for-sustainable-grassland-management-sgm-v1-0/

1.4 Summary Description of the Project

The proposed project aims to remove GHG from the atmosphere by implementing sustainable grazing management and controlled fire over a multiple grasslands of Drakensberg area in South Africa. In the baseline scenario, the pastures are larger and the livestock movement less frequent, allowing for unrestricted and selective grazing of perennial grasses. Loss of perennial grasses in grassland ecosystems results in soil loss and erosion, soil carbon loss, reduced water filtration capacity, and reduced productivity of forage. Project Activity i.e. planned grazing and controlled burning will increase the rest and rotation on pastures above baseline practices. Smaller pastures implemented by fencing with more rotations allow the recovery of perennial grasses, which foster greater carbon inputs, higher retention of carbon as lignin and cellulose, and greater belowground production. This results in the sequestration of greenhouses gases from the atmosphere to the soil.

The project has been designated as a 'Grouped Project' and plans to increase the number of project instances over a period of time. The first instance includes four land areas Kwazulu Natal (KZN, 6,785.4 ha), Eastern Cape (EC, 70,737.5 ha), Mpumalanga (MPL, 3,773.5 ha) and Free State Province (10,654.3 ha) and this first instance aims to recover around 91,950.6 ha of land degraded by unrestricted grazing and uncontrolled fire through the implementation of planned rotational grazing and controlled burning.

The project activity reduces GHG emission by restoring the degraded grassland ecosystem through sustainable grassland management which will increase soil carbon, mitigate the impact of climate change on the local ecological environment, enhance the capabilities of local communities and residents by providing them with relevant technical skills and training, and increase local biodiversity. The project has resulted in the benefits as described in Section 1 of the Monitoring Report. Total GHG reduction and removals generated in this monitoring period is 984,785 tCO_2e. The project is registered under the Verified Carbon Standard (VCS). This project also contributes to UN SDG goals 1, 2, 4, 6, 13 and 15. The project also aims to develop livelihood options and improve socio-economic conditions of the people residing adjacent to the project area by providing jobs and training opportunities. Also, the project would empower women and build community capacity in gender equity

2 VERIFICATION PROCESS

2.1 Method and Criteria

The project activity applies approved VCS methodology VM0026 “Sustainable Grassland Management”, Version 1.1, categorized under sectoral scope 14. This verification was undertaken as per VCS Standard v4.7, and its associated modules and tools as well as applying standard auditing techniques and Validation and Verification Manual v3.2. A project-specific Verification and Sampling plan was developed to guide the verification auditing process to ensure efficiency and effectiveness. The verification process is undertaken by team that involves the following:

- The desk review of documents and evidence submitted by the PP in the context of the reference VCS rules and guidelines,
- Undertaking site visit, interviews, and interactions with the representative of the project proponent, project employees, land owners and local communities and other relevant stakeholders. The viewpoints collected in these interviews were considered by VVB along with onsite observation, objective evidence gathering, data production, and recorded analysis when reaching a verification opinion.
- Reporting audit findings with respect to clarifications and non-conformities and the closure of the findings, as appropriate
- To ensure the risk of auditing error is minimized to a reasonable level and ensure effectiveness & efficiency, a project-specific Verification and Sampling plan was developed to guide the verification auditing process. The methodology of the validation and sampling plan is based on the VCS guidance documents and ISO 14064-3:2019. Any modifications applied to the plan were made based upon the conditions observed for monitoring to detect the processes with highest risk of material discrepancy. The samples were observed and verified in selected sample plots through on-site assessment and satellite imageries analysis.
- Preparation of final verification opinion

The carbon stock changes, in the project area were verified and crosschecked with validated values.

VVB carried out a deep and meticulous review of the spreadsheets to verify the correct application of the methodology (formulae, equations, etc.) and checked that data required calculating the GHG removals and emissions reduction were appropriately provided. Based on the assessment carried out, VVB confirms with a reasonable level of assurance that the claimed removals/emissions reduction are free from material errors, omissions, or misstatements.

VVB confirms that sufficient evidence was presented for the reported net anthropogenic GHG removals/emissions reduction and that there is a clear audit trail that contains the evidence and records that confirms the stated figure in this verification report since:

- Sufficient evidence available: The project participant has provided the 100% of data used in the calculations to achieve the final amount of GHG removals/emissions reduction reported.
- Nature of evidence: The raw data was collected from reliable sources. It is detailed in the monitoring report, has been provided to the audit team and was checked during the interviews and the onsite visit.
- Cross-checked evidence: cross-checked the collected information through interviews with stakeholders, reproducing calculations and onsite inspections (see sections 2.2 Document review, 2.3 Interviews, 2.4 Site visits).

Hence, VVB confirms that the stated figures in the Monitoring Report are correct and it is able to certify net anthropogenic GHG removals/ emissions reduction based on verifiable and reliable evidence.

The appointed verification team, and the distribution of tasks, is the following. The competence of the team individuals complies with Verra accreditation rules for VCS Program and AFOLU activities.

Sample Plan for audit

The sampling plan utilized the VCS guidance documents, ISO 14064-3:2019 /32/ and the Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities Version 09.0 /36/. Random sampling was carried out considering a confidence interval of 95% and error of 10%. Specifically, sampling is used to select the project parcels to check their size and location, baseline practices and land use rights and ownership (land documents) and terms of references signed.

As per the table 2 of the Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities Version 09.0, acceptance sampling was conducted during the site visits.

Strata	Rancher count	Number of veld	Total number of actual sampling point	Acceptance sampling per - Sampling and Surveys for CDM Project Activities and Programme of Activities Version 09.0 (considering 15% of sample)
KZN	90	6	18	3
Eastern Cape	426	10	81	12
Free State	93	3	15	2
MPL	67	3	9	1
	676	**22**	**123**	**18**

Eighteen samples for the VVB's analysis were selected from the 41 samples inventoried by the PP for the monitoring period. The VVB concluded that the estimated data used for the MR quantification is accurate and provides a reasonable level of assurance. Additionally, the Land Use

and Land Cover (LULC) analysis of all the land parcels were evaluated through Remote Sensing methods.

For the determination of DOE"s acceptance sample size, validation team assumed the following factors:

1. Producer risk -5% (ie, There is 5% chance that the DOE will wrongly reject the project participants" records of acceptable quality)
2. Consumer risk -10% (i.e., There is 10% chance that the DOE will wrongly accept the project participants" records of records of unacceptable quality).
3. Acceptable quality level (AQL) or the Level of Assurance- 1% (i.e., the proportion of discrepancies between the project participants" sample records and the DOE sample that are acceptable up to 0.5% limit)
4. Unacceptable Quality Level (UQL) – 15% (ie, proportion of unacceptable discrepancies between the project participants' or the coordinating/managing entity's sample records and the DOE sample records)
5. Validation team has determined acceptance sample size for all the sample survey parameters based on the standard "Sampling and surveys for CDM project activities and programmes of activities".[5]

From the above assumed factors, the validation team determined the minimum sample size (n) as 18 and acceptance number (c) as 1.The actual number of sample size where the acceptance survey was done given below:

Producers risk	Consumers risk	AQL	UQL	Sample size	Acceptance Number
5%	10%	1%	20%	18	1

Appointment of Validation Team: Based on a competence analysis and individual availabilities a validation team was appointed. Furthermore, also the personnel for the technical review and the final approval were determined. The details are given below:

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Validation findings
1.	Team Leader (Validator, Techincal and Local Expert)	IR	Puratchikkanal	Ma Paa	Central	X	X	X	X

[5] https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20210531160756223/Meth_Stan05.pdf

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Validation findings
2	Technical and Local Expert	EI	Ramukhithi	Pfano	External Expert		X	X	X

Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)
1.	Technical Reviewer	IR	Sharma	Chetan	Central
2	Technical Expert	EI	Hassan	Zainab	Central
3	Final Approver	IR	R	Chandrakala	Central

The verification schedule was as follows:

Activity	Date
Audit plan and completeness check to verify all the information requested was provided.	01/08/2024
NOVS	01/08/2024
Kick off meeting Onsite audit inspection	19/09/2024
Three rounds of findings, with corrective action requests or clarification requests raised	09/01/2025
Technical internal review and delivery of VCS verification report to PP for its revision	19/02/2025

Submission to Verra	20/02/2025

2.2 Document Review

The MR submitted by the PP was reviewed against the approved methodology, VCS and ISO requirements, and the validated PD. The review included various documents, such as monitoring data, carbon rights contracts, management agreements, maps and GIS databases, laboratory analysis results, monitoring and grievance SOPs, and biomass and carbon calculation spreadsheets. All documents were provided digitally to the audit team, and original papers and records were reviewed during the site visit.

To address the corrective actions raised during the desk review and onsite visit, the PP revised project MR version 1 (dated 26 June 2024) and developed the final version 3, dated 19 February 2025.

Appendix 2 of this report contains details of the documents reviewed during verification, while Appendix 3 outlines the verification findings.

2.3 Interviews

The objective of the interview process was to solicit important information from personnel related to project and relevant to the verification process. Verification team conducted interviews with Project Proponent and owners regarding the work products provided to the audit team in support of the MR and NPR Report; actions undertaken to ensure conformance with various requirements; and project activities as planned and implemented.

Interviews with the PP, communities, and other pertinent stakeholders were conducted during the visit to the project area from 19/09/2024 to 29/09/2024. During the site visit period, the audit team also went to the PPs office. A list of those questioned is provided below. The following personnel associated with the Project were interviewed:

Sl. No.	Name of the person interviewed	Affiliation	Date	Subject	Auditing team member
	Ms. Jenine de Wet	Country Manager, South Africa, WeAct Pty Ltd	19/09/2024	- provide an overview of the project and its primary goals related to GHG emissions or removals.	

				- Chronological description of the project activity with documents of key steps of the implementation. - National legislation to grassland and grazing - Local grassland development and management - systems and processes in place for data collection and monitoring - local grazing status - Roles & responsibilities of the government - local communities, biodiversity, climate, environment - any loss of biomass or project parcels during the MP - Have there been any grievances or concerns raised by stakeholders? How were they addressed? - whether or not the project is implemented and monitored in line with the registered PD - how the PP ensured the accuracy, reliability, and consistency of data collected for GHG quantification? - How do you ensure proper record-keeping and data traceability for the duration of the project?	

				- any significant challenges or deviations in the monitoring process? If so, how were they addressed? - any assumptions made during the quantification process? If so, what are they, and how were they validated.? - What measures have been taken to identify and mitigate risks that may affect project performance or data accuracy? - How do you address uncertainties in GHG quantification, and how are they documented? - How does the project comply with the principles outlined in ISO 14064-3:2019 (e.g., relevance, completeness, consistency, accuracy, transparency)?	
	Mr. Pieter Botha	Resource Extension Officer, Endangered Wildlife Trust (EWT)	19/09/2024	- VCS PD, Excel Sheets, VER calculations, financials, Project Roles and Responsibilities allocated, Ownership and project details. Sampling and ecological survey points for data correction, Local grassland development and management - -local grazing status - Roles & responsibilities of the government - -local grazing status - Roles & responsibilities of the government	

				- local communities, biodiversity, climate, environment - any loss of biomass or project parcels during the MP - Have there been any grievances or concerns raised by stakeholders? How were they addressed? - whether or not the project is implemented and monitored in line with the registered PD - how the PP ensured the accuracy, reliability, and consistency of data collected for GHG quantification? - How do you ensure proper record-keeping and data traceability for the duration of the project? - any significant challenges or deviations in the monitoring process? If so, how were they addressed? - any assumptions made during the quantification process? If so, what are they, and how were they validated.? - What measures have been taken to identify and mitigate risks that may affect project performance or data accuracy? - How do you address uncertainties in GHG quantification, and how are they documented?	

				- How does the project comply with the principles outlined in ISO 14064-3:2019 (e.g., relevance, completeness, consistency, accuracy, transparency)?	
	Mr. Deepjyoti Borah	Technical Project Manager, WeAct Pty Ltd	20/09/2024	ERR quantificaton, and project assessments emissions, leakage emission	
	Ms. Tulika Biswas	Project Coordinator, WeAct Pty Ltd	20/09/2024	- local grazing status - Roles & responsibilities of the government - local communities, biodiversity, climate, environment - any loss of biomass or project parcels during the MP - Have there been any grievances or concerns raised by stakeholders? How were they addressed? - whether or not the project is implemented and monitored in line with the registered PD - how the PP ensured the accuracy, reliability, and consistency of data collected for GHG quantification? - How do you ensure proper record-keeping and data traceability for the duration of the project? - any significant challenges or deviations in the monitoring process? If so, how were they addressed?	

				- any assumptions made during the quantification process? If so, what are they, and how were they validated.? - What measures have been taken to identify and mitigate risks that may affect project performance or data accuracy? - How do you address uncertainties in GHG quantification, and how are they documented? - How does the project comply with the principles outlined in ISO 14064-3:2019 (e.g., relevance, completeness, consistency, accuracy, transparency)?	

2.4 Site Visits

The verification site inspection was conducted on 19/09/2024 to 29/09/2024. A ground inspection of the project area was conducted during the site visit and members of the verification team visited 24 sample within the project area. The following tasks were undertaken during the site visit.

- To understand and evaluate the project area/boundary, project emissions leakage and leakage management aspects.
- Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the Monitoring Plan.
- To validate all datasets provided are in line with the methodological requirements.
- To interact with the communities directly and indirectly/ dependent/impacting/impacted by the project and understand the socioeconomic dimension of the project.
- To understand the biodiversity dimension of the project

- To check the project management, meet the management team, check the monitoring plan and its on ground implementation practices.
- To check the grassland area as defined and mentioned in the PD. Legal ownership of the lands.

During site visit, the verification team performed all the above-mentioned tasks and confirmed the monitored value from PP sampling data are correct and reasonable, hence it is verified that the calculation method used in the MR is correct and actual.

Date	Visited Area
19/09/2024	Johannesburg office audit
20/09/2024	Mpumalanga site
21/09/2024	KwaZulu Natal site
22/09/2024 to 24/09/2024	Free State site
25/09/2024 to 28/09/2024	Eastern Cape site

List of interviewed persons with date:

Date	Person Name
19/09/2024	Ms. Jenine de Wet Mr. Deep Borah Mr. Pieter Botha Ms. Tulika Biswas
20/09/2024	Ms Cecelia Baulr Mr Marco Skhonyane Ms Sheki Mayaba Mr Ethel May Janse V Rensburg
21/09/2024	Mr Bonginkosi Dindin

	Mr Vasimuci Paul Hkosi
22/09/2024 to 24/09/2024	Mr Andrew Green Ms Melarie Green Mr Melasi Collen Hlongwane Mr Jean Bentley Mr Richard Dillon Ms Victoria Dillon Ms Siyabanya Mdlolo Mr Sipho Mokoana Mr Jason Hobbs
25/09/2024 to 26/09/2024	Mr Brett Walker Ms Karen McEwan Mr David Mr Graham Murray

Some photos during site visit:

2.5 Resolution of Findings

In order to focus on high-risk concerns in the verification results without missing any of the required steps, 4KES uses a risk-based approach.[6] During the verification, a few inconsistencies were discovered, and the verification report was sent to the project proponent with the corrective action requests (CARs) and clarification requests (CLs) attached.

CARs and CLs require the PP to take relevant actions. Criteria for judging items as CAR or CL are as follows:

Corrective action request (CAR): - The PP have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions - the Voluntary Carbon Standard's requirements have not been met, or - there is a risk that emission reductions cannot be monitored or calculated.

Clarification request (CL): - Information is insufficient or not sufficiently clear to determine whether the applicable VCS requirements have been met.

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[6] Common risks include:

Data inaccuracies: Errors in measurement, calculation, or reporting during the MP.

Methodology deviations: Non-compliance with approved methods or protocols during the MP.

Boundary issues: Misrepresentation of project scope or leakage effects during the MP.

Monitoring gaps: Failures in monitoring equipment, frequency, or processes during the MP.

Loss event/reversal: any loss of biomass or removal of a project parcel during the MP either due to man-made or natural cause

Until this data is made available to the team leader's satisfaction, the verification process may be put on hold. Information or clarifications provided as a result of a CL may also lead to a CAR.

All findings issued by the 4KES audit team during the verification process have been closed. In accordance with Section 4.1.20-21 of the VCS Standard v4.7, all findings issued during the verification process.

There was a total of 15 CARs and 0 CLs raised during the verification process, all of which were successfully handled. The list of CARs/CLs raised, the response given, the method of verification, the justifications for their closure, and references to correction in the pertinent documents are all included in this report's Appendix 3.

2.5.1 Forward Action Requests

No Forward Action Requests were raised to the PP during this process.

2.6 Eligibility for Validation Activities

The 4K Earth Science Private Limited hold accreditation for both validation and verification for the relevant sectoral scope 14. As per the VCS standard, “Validation (including project crediting period renewal validation) and the first verification of a project (in a given project crediting period) may be undertaken by the same validation/verification body”, this is the first verification of the project activity.

3 VALIDATION FINDINGS

3.1 Methodology Deviations

During this monitoring period, there are no methodology deviations.

3.2 Project Description Deviations

During the monitoring period, there are no deviations to project description

3.3 New Project Activity Instances in Grouped Projects

There is no inclusion of new project activity instances during this monitoring period.

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

4 VERIFICATION FINDINGS

4.1 Project Details

Item	Evidence gathering activities, evidence checked, and assessment conclusion:
Audit history	The current event corresponds to the first verification, with a monitoring period starting on the project start date (1 July 2018) and ending on 31 December 2022. The validation was carried out by the same VVB. PP has provided the required Audit History table in section 1.2 of the MR.
Double counting and participation under other GHG programs	The project is only registered under the VCS program and only intends to issue credits within it. During the validation process the PP has submitted declarations /28/ to confirm that this project has neither been registered or is seeking registration, under any other GHG programs nor rejected by any other GHG programs. The VVB has also cross-checked the program registries, it is confirmed the Project does not present any overlap with any other initiative in the territory. The VVB has also crosschecked the documents and declarations and found that the claim is in line with sections 3.23 and 3.24 of the VCS Standard v4.7.
No double claiming with emissions trading programs or binding emission limits	The audit team confirmed that the Project is not currently participating in any emission trading or other binding limit program or mechanism applicable to the context of the Project (AFOLU activity based in South Africa), as confirmed through discussion with project personnel (during interview) and indicated 1.11.1 MR. During the validation process, the PP has also submitted declarations /28/ to confirm the same. Hence, the project is in line with sections 3.23 and 3.24 of the VCS Standard v4.7.

No double claiming with other forms of environmental credit	The audit team confirmed that the Project has not sought or received another form of GHG-related environmental credit, including renewable energy certificates, as confirmed through discussion with project personnel (Interview) and revision of main applicable GHG-related environmental credit system. During the validation process, the PP has also submitted declarations /28/ to confirm the same. Hence, the project is in line with sections 3.23 and 3.24 of the VCS Standard v4.7.
Supply chain (scope 3) emissions double claiming	The PP is not a buyer or seller of a product whose emissions footprint is changed by the project activities. During the validation process, the PP has also submitted declarations /28/ to confirm the same. Hence, the project is in line with section 3.24.7 of the VCS Standard v4.7.
Sustainable development contributions	During this verification, PP has contributed to the following SDGs: 1. SDG 1 (Target 1.1) – The PP has provided 128 local people were employed (99 direct and 29 indirect employment which includes 107 men and 21 women). Employment records, including contracts and lists of employees, were submitted by the PP to the VVB for verification. During the site visit, employees were interviewed, and their identification documents were cross-checked. The claim made by the PP in Section 1.12 regarding employment generation has been verified and found to be acceptable. Therefore, the project complies with Section 3.17 of the VCS Standard v4.7.

2. SDG 2 (Target 2.4) – The PP has implemented sustainable grassland production systems, improving the productivity of the land use. Based on the KML file submitted by the PP, the project covers an area of 91,950.6 hectares. The sustainable management interventions applied to the grasslands have demonstrated a positive impact on yields. The project is directly involved in livestock raising in a region characterized by low rainfall levels. Through this initiative, the land benefits from higher grassland yields, contributing to the production of sustainably sourced meat. Therefore, the VVB has verified and confirmed that the project's contribution to this SDG target is satisfactory. Therefore, the project complies with Section 3.17 of the VCS Standard v4.7.

3. SDG 4 (Target 4.7) – To date, the PP has conducted 271 training sessions (77 trainings at Team Level and 194 trainings at community level) for stakeholders to raise awareness and provide exposure to topics such as climate change, sustainable development, sustainable grassland management practices, and health and nutrition well-being. These sessions were conducted through informal training methods. Training records, including details of the sessions and attendance sheets, were submitted by the PP to the VVB for verification. During the site visit, stakeholders were interviewed to validate the claims. The claim made by the PP in Section 1.12 regarding training and awareness generation programs has been verified and found to be accurate. Therefore, the project complies with Section 3.17 of the VCS Standard v4.7.

	4. SDG 13 (Target 13.0): The PP has implemented improved grassland management practices across 91,950.6 ha, resulting in emission reductions of 1,003,685 tCO_2e. The KML file detailing the total project area and the ERR sheet supporting the emission reduction calculations have been reviewed and validated by the VVB. Hence, the claim made by the PP in Section 1.12 regarding the SDG 13 contribution has been verified and confirmed to be accurate. As a result, the project is found to comply with Section 3.17 of the VCS Standard v4.7. The contributions towards SDGs 6 (Clean Water and Sanitation) and 15 (Life on Land) will be assessed using field surveys to capture quantitative changes. However, these parameters could not be measured during this monitoring period, as the project is still in its early stages. The project is directly contributing to 4 SDGs, hence in line with the requirements of section 3.17.1 of the VCS Standard v4.7. According to 4KES, the PP has effectively demonstrated its contributions to the SDGs, as well as its commitment to monitoring and reporting these contributions. Furthermore, the PP's efforts align with the achievement of South Africa's national SDG targets.
Additional information relevant to the project	The PP has indicated in Annexure 1 of the MR that certain sections contain commercially sensitive information and therefore cannot be included in the public version of the MR. These details have been compiled and included in Appendix 1 of this report for reference.

4.2 Safeguards and Stakeholder Engagement

4.2.1 Stakeholder Identification

There have been no changes in the stakeholder composition since validation. The number of land parcels (22 Ranch) and landowners included remains the same for this Monitoring Period (MP). The configuration is consistent with the details assessed in Section 2.2 of the registered PD.

Item	Evidence gathering activities, evidence checked, and assessment conclusion

Stakeholder identification	The PP has identified the relevant stakeholders for the project. 4KES confirmed that based on the nature of the project (private properties with private management) the number of stakeholders is limited to 1. Ranch owner (prime stakeholder): the owners of the ranches have all property and use rights over the land included in the Project. 2. Local residents: local herdsmen, grassland coordinators, tourism companies are directly/ indirectly affected by the implementation of the project. The list of stakeholders is expected to be constantly updated as the number of PAIs increases. The primary stakeholders consulted by 4KES are described in section 4.2.2 of this report. In conclusion, 4KES considers that the identification of stakeholders is correct.
Legal or customary tenure/access rights	In 4KES's opinion, the PP has sufficiently demonstrated that all properties are privately owned by individuals, as evidenced by the property deeds. Based on the information provided by the PP, including interviews, land ownership details (agreements and the property deeds of the ranchers), and testimonies from the owners of the PAIs visited, it is evident that land tenure is clear. There are no disputes regarding land use rights, nor are there any risks of encroachments. Furthermore, there is no evidence of any legal or customary tenure or access rights to the territories and resources being held by third parties (conflicting rights), such as other individuals, indigenous peoples, local communities, or customary rights holders.
Stakeholder diversity and changes over time	As mentioned in the previous section, the number of stakeholders is limited to ranchers and local residents. (who own the adjoining lands, herder etc.). Therefore, the differences in social, economic, and cultural terms of the stakeholders are basically due to the varied origin of the owners and whose reasons for joining the project voluntarily are varied. The list of stakeholders is expected to be constantly updated as the number of PAIs increase, as it was verified by 4KES, crosschecked also with the interviews onsite (Interview).

Expected changes in well-being	As also assessed in section 4.1 (SDGs contribution) PP has contributed positively to the following activities: **Direct local employment:** The project has positively impacted local herders by creating direct employment opportunities, increasing family incomes, and providing training and education programs. Evidence of this was verified through interviews with local stakeholders and documentation of project-related employment records. **Sustainable use of the grassland, food security and improved nutrition:** The project promotes sustainable fodder production systems and grassland management practices, which have increased livestock productivity and health. This has led to higher yields of sustainably sourced meat, as evidenced by the stakeholder testimonies. The VVB confirms that these practices contribute positively to local food security and improved nutrition, with clear benefits to the community. **Emission Reductions:** The project has achieved a significant environmental impact by preventing the release of 984,785 tCO_2e into the atmosphere during the current monitoring period. The VVB reviewed the ERR calculation methodology, monitoring data, and supporting documentation. All calculations were found to be consistent with the applicable methodology and VCS standards. The VVB verifies that the emission reductions are accurate and credible. **Carbon Revenue:** The PP and stakeholders anticipate additional financial benefits from the sale of carbon credits generated during this MP because of the project activities. According to 4KES's observation, there are no negative changes in well-being due to the project activity implementation. The VVB also concludes that the claims made by the PP regarding the project's social, environmental, and economic impacts are credible and substantiated.
Location of stakeholders	The ranchers, as main stakeholders, usually live in the PAI, or nearby. The secondary stakeholders are local residents (herdsmen) who live in the vicinity of the PAIs, as observed during site visit, interview with the owners etc. According to 4KES, the PP has correctly identified the location of stakeholders and local communities.

	There are no indigenous peoples or customary rights holders in the vicinity of the PAIs who rely on the project area to fulfill any of their rights or needs. The project area KML and site visit inspections confirm the same.
Location of resources	Project activity has been implemented on grazing land of Eastern Cape, MPL, FS and KZN of South Africa. The project area KML and site visit inspections confirm the same.

4.2.2 Stakeholder Consultation and Ongoing Communication

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Ongoing consultation	The Endangered Wildlife Trust (CME) has implemented robust mechanisms for ongoing communication and consultation with stakeholders. Quarterly feedback and inputs from stakeholders are systematically collected, as evidenced by stakeholder engagement records and the grievance register. The VVB confirms that the PP maintains a functional and accessible communication channel with all stakeholders and landowners. The absence of grievances during the monitoring period reflects effective stakeholder engagement and an absence of conflict or dissatisfaction with the project activities. Furthermore, the feedback received from stakeholders during this MP did not necessitate updates to the project design. These above were verified during the site visit through observations and interviews with the PP and stakeholders.
Date(s) of stakeholder consultation	The PP has provided comprehensive details of all stakeholder consultations conducted to date in Appendix 2 of the MR. As outlined in Section 2.5 of the validated PD and Section 3.2.2 of the validation report, the PP conducted stakeholder consultations from February 2020 to March 2021. Documentation including minutes of meetings, attendance sheets, photographs, and stakeholder comments /29/ was reviewed and provided to the VVB. All comments raised during these consultations were addressed by the PP, and reports of Participatory Rural Appraisals (PRAs) conducted so far were assessed as part of this process.

	During the site visit, stakeholders interviewed expressed positive feedback about the project. A review of reports, minutes of meetings, and questionnaire responses confirmed that all stakeholders agreed to the implementation of the project. The PP ensured that detailed discussions were held regarding project activities, expenses, potential implementation costs, risks, and associated benefits. During the validation, the validation team cross-checked the documentation provided by the PP with input from local stakeholders during the site visit and found it satisfactory. The PP has also established a grievance mechanism to address stakeholder concerns related to the project, as detailed in Annex B of the PD. Stakeholders interviewed during the site inspection reiterated their support for the project and showed optimism about its initiatives. All the points were again cross-checked during verification, and a thorough review of all documents, evidence, and stakeholder interviews conducted during the verification site visit confirmed that the consultations were conducted in accordance with the requirements of Section 3.18.2 of the VCS Standard v4.7. The VVB finds that the consultations were inclusive, comprehensive, and aligned with the standards, with stakeholders agreeing to and supporting the project's implementation.
Communication of monitored results	The results of monitoring, continue to be communicated with local stakeholders through annual letters and group calls. These communications serve to provide project updates to the stakeholders while also inviting questions or feedback. During the site visit it was also observed that communication with the ranch owners is done by email and telephone, in addition to the events mentioned above. All communication between PP and project participants includes the results of monitoring in a timely manner. The relevant information is also updated on the company's website.[7] Thus, in opinion of 4KES, communication of monitored results is adequate.
Consultation records	The documentation of stakeholder consultations is meticulously maintained, with ongoing communication primarily facilitated through physical meetings conducted by dedicated extension teams,

[7] https://weact.com.au/project/south-africa-grassland-management-project

	alongside phone calls, emails, and other methods. The meeting records and associated evidence were cross-checked by the VVB. In the opinion of 4KES, the consultation records have been adequately collected, analyzed, and documented.
Stakeholder input	From the written records of the consultations, from the interviews held between the VVB and the ranch owners, and the permanent communication channels, 4KES found that all the stakeholder inputs had been considered by the PP. No design changes were made or deemed necessary as there were no comments submitted to the project proponent.

4.2.3 Free, Prior, and Informed Consent

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Consent	The ranch owners included in the 1st PAI and this MP are informed of the project activity and terms. Letters of interest are obtained before proceeding. Evidence of a project implementation contract provided to participants for review is highlighted. The stakeholders' consultations records and letters of interest and signed implementation contracts proves that the FPIC has been obtained. Through the check of grievance redressal records, stakeholders' interviews and feedback it was confirmed that there were no special issues or conflicts raised pertaining to informed consent of IPs, LCs, and customary rights holders. Hence the project is in line with section 3.18.7 of the VCS Standard v4.7.
Outcome of FPIC discussion	As part of the FPIC conducted, project agreement between the ranch owners and PP were signed. According to the agreed terms grievance redressal mechanism and ongoing communication channel were established. The same was confirmed during the validation and verification site visits interviews and documents reviews.

4.2.4 Grievance Redress Procedure

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Grievance received and steps taken to resolve the grievance including the outcomes of the resolution	During the audit period, no comments or complaints were received using the Grievance redress procedure. The absence of negative comments or complaints was also confirmed by 4KES's consultation to project participants (Interview), and grievance register.
Grievance redress procedure	Grievance redress procedure had no changes since validation. The procedure is same as explained in section 2.5 of the registered PD. The PP has established mechanisms for ongoing communication with stakeholders to allow them to raise concerns about potential negative impacts during project implementation. 4KES confirmed that the grievance redress procedure complies with section 3.18.4 of the VCS Standard v4.7 by considering the steps requested, as well as considering communications in a culturally appropriate manner, confirmation of the reception of the grievances and PP assessment of its eligibility.

4.2.5 Public Comments

Not applicable. Since this event pertains to verification rather than validation or joint validation and verification, there was no 30-day public comment period in the Verra Registry, in accordance with VCS Standard v4.7.

However, while stakeholders may submit comments outside of the 30-day public comment period, Verra has not communicated the existence of any such comments to the VVB or the PP since the project's registration. Therefore, the project remains in compliance with Section 7.3 of the Registration and Issuance Process v4.6 and Section 3.18.14 of the VCS Standard v4.7.

Comments received	Actions taken by the project proponent	Evidence gathering activities, evidence checked, and assessment conclusion
NA	NA.	

4.2.6 Risks to Local Stakeholders and the Environment

4.2.6.1 Management Experience

No new entity was involved in project design or implementation. Management experience of the PP was proved during validation and no changes in this regard were noticed. The project management team is robust and have extensive experience in implementing the carbon projects including the AFOLU Sector.[8] The documents and explanations are provided by the PP in the respective sections of the report and the team found the information is of good quality.

Documented CVs, project experience, and roles assigned align well with the project's objectives and requirements. Validated agreements (MoUs or contracts) confirm the involvement of partner organizations, which provide technical, administrative, or strategic support. The partnerships strengthen the project's implementation capacity by addressing technical and logistical requirements.

The recruitment strategy is in place to address any skill or expertise gaps identified during project implementation. Evidence of job postings and ongoing recruitment activities supports the proponent's commitment to ensuring all roles are adequately filled.

Documents Reviewed and other Evidence:

- Reviewed resumes or CVs of the management team.
- Verified organizational charts and roles assigned to project team members.
- Examined contracts, agreements, or MoUs with partner organizations.
- Analyzed recruitment policies or strategies to identify and fill gaps in expertise.
- Conducted interviews or discussions with key management team members to understand their roles, qualifications, and responsibilities.
- Engaged with partner organizations to verify their involvement and contributions to the project.
- Collected evidence of training records, certifications, and previous project experience to substantiate claims of expertise.

Hence, the VVB concludes that the project is in line with the requirements of section 3.19.6 of the VCS Standard v4.7.

[8] https://weact.com.au/projects/

4.2.6.2 Risk Assessment

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Natural and human induced risks to stakeholders' wellbeing	The project activity is entirely voluntary, and participating ranches are free to decide whether or not to take part. As mentioned earlier, landowners are participating in this project based on the principles of FPIC. During both the validation and verification site visits, the VVB did not identify any natural or human-induced risks to stakeholders' well-being that are expected to arise during the project lifetime. The analysis of natural risks, conducted as part of the NPRR, confirmed that there are no significant natural risks to the project. This finding was further validated during the verification site visit, where stakeholders were directly asked if they faced any natural or human-induced risks to the project. The stakeholders provided positive feedback and stated that they do not foresee any such risks. Therefore, in 4KES's opinion, there are no associated risks—whether natural or human-induced—affecting stakeholders' well-being. The project is in line with the requirements of section 3.19.4 of the VCS Standard v4.7.
Risks to stakeholder participation	As mentioned above, the project activity is entirely voluntary, and participating ranches are free to decide whether or not to take part. Landowners are participating in this project based on the principles of FPIC. The project focuses on sustainable grassland management, leading to improvements in both the quality and quantity of output from the land. The project activities do not pose any threat to food security, land ownership, crop yields, livelihoods, or climate change adaptation efforts. The project design avoids trade-offs and mitigates identified risks to local stakeholders. Therefore, the VVB does not foresee any risks to stakeholder participation in the project. The project is in line with the requirements of section 3.19.5 of the VCS Standard v4.7.
Working conditions	The PP does not foresee any risks related to working conditions as a result of project activities. The PP has an internal policy and also follows the "Basic Conditions of Employment Act, 1997 (No. 75 of 1997)" and the

	Occupational Health and Safety Act, 1993 (No. 85 of 1993) for safe and healthy working conditions for employees. Hence, in the opinion of the VVB, there are no risks related to working conditions due to the project activities. The project is in line with the requirements of section 3.19.7 of the VCS Standard v4.7.
Safety of women and girls	The company HR policy was reviewed, and it was found that there is no discrimination in employment or engagement based on gender. Additionally, a review of the grievance redressal register showed that no concerns were raised by women or girls during this MP. During the stakeholder consultation conducted as part of the verification site visit, it was further confirmed that there is no discrimination or risks to women and girls' stakeholders. The project is in line with the requirements of section 3.19.8 of the VCS Standard v4.7.
Safety of minority and marginalized groups, including children	The company HR policy was reviewed, and it was found that there is no discrimination in employment or engagement based on caste, creed or gender. As observed during the site visit, there is no child labor involved in this project. Additionally, a review of the grievance redressal register showed that no concerns were raised by any marginalized section/individual during this MP. During the stakeholder consultation conducted as part of the verification site visit, it was further confirmed that there is no discrimination or safety risks of minority and marginalized groups, including children. The project is in line with the requirements of section 3.19.9 of the VCS Standard v4.7.
Pollutants (air, noise, discharges to water, generation and release of hazardous materials and chemical pesticides and fertilizers	During the site visit and review of the supporting evidence and the MR, it was concluded that the project does not release pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers). Moreover, improved land cover will influence water quality and quantity of rivers and springs in the project areas positively. Grass species that have disappeared from the landscape due to degradation have reappeared in the rangelands, increasing the biodiversity of these grasslands. The project is in line with the requirements of section 3.19.10 of the VCS Standard v4.7.

4.2.7 Respect for Human Rights and Equity

4.2.7.1 Labor and Work

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Discrimination	As described in section 4.2.6 above, there is no discrimination in employment or engagement based on caste, creed or gender. As observed during the site visit. Additionally, a review of the grievance redressal register showed that no concerns were raised by any marginalized section/individual during this MP. During the stakeholder consultation conducted as part of the verification site visit, it was further confirmed that there is no discrimination or safety risks of minority and marginalized groups, including children. The project is in line with the requirements of sections 3.19.11 and 3.19.12 of the VCS Standard v4.7.
Sexual harassment	As assessed in section 4.2.6, The company HR policy was reviewed, and it was found that there is no discrimination in employment or engagement based on gender. Additionally, a review of the grievance redressal register showed that no concerns were raised by women or girls during this MP. During the stakeholder consultation conducted as part of the verification site visit, it was further confirmed that there is no discrimination or risks to women and girls stakeholders. The project is in line with the requirements of section 3.19.11 of the VCS Standard v4.7.
Gender equity in labor and work	As described in section 4.2.6 above, there is no discrimination in employment or engagement based on caste, creed or gender. As observed during the site visit. Additionally, a review of the grievance redressal register showed that no concerns were raised by any marginalized section/individual during this MP. During the stakeholder consultation conducted as part of the verification site visit, it was further confirmed that there is no discrimination or safety risks for minority and marginalized groups, including children. The project is in line with the requirements of sections 3.19.13 and 3.19.14 of the VCS Standard v4.7.

Forced labor	The company's HR policy was reviewed, and stakeholders were interviewed during the site visit. No evidence of forced labour was found in this project. This has also been assessed in Section 4.2.6 above. The project is in line with the requirements of sections 3.19.15 and 3.19.16 of the VCS Standard v4.7.
Child labor	The company's HR policy was reviewed, and stakeholders were interviewed during the site visit. No evidence of forced or child labour was found in this project. This has also been assessed in Section 4.2.6 above. The project is in line with the requirements of sections 3.19.15 and 3.19.16 of the VCS Standard v4.7.
Human trafficking	As confirmed in Section 1.14 of the registered PD, Section 3.1 of the validation report, and Section 2.3.2 of the MR, the project complies with the principles of the International Labour Organisation (ILO). The PP adheres to the elimination of all forms of forced or compulsory labor, the effective abolition of child labor, compliance with the minimum age convention, the right to organize, and the elimination of discrimination in respect of paid positions and occupations. No evidence of human trafficking was found in this project. This has also been assessed in Section 4.2.6 above. The project is in line with the requirements of sections 3.19.15 and 3.19.16 of the VCS Standard v4.7.

4.2.7.2 Human Rights

Risks identified	Evidence gathering activities, evidence checked, and assessment conclusion
No risks identified	For the current Project activity instance during the monitoring period, there is no evidence of any legal or customary tenure/access rights to territories and resources held by third parties, including other individuals, indigenous people, local communities, or customary rights holders. The ranch owners included in the 1st PAI and this MP are informed of the project activity and terms. Letters of interest are obtained before proceeding. Evidence of a project implementation contract provided to participants for review is highlighted. The stakeholders' consultation records and letters of interest and signed implementation contracts prove that the FPIC has been obtained. Through the check of grievance redressal records, stakeholders' interviews and feedback it was confirmed that there were no special issues or conflicts raised pertaining to informed consent of IPs, LCs, and customary rights holders. As confirmed in Section 1.14 of the registered PD, Section 3.1 of the validation report, and Section 2.3.2 of the MR, the project complies with the principles of the International Labour Organisation (ILO). The PP adheres to the elimination of all forms of forced or compulsory labor, the effective abolition of child labor, compliance with the minimum age convention, the right to organize, and the elimination of discrimination in respect of paid positions and occupations. Hence the project is in line with section 3.19.17 of the VCS Standard v4.7.

4.2.7.3 Indigenous Peoples and Cultural Heritage

Risks identified	Evidence gathering activities, evidence checked, and assessment conclusion

	As stated in section 4.2.7.2 there is neither presence of IPs, LCs, or customary rights holders in the current PAIs, apart from the owners, nor any claim for these at this regard over the current PAIs. The ranch owners included in the 1st PAI and this MP are informed of the project activity and terms. Letters of interest are obtained before proceeding. Evidence of a project implementation contract provided to participants for review is highlighted. The stakeholders' consultation records and letters of interest and signed implementation contracts prove that the FPIC has been obtained. Through the check of grievance redressal records, stakeholders' interviews and feedback it was confirmed that there were no special issues or conflicts raised pertaining to informed consent of IPs, LCs, and customary rights holders.

4.2.7.4 Property Rights

Risks identified	Evidence gathering activities, evidence checked, and assessment conclusion
Disputes over rights to territories and resources	The ranch owners included in the 1st PAI and this MP are informed of the project activity and terms. Letters of interest are obtained before proceeding. In 4KES's opinion, the PP has sufficiently demonstrated that all properties are privately owned by individuals, as evidenced by the property deeds. Based on the information provided by the PP, including interviews, land ownership details (agreements and the property deeds of the ranchers), and testimonies from the owners of the PAIs visited, it is evident that land tenure is clear. There are no disputes regarding land use rights, nor are there any risks of encroachments. Furthermore, there is no evidence of any legal or customary tenure or access rights to the territories and resources being held by third parties (conflicting rights), such as other individuals, indigenous peoples, local communities, or customary rights holders.
Respect for property rights	As explained above, there are no conflicts regarding the project area, and the PP and the landowners have undisputed rights over it. The PP has ensured full respect for the project area, and prior to

	including any parcel, a duly conducted process of FPIC has been followed.

4.2.7.5 Benefit Sharing

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Summary of the benefit sharing plan	The benefit-sharing plan is described in section 2.3.5 of the MR. The same has been verified with the legal agreement signed and stakeholder interviews during the validation as well as the verification site visit.
Benefit sharing during the monitoring period	The implementation of the benefit-sharing plan, including the payment schedule, is detailed in Section 2.3.5 of the Monitoring Report (MR). During interviews conducted by the VVB with ranch owners, all parties confirmed their awareness of the agreement. No complaints regarding benefit-sharing were reported. The BSM for this monitoring period remains consistent with what is outlined in the MR and the signed agreements.

4.2.8 Ecosystem Health

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Impacts on biodiversity and ecosystems	The introduction of rotational grazing and the implementation of planned burning have allowed rest areas to recover, resulting in increased grass biomass and greater species diversity. During the site visit, the ranchers expressed their opinion that their project parcels are experiencing improved grazing conditions, a return of biodiversity, and enhanced resilience in their farming practices. They are optimistic that the project will positively impact water levels in the area. The intentional implementation of improved grazing management is enhancing their current knowledge and practices, contributing to better forage availability and leading to improved livestock productivity.

	The ranchers are also actively implementing fire control measures and remain vigilant during lightning events and wildfire seasons. Document reviews, on-site observations, and interviews with the ranchers confirm that the project is having an overall positive impact on the ecosystem within the project area. Hence, in the VVB's opinion the project is in line with section 3.19.25 of the VCS Standard v4.7.
Soil degradation and soil erosion	As mentioned above, the project is positively impacting the project area across various ecosystem-related parameters.
Water consumption and stress	As mentioned above, the project is positively impacting the project area across various ecosystem-related parameters.

4.2.8.1 Rare, Threatened, and Endangered species

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Species or habitat	The project is not located in or adjacent to habitats for rare, threatened, or endangered species, as evidenced by the project boundary map. This has been verified during the site visit and KML review. The PP has prepared an 'Internal Policy' /47/, where the risks associated with the project activities are analyzed and aligned with the requirements of the VCS Standard v4.7. The VVB reviewed the risk assessment and found it to be realistic and conservative, with appropriate mitigation measures identified for implementation if required. Based on 4KES's observations, the project has not adversely impacted habitats for rare, threatened, or endangered species during the monitoring period.
Areas needed for habitat connectivity	As mentioned above the project is not located in or adjacent to habitats for rare, threatened, or endangered species, as evidenced by the project boundary map. This has been verified during the site visit and KML review. Hence, NA.

4.2.8.2 Introduction of Species

Species introduced	Evidence gathering activities, evidence checked, and assessment conclusion
NA	This has been verified through Annual Report /49/ reviews of the all the 22 ranches included in the 1st PAI and interviews with the PP and the land owners. Also, the PRA /23/ submitted confirms the same.

Existing invasive species	Evidence gathering activities, evidence checked, and assessment conclusion
	No invasive species have been identified, per local (state) invasive species registry. List of Recorded Invasive Species by State). Per PP's internal policy, no invasive species will be introduced nor be allowed to thrive as a result of the project activity. During the onsite visit, the audit team did not observe any invasive species in the visited PAIs

Ecosystem conversion

Item	Evidence gathering activities and evidence checked
Ecosystem conversion	The project is involved with sustainable grassland management through rotational grazing. The project area was not cleared of existing ecosystem which can be evidenced from LULC report. All the lands included in the project are grasslands and no forest lands are included. Based on the review of the PRA study, interviews during the site visit and the analysis of LULC shapefiles and KMLs provided by the PP, it has been determined. The VVB independently corroborated these findings by utilizing open online earth observatory engines such as Google Earth, Global Forest Watch, and Earth Map.

4.3 Accuracy of Reduction and Removal Calculations

Baseline emissions

The Projects baseline emissions and carbon stock assumptions were assessed based on an analysis of the likeliest baseline scenario. Accounted emissions resulted from the following:

- Baseline N2O emissions due to fertilizer use
- Baseline emissions due to the use of N-fixing species

- Baseline emissions due to burning of biomass.
- Baseline emissions due to enteric fermentation
- Baseline N2O and CH4 emissions due to manure management
- Baseline CO2 emissions due to the use of fossil fuels for grassland management
- Baseline emission removals from existing woody perennials Validation Report: VCS Version 4.2
- Baseline emission removals due to changes in soil organic carbon

The audit team reviewed the PP's assumptions and found them to be supported by published scientific literature and verifiable local scientific experience. All estimates and assumptions were made conservatively.

The project has undertaken the following activities:

1. Controlled Burning

A management plan has been established for grassland burning on a rotational basis, occurring at intervals of four to five years. This is aimed at maintaining the vigour and health of the grassland, reducing combustible fuel build-up, and preventing the encroachment of alien vegetation. The detailed burning plan, provided in the declaration submitted by each ranch/54/, was verified during the site visit. Controlled burning enhances grass quality, palatability, and availability by removing dead plant material, suppressing weeds, and improving access to new growth. However, different strata had different controlled burning practices which was implemented under the guidance of the PP and other implementing partners.

General practice observed during the MP (2018–2022): The PP implemented controlled burning as part of the sustainable grassland management strategy, in accordance with the project design and methodology VM0026. Controlled burning was practiced selectively across strata, with activities planned based on site-specific ecological conditions, moribund biomass accumulation, and grazing system needs.

Key details are as follows:

- Initiation: Controlled burning began in 2018, following the project start.
- Implementation practices:
  - Conducted in pre-identified camps (e.g., A4, A5, B2 in Strata 1; Staff Grazing Camp in Strata 21).
  - Burn events were timed planned to optimize vegetation regrowth and minimize risk.
  - Environmental conditions (temperature and relative humidity) were monitored and recorded at the time of each burn to ensure safe application.

- Burning Frequency and Area:
    - In Strata 1 burning was carried out only in 2018 and ceased thereafter due to improved grazing management reducing biomass accumulation.

b) BURNING

Year	Area burned (ha)	AGB before burning (t biomass/ha)	AGB after burning (t biomass/ha)
2013	69.74	0.333	0.125
2014	69.74	0.341	0.129
2015	69.74	0.332	0.113
2016	70.12	0.327	0.109
2017	73.43	0.335	0.117
2018	36.39	0.512	0.191
2019	0	0.000	0.000
2020	0	0.000	0.000
2021	0	0.000	0.000
2022	0	0.000	0.000

    - In strata 5, burning was carried out only in 2022 during the MP due to improved grazing management and reducing biomass accumulation

b) BURNING

Year	Area burned (ha)	AGB before burning (t biomass/ha)	AGB after burning (t biomass/ha)
2013	184.09	0.338	0.141
2014	184.09	0.352	0.143
2015	184.09	0.313	0.124
2016	184.09	0.327	0.104
2017	184.09	0.337	0.119
2018	0	0	0
2019	0	0	0
2020	0	0	0
2021	0	0	0
2022	76.1	0.645	0.225
2023			

    - In Strata 21, controlled burning was consistently implemented in the project scenario (2018-2022), including every year during the monitoring period. The area burned each year was 99.65 ha, with annual pre- and post-burn AGB data documented.

b) BURNING

Year	Area burned (ha)	AGB before burning (t biomass/ha)	AGB after burning (t biomass/ha)
2013	99.65	0.332	0.141
2014	99.65	0.346	0.142
2015	99.65	0.330	0.124
2016	99.65	0.341	0.121
2017	99.65	0.347	0.122
2018	99.65	0.517	0.193
2019	99.65	0.569	0.204
2020	99.65	0.594	0.211
2021	99.65	0.597	0.206
2022	99.65	0.613	0.214

- Burn Management Objective:
    - Adequate grazing to manage livestock grazing to reduce the amount of dry or excess vegetation in the landscape, thereby lowering the risk or need for controlled burning or wildfires,

- Promote growth of palatable grass species,
- Prevent woody encroachment,
- Improve ecological functioning and integrate grazing cycles.

Each burn event was accompanied by:

- Burn year,
- Area in ha,
- Aboveground biomass before and after burning (t/ha),
- Recorded temperature and RH% at the time of burning (for a few of the strata)

Based on the review of documentation, field observations, and cross-verification during the site visit, the VVB concludes that the implementation of controlled burning is consistent with the PD /7/, ecological objectives, and monitoring requirements. In strata where burning was conducted (e.g., Strata 1, 5, and 21), it was implemented in a controlled, well-documented, and environmentally appropriate manner. In strata where no burning occurred during the monitoring period (e.g., Strata 22, 15, and 16), the absence of burning is justified by effective rotational grazing and ecological conditions that did not necessitate fire, as confirmed through field interviews and supporting evidence.

2. Planned Rotational Grazing

Pasture Division: Livestock operators reduced pasture sizes by using fencing to divide existing pastures into smaller sections.

Seasonal Grazing: Animals do not graze in the same location more than once during a wet season or once during a dry season. Project participants increased the number of herders to ensure livestock movement allowed equal grazing across all forage species. This process was monitored by CME and WeAct Pty Ltd.

Herd Movement: Livestock is actively herded and relocated to new forage areas. Animals are moved across the landscape to prevent overgrazing near settlements or water points.

Grass Resting: Resting periods allow grass seed reserves to recover. Seed resting is especially critical in areas with low forage production. Resting during the wet season (October to September) allows for germination and the establishment of decreased species.

Adherence to Grazing Plans: Herders follow agreed-upon livestock movement plans developed by grazing committees. Grazing "assistants" employed by the PP monitor and guide herders in the field.

Herd Dynamics: Larger herds, as opposed to smaller, looser groups, tend to forage less selectively and produce beneficial hoof impacts on soils, such as breaking crusts that reduce rainfall infiltration and promote soil erosion. Previous research indicates that perennial grasses can thrive under a shift from continuous to rotational grazing, supporting the project's approach.[9]

During the monitoring period, the project implemented planned rotational grazing in accordance with sustainable grassland management practices defined in the PD/7/. Rotational grazing was adopted across all participating strata, with variations tailored to the specific ecological conditions and livestock management constraints of each site. This was verified by reviewing the strata wise declaration submitted for all the activities undertaken during the MP including the planned rotational grazing.

Each landowner followed a camp-based rotational grazing system, involving movement of livestock through multiple grazing blocks with defined rest and recovery periods to prevent overgrazing and promote plant regrowth.

- In Strata 1, twelve grazing camps were used in rotation, each with a set number of grazing days and mapped using GPS. These camps ranged in size from 2.9 hectares (like Camp C2) to 38.3 hectares (like Camp B4). Livestock grazed every day of the year for about 8 hours daily. However, the grazing was planned in a rotational manner. Grazing in each block was timed to match the natural plant growth seasons. Most camps were grazed twice a year, with each grazing period lasting 14 to 42 days. Larger camps like B4, A5, B3, and C4 (over 30 ha) had longer grazing durations (35–42 days/year). Smaller camps like C5 (7.1 ha) and C2 (2.9 ha) were grazed for shorter periods (14–21 days/year). After each grazing, the camps were rested for 4 to 6 months to allow the grass to regrow and prevent overgrazing. The 2022 and 2020 as well as other year grazing map for Strata 1 shows that this was a well-planned, ecological rotational grazing system. It was designed to manage the land sustainably and help store carbon in the soil. The specific plans for each paddock, such as how long animals stayed and how long each area rested, show that the project was carried out as intended.

[9] https://www.researchgate.net/publication/370155397_The_Effect_of_Continuous_Grazing_and_Rest_Rotational_Management_Systems_on_Grass_Species_Composition_Basal_Cover_and_Production_on_Three_Soil_Types_in_the_North_West_Province_South_Africa

https://www.mdpi.com/1424-2818/15/12/1187?utm

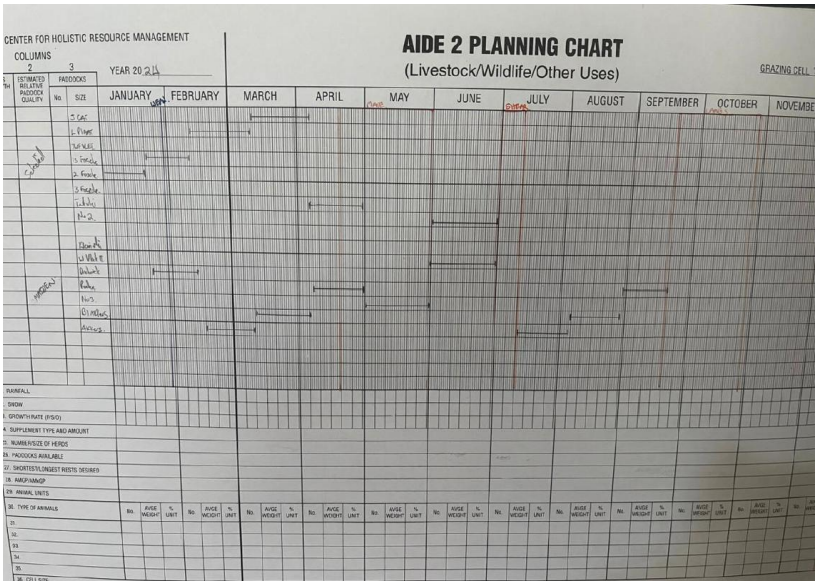
2022 Strata	Specific grazing camps/zones location			Grazing Days	Grazing Dates		Number of Livestock		
	Area (ha)	Lattitude	Longitude		From	To	Cattle	Sheep	Other
Strata 1									167
1 (B4)	38.3 ha	29°30'36.72"S	30°30'47.68"E	42	Week 9 Week 38	Week 11 Week 40			
2 (A4)	15.3 ha	29°30'39.76"S	30°30'31.31"E	42	Week 12 Week 41	Week 14 Week 43			
3 (A2)	15.5 ha	29°30'42.84"S	30°31'2.72"E	42	Week 15 Week 24	Week 17 Week 26			
4 (C3)	22.1 ha	29°30'51.12"S	30°30'27.05"E	42	Week 18 Week 47	Week 20 Week 49			
5 (B5)	4.5 ha	29°30'58.01"S	30°30'14.02"E		Week 18 Week 47	Week 20 Week 49			
6 (A5)	34.8 ha	29°31'6.34"S	30°30'18.34"E	35	Week 21 Week 50	Week 23 Week 52			
7 (B3)	31.3 ha	29°30'54.53"S	30°30'39.72"E	42	Week 44 Week 35	Week 46 Week 37			
8 (B2)	9.9 ha	29°30'55.00"S	30°31'4.19"E	21	Week 27	Week 29			
9 (C5)	7.1 ha	29°31'15.57"S	30°30'54.10"E	14	Week 4	Week 5			
10 (C4)	37.64 ha	29°31'7.93"S	30°30'42.38"E	42	Week 1 Week 30	Week 3 Week 32			
11 (C2)	2.9 ha	29°31'16.38"S	30°30'43.72"E	35	Week 6 Week 33	Week 8 Week 34			
12 (A3)	24.3 ha	29°31'24.62"S	30°30'48.68"E		Week 6 Week 33	Week 8 Week 34			

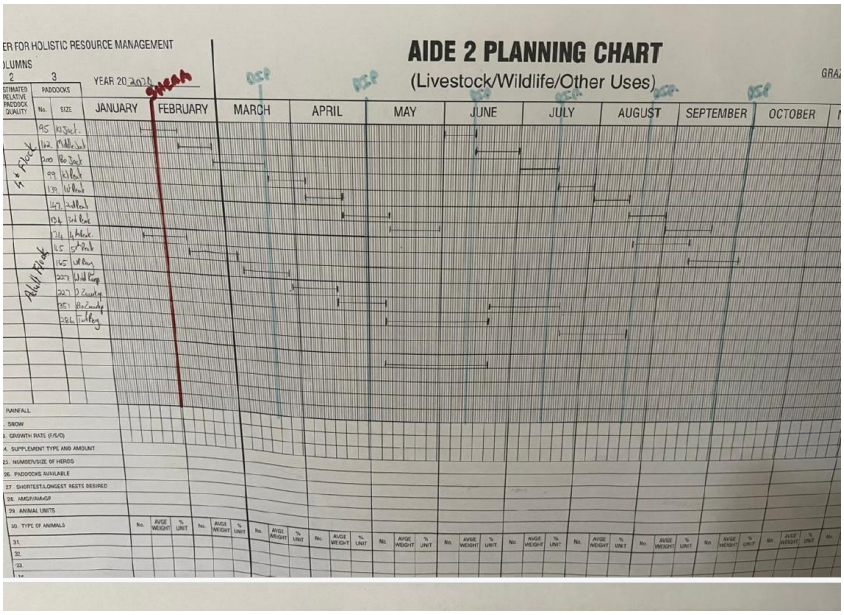
2020 Strata	Specific grazing camps/zones location			Grazing Days	Grazing Dates		Number of Livestock		
	Area (ha)	Lattitude	Longitude		From	To	Cattle	Sheep	Other
Strata 1									
1 (B4)	38.3 ha	29°30'36.72"S	30°30'47.68"E	42	Week 9 Week 38	Week 11 Week 40	25		156
2 (A4)	15.3 ha	29°30'39.76"S	30°30'31.31"E	42	Week 12 Week 41	Week 14 Week 43			
3 (A2)	15.5 ha	29°30'42.84"S	30°31'2.72"E	42	Week 15 Week 24	Week 17 Week 26			
4 (C3)	22.1 ha	29°30'51.12"S	30°30'27.05"E	42	Week 18 Week 47	Week 20 Week 49			
5 (B5)	4.5 ha	29°30'58.01"S	30°30'14.02"E		Week 18 Week 47	Week 20 Week 49			
6 (A5)	34.8 ha	29°31'6.34"S	30°30'18.34"E	35	Week 21 Week 50	Week 23 Week 52			
7 (B3)	31.3 ha	29°30'54.53"S	30°30'39.72"E	42	Week 44 Week 35	Week 46 Week 37			
8 (B2)	9.9 ha	29°30'55.00"S	30°31'4.19"E	21	Week 27	Week 29			
9 (C5)	7.1 ha	29°31'15.57"S	30°30'54.10"E	14	Week 4	Week 5			
10 (C4)	37.64 ha	29°31'7.93"S	30°30'42.38"E	42	Week 1 Week 30	Week 3 Week 32			
11 (C2)	2.9 ha	29°31'16.38"S	30°30'43.72"E	35	Week 6 Week 33	Week 8 Week 34			
12 (A3)	24.3 ha	29°31'24.62"S	30°30'48.68"E		Week 6 Week 33	Week 8 Week 34			

- In Strata 17, The grazing system follows a multi-paddock rotational approach, implemented across over 20 grazing camps/zones with diverse sizes (ranging from 20 ha to 188 ha) and stratified locations across the landscape. The rotation is structured to maintain seasonal distribution, limit overgrazing, and integrate different livestock types, including cattle, bulls, sheep, and wild game. Several camps (e.g., Waterval 4, Waterval 4.1, etc,) are assigned specific seasonal grazing periods (e.g., Jan–May, May–Nov). Some zones (e.g., Matuka 19.1, Dam 11.7, etc) are grazed year-round, likely due to consistent forage availability or game presence. Grazing is spaced to avoid high-pressure, particularly in high biomass growth months (spring-summer).

Strata	Specific grazing camps/zones location			Grazing Days	Grazing Dates		Number of Livestock		
	Area (ha)	Lattitude	Longitude		From	To	Cattle	Sheep	Other
Waterval 4	188.5677	25 32'26.64	30 9'54.96		Nov	Jan	64 V		
Waterval 4.1	188.5677				Jan	May	92 K		
Matuka 19.1	45.00	25 31'59.90	30 8'51.90		All Year		50 Bulls		100Game
Matuka 19.2	40.2745	25 31'52.73	30 8'28.52		All Year		Bulls		Game
Oorlog 26.1	33.5294	25 31'53.27	30 10'28.58		Jan	Jan			
Oorlog 26.2	30.00	25 31'43.28	30 10'39.10		May	Nov	64 V		
DD 11.1 - visteelery	40.00	25 32'9.35	30 10'4.18		Oct	Dec	64 VK		
DD 11.2 – bo op berg	43.52945	25 31'57.02	30 10'7.40						
DD 11.3	43.52945	25 31'40.72	30 10'23.65						
KF 18.1	52.8829	25 31'22.29	30 10'7.31		May	Jan	92 K		
KF 18.2	52.8829	25 31'41.71	30 9'51.62		Jan	May	64 V		
Lodge 5.1	47.61055	25 32'14.14	30 9'11.66		Junie	Nov	55 K		
Lodge 5.2	47.61055	25 31'53.53	30 9'253.40					20	
Dam 11.7	20.00	25 31'19.26	30 8'2.39		All Year		Bulls		Game
Dam 13.7 bo op berg	37.3876	25 31'10.05	30 8'27.91		Dec	May	64 VK		
Wild 14.1 onder 15	27.4705	25 31'23.70	30 8'32.70		May	Oct	64 VK		
Wild 14.2	20.00	25 31'30.33	30 8'28.43		All Year		Bulls		Game
MID 13.1	104.5969	25 34'10.34	30 6'55.58		July	Sept	236 K		
MID 13.2	50.00	25 34'7.52	30 7'22.39						

- In Strata 16 - the ranch follows a planned rotational grazing system rooted in effective resource management principles, with a clear focus on short-duration grazing and long rest periods. The ranch management divides the land into multiple paddocks (e.g., S-Camp, Paper, Turfveld, Groote, India, Die Vlei, Big Meals, etc.) grouped into zones such as South and Modder. Each paddock is grazed once annually for a short period, typically between 2 to 4 weeks and is then rested for the remaining year, allowing full ecological recovery. The grazing plan spans 12 months, with livestock moved sequentially across paddocks. Grazing is concentrated in cooler and transitional seasons and minimal or no grazing occurs in November–December, aligning with dry season conditions and forage dormancy. Though specific animal units are not detailed on the chart, the rotation implies the use of a single or small number of cohesive flocks/herds, which are moved across the landscape in a manner that prevents overgrazing and supports soil regeneration





- .for Strata 17 - The grazing system is implemented using a rotational and seasonal strategy, where each camp is assigned a primary (P), secondary (S), tertiary (T), rest (R), SPRING BURN AFTER RAIN (SB) no-burn (NB) designation for each year. Each camp is rotated yearly across different grazing categories, ensuring no continuous use. Grazing camps are typically rested at least one year out of every three, with primary use not repeated in consecutive years, e.g.:
    - GF 1: R (2019) SB and P (2020), NB and S (2021), SB and T (2022), NB and R (2023), SB (2024)
    - GF 3: S (2019)→ SB and T(2020) → NB and R (2021) → SB and P (2022) → NB and S (2023) → SB (2024)

	GIEL BEUKES AANDELE TRUST									
	GRAZING AND BURNING ROTATION SYSTEM									
	FARM WELTEVREDEN LETTIESKEUS AND DRIEFONTEIN									
	CAMP NR	YEARS								
		2019 *	2020 *	2020	2021	2021	2022	2022	2023	2023	2024
BLOCK 1	GF 1	R	SB	P	NB	S	SB	T	NB	R	SB
	GF 2	P	NB	S	SB	T	NB	R	SB	P	NB
	GF 3	S	SB	T	NB	R	SB	P	NB	S	SB
	GF12	T	NB	R	SB	P	NB	S	SB	T	NB
BLOCK 2	GF4	R	SB	P	NB	S	SB	T	NB	R	SB
	GF5	P	NB	S	SB	T	NB	R	SB	P	NB
	GF 6	S	SB	T	NB	R	SB	P	NB	S	SB
	GF 7	T	NB	R	SB	P	NB	S	SB	T	NB
BLOCK 3	GF 13	R	SB	P	NB	S	SB	T	NB	R	SB
	GF 14	P	NB	S	SB	T	NB	R	SB	P	NB
	GF 15	S	SB	T	NB	R	SB	P	NB	S	SB
	GF 16	T	NB	R	SB	P	NB	S	SB	T	NB
BLOCK 4	GF 8/9	R	SB	P	NB	S	SB	T	NB	R	SB
	GF 10	P	NB	S	SB	T	NB	R	SB	P	NB
	GF 11	S	SB	T	NB	R	SB	P	NB	S	SB
	GF 17	T	NB	R	SB	P	NB	S	SB	T	NB

2018	MOOIGELEGEN										
Strata 20	Specific grazing camps/ zones Location			CAMP	GRAZING SHEEP		GRAZING CATTLE		Number of livestock		
	Area (ha)	Latitude	Longitude	STATUS	GRAZING	WINTER	GRAZING	WINTER	Cattle	Sheep	Other
									110	1181	18
GF 1	31.15	-26.418065	30.294181	SB	T		T				
GF 2	49.1	-26.422817	30.292975	NB	R		R				
GF 3	55.4	-26.423829	30.284167	SB	JAN/FEB		NOV/DEC				
GF 4	57.2	-26.418472	30284386	NB	NOV		OCT				
DRIEFONTEIN 2											
GF 1	73.1	-26.387966	30.267813	SB	T		T				
GF 2	26.3	-26.395006	30.267965	NB	R		R				
GF 3	31.76	-26.390586	30.262532	SB	MRT/APR		JAN/FEB				
GF 4	30.1	-26396548	30.262704	NB	DEC		NOV/DEC				
GF 5	9.91	-26.387165	30.263721	NB	S		SEPT				

2018	LELIEFONTEIN										
Strata 20	Specific grazing camps/ zones Location			CAMP	GRAZING SHEEP		GRAZING CATTLE		Number of livestock		
	Area (ha)	Latitude	Longitude	STATUS	GRAZING	WINTER	GRAZING	WINTER	Cattle	Sheep	Other
									102	1113	4
GF 1	67.08	-26,225789	30,223818	SB	T		T				
GF 2	5.2	-26,231525	30,225890	NB	R		R				
GF 3	16.84	-26,229754	30,222146	SB	JAN/FEB		DEC/NOV				
GF 4 A	42.25	-26,232323	30,220054	NB	NOV		OCT				
GF 4 B	42.25	-26,232323	30,220054	SB	T		T				
GF 5	43.36	-26,240265	30,223546	NB	R		R				
GF 6	72.6	-26,254916	30,221093	SB	T		T				

Burning is not applied uniformly and is influenced by annual grass volume and rainfall, per the footnote - "*Field burning is subject to change, depending on yearly rainfall and grass volume*."

The PP provided detailed strata-wise declarations with supporting data on grazing periods, camp-wise locations (with lat-long coordinates), livestock numbers, and seasonal movement logic. These were supplemented by the implementation plan explaining ecological principles, water access, and carrying capacity assessments. No alternative manure management was applied, and all dung was left in situ.

The VVB assessed the PP's update through the following:

- Document review of strata declarations and planning sheets.
- On-site inspections to validate paddock infrastructure and camp rotation records.
- Interviews with ranchers and project coordinators to confirm implementation as declared.

The VVB concludes that planned rotational grazing was implemented as per the project design, with appropriate strata-specific adaptation. The activities were well-documented, traceable, ecologically sound, and supported by robust field evidence, fulfilling the monitoring and verification requirements of the applied methodology.

All parameters in the monitoring plan were examined by the audit team in accordance with the methodology's standards and requirements, and everything was found to be in compliance. The monitoring plan is fully detailed in the MR, where the proponent describes the data and parameters used during validation, the data and parameters monitored, and the specific monitoring period. This process is supported by following three key details provided by the proponent:

- Procedures for calculating carbon stocks and variations /55/.
- Monitoring strategy.
- Roles and responsibilities of monitoring staff.

The project management and monitoring activities are carried out by local community members trained for this purpose. Quality assurance and quality control (QA/QC) systems are already in place and were verified by the audit team. Section 4.3 of the MR outlines the monitoring responsibilities and skill requirements for each technical staff member.

The monitoring strategy integrates the latest scientific advancements and emerging technologies to maximize the effectiveness and efficiency of monitoring practices. Sampling procedures were designed to ensure the statistical significance of changes in soil carbon stocks between the baseline and subsequent monitoring periods, with a 95% confidence interval. The minimum required sample size for each stratum was calculated using the 'CDM Tool for the Calculation of the Number of Sample Plots for Measurements within A/R CDM Project Activities,' as prescribed by VM0026.

The project aims to achieve a target precision level for its monitoring of ±15% at a 95% confidence interval. If the monitoring does not meet the target precision requirements, the proponent will conduct additional monitoring until the targets are achieved.

Below is a list of the parameters, along with a description of the actions taken to confirm that monitoring was conducted correctly.

Parameter	Unit	Description	Value	Source
GWP_{N2O}	t CO_2e/t N_2O	Global-warming potential for N_2O	265	IPCC AR5, default value
EF_{Nfert}	kg N_2O-N/kg N applied	N_2O emission factor for synthetic N fertilizer use	0.01	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
$M_{SNi,b}$	t fertilizer	Mass of synthetic N fertilizer type i applied in baseline year b	Many values, available in ER sheet	Documented management records and sample surveys

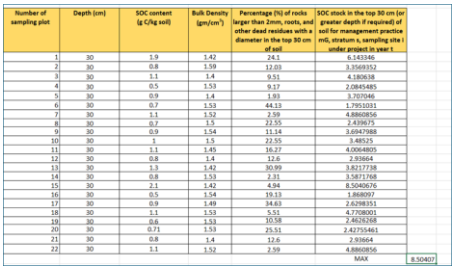
Parameter	Unit	Description	Value	Source
			"PDB_Fertlizers".[10]	
$NC_{SNi,b}$	g N/g fertilizer	Nitrogen content of synthetic N fertilizer type i applied in baseline year b	LAN : 0.28 Urea : 0.468	Manufacturer product label
$Frac_{GAS,F}$	kg N volatilized/kg N applied	Fraction of synthetic N fertilizer that volatilizes as NH_3 and NOx	0.11	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
$A_{B,b}$	Ha	Area burned in baseline year b	Please refer ER sheet ("Burning_baseline") E8 to E29, F8 to F29, G8 to G29, H8 to H29, I8 to I29	Documented management record
$M_{B,b}$	t biomass dm/ha	Aboveground biomass in terms of dry matter burned in baseline year b	Refer ER sheet ("Burning_baseline") J8 to J29, K8 to K29, L8 to L29, M8 to M29, N8 to N29	Documented management records
C_f	t dry matter burnt/t biomass	Combustion factor	0.35	IPCC 2006 volume 4: chapter 2, Agriculture, Forestry and Other Land Use, Table 2.6

[10] At the time of initial validation PP has used 3rd party data, which was reasonable. however, since the project level data is available it is conservative and hence the value is used by PP is satisfactory

Parameter	Unit	Description	Value	Source
EF_{CH4}	g CH4/kg dry matter burnt	CH4 emission factor for biomass burning	2.3	IPCC Guidelines for National Greenhouse Gas Inventories (Table 2.6, Chapter 2, Volume 4)
GWP_{CH4}	t CO_2e/t CH_4	Global-warming potential for CH_4	28	VCS Standard v4.4
$P_{l,b}$	Head	Population of grazing livestock type l, in baseline year b	Refer ER Sheet "BE_PE_CH4 Emission_Livestock" F3 to F68 e	Documented management records
EF_l	kg CH_4/(head * year)	Enteric CH_4 emission factor per head of livestock type l per year	Cattle : 46 Sheep :5 Other cattle : 31	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories s (Table 10.10 & 10.11, Chapter 10, Volume 4)
Days $_{l,b}$	Days	Grazing days for livestock type l in baseline year b	365	Sample surveys/ PRA study
$A_{B,j,s}$	Ha	Area of trees and shrubs under baseline, for species j in stratum s	Please refer ER sheet ("BR_woody perennials") 2013 : G5 to G104 2014 :N5 to N104 2015 : U5 to U104 2016 :AB5 to AB104 2017 : AI5 to AI104 Database	Documented management records
CF_j	t C/t dm	Carbon fraction for species j	0.5	Default values in the CDM A/R Methodological Tool for Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities

Parameter	Unit	Description	Value	Source
$G_{AB,B,j,s}$	t dm/ha	Average annual increase in existing aboveground woody biomass of species j in stratum s, under baseline	Refer ER sheet ("BR_woody perennials") 2014 : N9 to N108 2015 : U9 to U108 2016 :AB9 to AB108 2017: AI9 to AI108	Measured
$SOC_{s,baseline}$	tonnes / ha	Baseline soil organic carbon stock in the top 30 cm soil layer in stratum s	8.5 (for conservative approach highest values has been considered, Please refer ER sheet "Soil analysis data_baseline " for more detail).	PP outsourced the baseline study assessment to an independent credible agency named "The Biodiversity Company (TBC)". The baseline SOC stock of 8.5 tC/ha was established by TBC using a mix of published research and field sampling - Tier 2 and Tier 3. **Tier 2** – TBC reviewed national and regional studies on grassland soil in South Africa. These studies provided reference values for SOC levels and other variables required for SOC estimations expected under similar land conditions. **Tier 3** – TBC also collected soil samples from 22 degraded plots within and around the project area. For each sample, they measured bulk density, SOC content, and % rock content. These data were then rendered with assessment that combined with (i) published literature and (ii) interpreted values for degraded land conditions to build a quantitative baseline database. From the assessment, it was found that the value of 8.5 tC/ha was the highest observed/conservative value among the samples, hence was selected as the

Parameter	Unit	Description	Value	Source
				value for the baseline. The PP has chosen a reliable, and project-centric approach, which is in line with the requirements of Section 9.1 of the applied methodology *VM0026, v1.1*[11].



Number of sampling plot	Depth (cm)	SOC content (g C/kg soil)	Bulk Density (gm/cm³)	Percentage (%) of rocks larger than 2mm, roots, and other dead residues with a diameter in the top 30 cm of soil	SOC stock in the top 30 cm (or greater depth if required) of soil for management practice m6, stratum s, sampling site i under project in year t
1	30	1.9	1.42	24.1	6.143346
2	30	0.8	1.59	12.03	3.1569152
3	30	1.1	1.4	9.51	4.180638
4	30	0.5	1.53	9.17	2.0845485
5	30	0.9	1.4	1.93	3.707046
6	30	0.7	1.53	44.13	1.7951031
7	30	1.1	1.52	2.59	4.8860856
8	30	0.7	1.5	22.55	2.439675
9	30	0.9	1.54	11.14	3.6947888
10	30	1	1.5	22.55	3.48525
11	30	1.1	1.45	16.27	4.0064805
12	30	0.8	1.4	12.6	2.93664
13	30	1.3	1.42	30.99	3.8217738
14	30	0.8	1.53	2.31	3.5871768
15	30	2.1	1.42	4.94	8.5040676
16	30	0.5	1.54	19.13	1.868097
17	30	0.9	1.49	34.63	2.6298351
18	30	1.1	1.53	5.51	4.7708001
19	30	0.6	1.53	10.58	2.4626268
20	30	0.71	1.53	25.51	2.42755461
21	30	0.8	1.4	12.6	2.93664
22	30	1.1	1.52	2.59	4.8860856
				MAX	8.50407

a) The VVB independently assessed the baseline SOC stock of 8.5 tC/ha by reviewing PP's baseline SOC report (method used to derive data explained above) and comparing it with findings from relevant scientific studies. This process included the following steps:

   i) Review of secondary literature mentioned in the PD

Odebiri et al. (2022) Modelling soil organic carbon stock	The SOC model used in this study/chapter 5 of the dissertation report referred by the VVB is a Deep

11 Data Unit / Parameter $SOC_{s,Baseline}$ Where Option 2 is applied to estimate project removals due to changes in SOC, the project proponent must follow the procedures for the sampling and measurement of soil properties, including bulk density and organic carbon concentrations, that are outlined in Option 2 in Section 8.2.8to determine the value of $SOC_{s,Baseline}$, less than two years prior to the project start time.

The project use Option 2 (measurement approach) to estimate project removals due to changes in SOC.

Parameter	Unit	Description	Value	Source		
					distribution across different land-uses in South Africa: A remote sensing and deep learning approach[12] [13]	Neural Networks (DNN) built on remotely sensed Sentinel-3 data and evaluated with three different metrics. These included the root mean square error (RMSE), the coefficient of determination (R^2) and Lin's concordance correlation coefficient (LCCC) using 10-fold cross-validation approach to ensure that the model did not over-fit the data. It

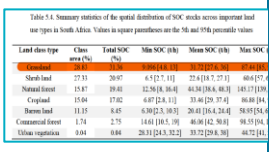
[12] https://www.sciencedirect.com/science/article/abs/pii/S0924271622001290

[13] ***Which is also included as*** chapter 5 of Odebiri et. al. 2002 -Dissertation: The application of deep learning for remote sensing of soil organic carbon stocks distribution in South Africa)[13]: VVB will discuss the result of the overall dissertation results which is directly related to the SOC content measured in South Africa using different techniques. So we will first explain the paper that PP has directly referred in the TBC report as well as in the MR and which is also chapter 5 of the dissertation report assessed by the VVB in Rd2 of the PRR


Chapter Five:
Modelling soil organic carbon stock distribution across different land-uses in South Africa: A remote sensing and deep learning approach

This chapter is based on:
Odebiri, O., Mutanga, O., Odindi, J., & Naicker, R. (2022). Modelling soil organic carbon stock distribution across different land-uses in South Africa: A remote sensing and deep learning approach. *ISPRS Journal of Photogrammetry and Remote Sensing, 188*, 351-362.

Parameter	Unit	Description	Value	Source		
						provides maps of the 'mean SOC' and also the 5th and 95th percentiles (at 90% interval), so users can read a range of plausible values, not just one number. The study also checks this interval against field data: 88% of samples fall inside the 5–95% band (close to the expected 90%) and notes that this uncertainty is model-based. The soil depth considered is 0-30 cm. This paper reports a model error around 10.15 tC/ha RMSE (the dissertation abstract reports appx 10.35 tC/ha for the national model, which is same order of magnitude). Table 5.3. The SOC DNN model result summary for both train and test da Evaluation metrics | Train data R^2 | 0.685 RMSE (t/h) | 10. 15 LCCC | 85.46

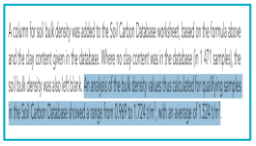
Parameter	Unit	Description	Value	Source		
						Per table 5.4 of the report , Grasslands cover about 28.83% of South Africa's land area and store about 31.36% of the total SOC stock of the country. The minimum observed SOC stock in grasslands was 9.096 tC/ha. The report also provides values in brackets, which are the 5th and 95th percentiles. This tells us that while extreme lows exist (as low as appx. 9.096 tC/ha), in this low-end category most grasslands fall between 4.8-13 tC/ha.  The values in brackets are the 5th and 95th percentiles: this range allows degraded patches can fall below 9.096 tC/ha,

Parameter	Unit	Description	Value	Source		
						consistent with the project baseline of 8.5 tC/ha. The review team has assessed and confirmed that PP considered the findings of Odebiri et al. (2022) but chose not to directly apply the reported average SOC stock to this project, due to the following reasons: • Different context - Odebiri's results represent grasslands in general, without specifically addressing communal, degraded, fire-affected rangelands such as those in the project area. • The SOC model has a high RMSE of 10.15 tC/ha, which

Parameter	Unit	Description	Value	Source		
						means the results can vary a lot, making them less reliable for disturbed and degraded landscapes. • As also emphasized in the author's reference as well as in his other published studies, remote sensing and machine learning approaches may not adequately capture localized heterogeneity in SOC distribution. Therefore, the SOC data (based on Tier 2 + Tier 3 data analysis) provided by the PP is more reliable, project-specific, and verifiable, consistent with the

Parameter	Unit	Description	Value	Source	
					requirements of the applied methodology. .
				Other references cited by the PP	
				du Preez, C.C., van Huyssteen, C.W., Mnkeni, P.N.S., 2011. Land use and soil organic matter in South Africa 1: A review on spatial variability and the influence of rangeland stock production. [14]	About 58% of South African soils contain less than 0.5% organic carbon, and only 4% of that exceeds the value beyond 2%. This indicates that most rangeland soils in South Africa are inherently poor in SOC compared to the Northern Hemisphere. The report clearly mentions that degradation of rangeland on account of overgrazing results in significant losses of soil organic matter, which is mainly attributed to lower biomass production. The use of fire in rangeland management

[14] S. Afr. J. Sci. 107, 27–34. https://doi.org/10.4102/sajs.v107i5/6.354 - pdf of the report is submitted with the response. As the complete paper is not available on the given weblink

Parameter	Unit	Description	Value	Source		
						decreases soil organic matter because the primary source of organic matter, the plant litter, is destroyed with burning.
					IDENTIFICATION AND MAPPING OF SOILS RICH IN ORGANIC CARBON IN SOUTH AFRICA AS A CLIMATE CHANGE MITIGATION OPTION *Stefanie Schütte, Prof Roland Schulze and Dr Garry Paterson* *Published by Department of Environme*	The Bulk density considered by the TBC is in line with the average value considered and estimated by the report at the national level (***Please refer to page 24 of the report)*** 

Parameter	Unit	Description	Value	Source
				ntal Affairs, SA[15]

ii) Independent assessment by the VVB

Grassland rehabilitation significantly increases soil carbonstocks by reducing net soil CO2 emissions [16]	The study by Abdalla et al. (2022) was conducted in one of the project areas, i.e. KwaZulu-Natal (which is the area with highest SOC recorded both in secondary literature as well as during project monitoring data). The study found that in degraded grasslands involving free grazing or annual burning, the top 0–5 cm of soil stored only 4.3–5.0 tC/ha, while better practices like rotational grazing or exposure with fertilizer increased it to 7.4–7.5 t C/ha. They also recorded that degraded soils had higher bulk density (appx. 1.60 g/cm³) compared to rehabilitated soils (appx. 1.48–1.50 g/cm³), which is in line with the values

[15] https://www.international-climate-initiative.com/en/iki-media/publication/identification_and_mapping_of_soils_rich_in_organic_carbon_in_south_africa_as_a_climate_mitigation_option/

[16] https://bsssjournals.onlinelibrary.wiley.com/doi/epdf/10.1111/sum.12790

Parameter	Unit	Description	Value	Source
				TBC used (1.40-1.59 g/cm^3). This supports that the project baseline reflects the reality of degraded communal rangelands in South Africa and is backed by field data of other studies as well. [17]

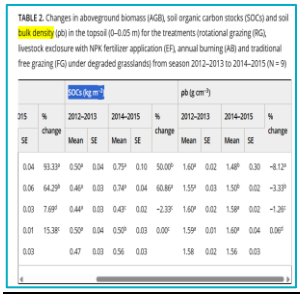
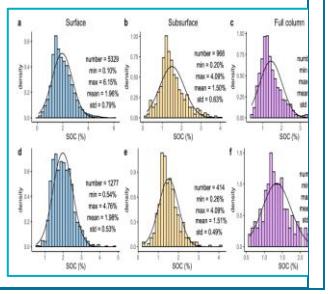


TABLE 2. Changes in aboveground biomass (AGB), soil organic carbon stocks (SOCs) and soil bulk density (ρb) in the topsoil (0–0.05 m) for the treatments (rotational grazing (RG), livestock exclosure with NPK fertilizer application (EF), annual burning (AB) and traditional free grazing (FG) under degraded grasslands) from season 2012–2013 to 2014–2015 (N = 9)

	SOCs (kg m^{-2})						ρb (g cm^{-3})					
215	% change	2012–2013		2014–2015		% change	2012–2013		2014–2015		% change	
SE		Mean	SE	Mean	SE		Mean	SE	Mean	SE		
0.04	93.33[a]	0.50[a]	0.04	0.75[a]	0.10	50.00[b]	1.60[a]	0.02	1.48[b]	0.30	−8.12[a]	
0.06	64.29[a]	0.46[a]	0.03	0.74[a]	0.04	60.86[a]	1.55[a]	0.03	1.50[b]	0.02	−3.33[b]	
0.03	7.69[a]	0.44[a]	0.03	0.43[b]	0.02	−2.33[c]	1.60[a]	0.02	1.58[a]	0.02	−1.26[c]	
0.01	15.38[a]	0.50[a]	0.04	0.50[b]	0.03	0.00[c]	1.59[a]	0.01	1.60[a]	0.04	0.06[c]	
0.03		0.47	0.03	0.56	0.03		1.58	0.02	1.56	0.03		

The main limitation of this study is that it only considered the 0–5 cm soil layer, which typically stores the highest SOC concentration and can therefore lead to overestimated values. However, when deeper layers are included “0-30 cm”, it avoids overestimating SOC and aligns with carbon accounting guidelines (the IPCC GPG or the depth which the applied methodology). ***Refer to pages 9 and 10 of the report.***

[17] 10 tons/ha is 1 kg/m2

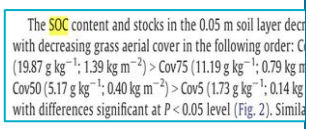
Parameter	Unit	Description	Value	Source
				To illustrate this, VVB referred to a U.S.-based study (**"Accurate Quantification of 0–30 cm Soil Organic Carbon in Croplands over the Continental United States Using Machine Learning"** [18]). The average SOC for the full 0–30 cm profile is lower than the 'surface-only value' because the deeper soil (i.e. 5–30 cm) contains less carbon, and when this low-carbon layer is mixed with the rich surface layer, it pulls the overall average down. **0–5 cm (surface layer):** Mean SOC% = **1.96** **5–30 cm (subsurface layer):** Mean SOC% =**1.50** **0–30 cm (full column):** Mean SOC% = **1.34** 

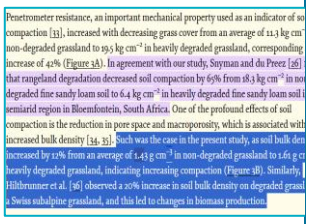
[18] https://www.mdpi.com/2072-4292/16/12/2217

Parameter	Unit	Description	Value	Source	
					The analysis was cross-validated using both model outputs and field-collected soil samples. ***Refer to pages 8, 13 and 14.*** Therefore, even if the 0–5 cm data are considered in isolation, it does not compromise the conservativeness of the project baseline, which remains 8.5 tC/ha.
				Dlamini et al. (2014) (Land degradation impact on soil organic carbon and nitrogen stocks of sub-tropical humid grasslands in South Africa[19]	This study examined how SOC levels change with grassland degradation in South Africa. It reported that in severely degraded areas with only 0–5% grass cover (Cov5), SOC decreased by 1.25 kg C/m², or 12.5 tC/ha[20], which was about an 89% reduction compared to non-degraded areas (Cov100). The study estimates SOC dropping from 13.9 tC/ha in Cov100 to about 1.4 tC/ha in Cov5. Compared to this, the selected 8.5 tC/ha value is

[19] https://www.sciencedirect.com/science/article/abs/pii/S0016706114002870

[20] 1.25*0.001C/0.0001= 12.5tC/ha

Parameter	Unit	Description	Value	Source	
					conservative and lies well within the range expected in degraded grasslands.  Again, the limitation of this study is that sampling was restricted to the 0–5 cm soil depth. The relevance of using this study to validate the PP's data has already been explained in the justification above. Since SOC concentration is generally highest in the top few cm and declines with depth, values reported at 0–5 cm may appear inflated relative to integrated 0–30 cm stocks. Also, when interpreting Dlamini et al. (2014), the focus is not on absolute stock equivalence, but on the magnitude of depletion (%) due to land degradation. Their reported up to 89% SOC loss provides an important benchmark for vulnerability of these soils, independent of depth.
					Confirms the bulk density values considered by TBC are

Parameter	Unit	Description	Value	Source	
				n on the Quality of Soils in a South African Communal Rangeland [21]	consistent with national assessments. 
				Mapping Sub-surface Distribution of Soil Organic Carbon Stocks in South Africa's Arid and Semi-Arid Landscapes: Implications for Land Management and Climate Change Mitigation. [22]	This study by Odebiri et. al. (2024), uses remote-sensing methods to estimate soil organic carbon (SOC) in South Africa's arid and semi-arid regions, which make up about 60% of the country. The goal was to understand how SOC is distributed at different depths (0–30 cm, 30–60 cm, 60–100 cm, and 100–200 cm) and how environmental factors affect it. The study area includes grasslands, savannas, shrublands, and thornveld. In the study, field data show that SOC stocks in the top 0–30 cm layer can be as low as 8 tC/ha (Table 3).

[21] https://www.intechopen.com/chapters/50695

[22] https://pmc.ncbi.nlm.nih.gov/articles/PMC7616233/

Parameter	Unit	Description	Value	Source

Table 3. SOC stock data summary statistics (t/ha); new skewness and kurtosis for the log transformed in brackets.

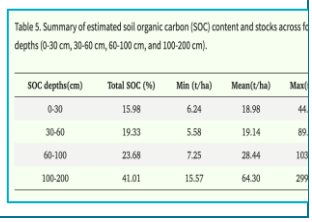
SOC depths(cm)	Min	Max	Mean	Standard deviation	Coefficient of variation (%)	Kurtosis	Skewness
0-30	0	45	19.37	5.78	29.84	2.22 (0.23)	0.85 (0.15)
30-60	6	86	19.72	11.91	60.40	10.81(0.38)	2.67(0.63)
60-100	7	109	25.56	16.20	63.38	7.70(0.27)	2.20(0.22)
100-200	18	338	77.76	48.27	62.08	6.58(0.21)	2.04(0.14)

To improve predictions, two machine learning models, 1) Random Forest (RF), and 2) Extreme Gradient Boosting (XGBoost) were tested. XGBoost consistently performed better, especially at 0-30 cm, giving lower errors and stronger fits than RF. For example, at 0–30 cm depth, XGBoost had an RMSE of 7.12 t/ha and R^2 values of 0.671 (training) and 0.617 (testing) (Table 4).

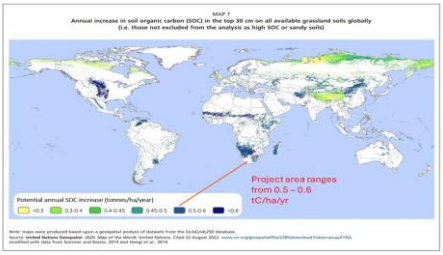
Table 4. Summary of the SOC stocks RF and XGBoost models at four different soil depths (0-30cm, 30-60cm, 60-100cm, and 100-200cm), for both the train and test data.

SOC depths(t/ha)	Random Forest (RF)				Extreme Gradient Boosting (XGBoost)			
	Train data		Test data		Train data		Test data	
	RMSE	R^2	RMSE	R^2	RMSE	R^2	RMSE	R^2
0-30cm	5.64	0.664	7.36	0.603	5.42	0.671	7.12	0.617
30-60cm	7.14	0.613	7.89	0.578	7.41	0.609	7.69	0.580
60-100cm	10.99	0.526	11.23	0.501	10.48	0.568	10.74	0.543
100-200cm	27.98	0.611	31.10	0.579	26.66	0.652	29.55	0.601

In table 5 the report demonstrates the diverse SOC stocks within arid and semi-arid regions, as evident from the varying SOC distribution across different depth ranges. For instance, within the

Parameter	Unit	Description	Value	Source
				0-30 cm depth range, SOC stocks contribute 15.98% of the total, with a minimum value of 6.24 t/ha.  Table 5. Summary of estimated soil organic carbon (SOC) content and stocks across fo depths (0-30 cm, 30-60 cm, 60-100 cm, and 100-200 cm). SOC depths(cm) | Total SOC (%) | Min (t/ha) | Mean(t/ha) | Max(0-30 | 15.98 | 6.24 | 18.98 | 44. 30-60 | 19.33 | 5.58 | 19.14 | 89. 60-100 | 23.68 | 7.25 | 28.44 | 103 100-200 | 41.01 | 15.57 | 64.30 | 299 Hence, during the validation process it was concluded that the baseline SOC stock of 8.5 tC/ha is satisfactory, conservative and supported by both project-specific field data and independent studies. The higher national minimum of 9.096 tC/ha reported by Odebiri et al. (2022) was ruled out, as it was not aligned with the applied methodology requirements and has key limitations, including model uncertainty and lack of degraded-land specificity. Furthermore, Odebiri et al. (2024) (authored by the same group of researchers.) reported SOC values as low as 6.24 tC/ha in semi-arid and arid regions, reinforcing the appropriateness of the project's assumption. **Consolidation of Baseline SOC Assessment:** 1. This is the combination of tier 2 and tier 3 data. By combining Tier 2 and Tier 3 data, project can

Parameter	Unit	Description	Value	Source
				achieve greater accuracy and confidence in its soil carbon stock change estimates. 2. As discussed above, remote sensing and machine learning approaches may not adequately capture localized heterogeneity (because of uncertainty of model, model error etc.) in SOC distribution. Therefore, the validation using the field-sampled SOC data offers a more reliable and baseline value determination. 3. TBC's baseline SOC report also covers field measure data of the 2017–2018 period, i.e., within two years of the project start, and is consistent with Section 9.1 of VM0026 v1.1. This meets the methodological requirement under Option 2 (measured approach), which the PP has applied to estimate project removals from SOC changes. 4. In contrast, the minimum SOC stock value of 9.096 tC/ha reported by Odebiri et al. (2022) does not meet the methodological requirements and has key limitations including model uncertainty and a lack of degraded land specificity. 5. The SOC baseline value is third-party assessed and certified and

Parameter	Unit	Description	Value	Source
				has been independently reviewed by the VVB. Hence, the baseline SOC value of 8.5 tC/ha is considered reasonable, conservative and is further substantiated in the updated verification report. Per a research paper in SA, rotational grazing reduced CO_2 emissions by 17% compared to free grazing and increased SOC by 50% and plant biomass by 93%.[23] Another study conducted in South Africa shows that improved grazing management practices can lead to increases in topsoil SOC stocks ranging from 0.11 tC/ha/yr to 1.00 tC/ha/yr.[24]  Adapted from: FAO's Global assessment of soil carbon in grasslands[25] Hence, based on the secondary literature evidence and the third party laboratory report the VVB concluded that the annual increase of 0.65 tC/ha/year and can be

[23] https://bsssjournals.onlinelibrary.wiley.com/doi/pdf/10.1111/sum.12790

[24] https://bsssjournals.onlinelibrary.wiley.com/doi/10.1111/sum.12790#:~:text=In%20their%20latest%20global%20synthesis,CO2%20emissions%20so%20far.

[25] https://openknowledge.fao.org/server/api/core/bitstreams/b9039c44-16bc-4031-9958-64c83dddb440/content

Parameter	Unit	Description	Value	Source
				higher than 0.5 tC/ha/year. Also, per IPCC GPG Tier 3[26] referred to as higher tier methods and are generally considered to be more accurate on condition that adequate data are available to develop, evaluate and apply a higher tier method. The submitted laboratory report for estimating SOC is robust enough and based on standard practice and hence considered reasonable in the VVB's opinion.
EF_{N2O}	g N_2O/kg dry matter burnt	N_2O emission factor for biomass burning	0.21	IPCC Guidelines for National Greenhouse Gas Inventories (Table 2.5, Chapter 2, Volume 4)
f	Year	SOC monitoring frequency	5 years	Project records
$W_{l,b}$	kg	Average weight of livestock l, in baseline year b	Cattle: 300 Sheep: 45 Other cattle: 275	Average weights have been considered from default data of South Africa from IPCC 2006 (Table 10 A2)
$H_{l,b}$	Hours	Average grazing hours for livestock type l per day during the grazing season in baseline year b	8 hours	PRA report (refer to page 3, 37, and 38). The data considered is based on a conservative approach.
$EF_{3, PRP, CPP}$	kg N2O-N/kg N input	N2O emission factor for cattle (dairy, non-dairy	0.002	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. (Chapter 10, Table 10.21)

[26] https://www.ipcc.ch/site/assets/uploads/2019/12/19R_V0_01_Overview.pdf?utm

Parameter	Unit	Description	Value	Source
		and buffalo), poultry and pigs manure and urine deposited on of applied to grassland		
$EF_{3,PRP,SO}$	kg N2O-N/kg N input	N2O emission factor for sheep and other animals' manure and urine deposited on of applied to grassland	0.003	The default value recommended by the 2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Table 11.1, Chapter 11, Volume 4) have been followed.
N_{exl}	kg N deposited /(t livestock mass * day)	kg N deposited/(t livestock mass * day)	Cattle: 0.44 Sheep:0.32 Other cattle : 0.45	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Table 10.19, Chapter 10, Volume 4)
$Frac_{GAS,MD}$	kg N volatilized/kg of N deposited	kg N volatilized/kg of N deposited	0.212	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. (Table 8A.1, Chapter 11, Volume 4)
$EF_{I,M}$	kg CH4/ (head * year)	kg CH4/ (head * year)	0.6	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Table 10.14, Chapter 10, Volume 4)

Data and parameters monitored

Parameter	Unit	Description	Frequency and monitoring equipment	Source
$M_{SNi,t}$	t fertilizer	Mass of synthetic N fertilizer type i applied in year t	Each application of fertilizer during year t . The mass must be recorded just after the application of synthetic N fertilizer for each fertilizer type applied for each year. No monitoring equipment for this parameter.	Project records
NC SNi,p	g N/g fertilizer	Nitrogen content of synthetic N fertilizer type i applied under project.	The nitrogen content must be recorded for each synthetic N fertilizer type i that has been applied in the baseline scenario or project. The value must be obtained from the product description stated by the manufacturer on the product label. Each application during project crediting period in year t. No monitoring equipment for this parameter.	Manufacturer product label or other manufacturer data.
$A_{B,t}$	Ha	Area burnt in year t during the project crediting period	Measure and record the area burnt after the fire occurrence. Each burning activity in year t during project crediting period. No monitoring equipment for this parameter.	Project records
$M_{B,t}$	t biomass/ha	Aboveground biomass burnt, excluding litter and dead wood under project in year t.	Measure the aboveground biomass of grassland before and after the fire management for at least three plots (1m*1m). The difference of the aboveground biomass is the aboveground biomass burnt. Each burning activity in year t during the project crediting period. No monitoring equipment for this parameter.	Project records.
$P_{l,t}$	Head	Population of livestock type l under project in year t	Record numbers of grazing livestock by type. The sample size of household number must ensure that a precision of 15 percent at the 95 percent confidence level is attained. The value must be based on the grazing numbers; annual or seasonal average	Project records

Parameter	Unit	Description	Frequency and monitoring equipment	Source
			population of grazing livestock by type. Monitored annually. No monitoring equipment for this parameter.	
Days $_{l,t}$	Days	Grazing days of livestock in year t under project.	Record the grazing days in year t. All livestock are conservatively assumed to graze for 365 days per year under the project scenario. There is no monitoring.	Project records
$G_{AB, j,s,t}$	t dm/ha	Average increase in existing aboveground woody biomass of species j, in stratum s, under project for year t.	At the end of every monitoring period. A 100m X 2m belt transect was used for the woody transects (Van Rooyen et al., 2013; Smit, 2014). It is further stated that plot size was adjusted in response to woody density, with smaller plots used in densely vegetated areas to improve manageability and efficiency. All woody plants rooted within the transects were identified, and DBH and area per species were recorded. Tree and stem densities were determined and extrapolated to per-hectare estimates.. The sampling has been done in line with the A/R CDM Tool14. The MR has been updated to reference the allometric equations developed by Kuyah et al. (2012). The equation was developed using destructive sampling of trees in Western Kenya. Appropriateness of the Equation: The applicability of the selected allometric equation has been assessed in line with the requirements of AR-TOOL14. The MR has been updated to reference the allometric equations developed by Kuyah et al. (2012)[27] based on destructive sampling of trees in Western Kenya. The VVB has assessed the appropriateness of	Project records

[27] Allometric equations for estimating biomass in agricultural landscapes: I. Aboveground biomass https://www.researchgate.net/publication/256295820_Allometric_equations_for_estimating_biomass_in_agricultural_landscapes_I_Aboveground_biomass

Parameter	Unit	Description	Frequency and monitoring equipment	Source
			applying these equations to the South African project context in accordance with AR-TOOL14 requirements section 7. According to section 7, of the applied Tool14, For ex-post estimation, the project must justify that the allometric and volume equations used for estimating tree biomass are suitable and scientifically valid, by applying the Tool "Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities." Based on v1.0.1[28] of the Tool 18, section 5, a species-specific or group-of-species-specific volume table or volume equation derived from trees growing in edapho-climatic conditions similar to those in the project area is considered appropriate, and hence can be used for ex post estimation of tree stem volume, if at least one of the following conditions is satisfied: a) The equation is used in the national forest inventory, or the national GHG inventory, of the host Party; b) The equation has been used in commercial forestry sector of the host Party for 10 years or more; c) The equation was derived from a data set of at least 30 sample trees, and the value of coefficient of determination (R^2) was not less than 0.85. The equation applied by the PP fulfils one of the conditions i.e., condition c - Kuyah et al.'s equation was derived from 72 trees, with R^2 = 0.977, showing strong predictive reliability.	

[28] https://cdm.unfccc.int/methodologies/ARmethodologies/tools/ar-am-tool-18-v1.0.1.pdf

<table>
<tr><th>Parameter</th><th>Unit</th><th>Description</th><th>Frequency and monitoring equipment</th><th>Source</th></tr>
<tr><td></td><td></td><td></td><td>And the equations are derived from tree stem volume based on DBH.

Apart from that the VVB can also see that the project area and the study have the following ecological similarity:
• Trees are widely spaced.
• Lower Yala, Middle Yala, and Upper Yala (Western Kenya) and the Mpumalanga, Eastern Cape, KwaZulu-Natal, and Free State Provinces (South Africa) primarily relate to climate, land use, and vegetation structure in semi-arid to sub-humid agricultural landscapes.
<table>
<tr><td>Region</td><td>Agroecological Type</td></tr>
<tr><td>Yala Basin (Western Kenya)</td><td>Semi-arid to sub-humid tropical highlands[29]</td></tr>
<tr><td>Mpumalanga / KZN / Eastern Cape / Free State</td><td>Semi-arid to sub-humid subtropics & temperate highlands[30]</td></tr>
</table>
• Average Annual rainfall - Kenya’s average annual precipitation is 680</td><td></td></tr>
</table>

[29] Baseline Report Yala and Nzoia River Basins https://apps.worldagroforestry.org/economics_papers/anonymous/WKIEMP/Datasets/Louis%20Verchot/Reports%20for%20KARI/Year%202%20and%203%20deliverables/PDFs/Baseline%20Report%20Yala%20River%20Basin%20final.pdf

https://www.researchgate.net/figure/The-agro-climate-zone-map-of-Kenya-based-on-LGP-classes_fig6_265236048

[30] Climate and agro-ecological zones of South Africa https://www.fao.org/4/y5998e/y5998e06.htm

Parameter	Unit	Description	Frequency and monitoring equipment	Source
			mm[31], SA average precipitation 500 mm[32]. Study area specific rainfall – 1028 – 1950 mm and Project area specific rainfall - (KwaZulu-Natal 650 mm - 1400 mm[33]) (eastern cape – 350 – 550 mm[34]) (Mpumalanga – 620 mm[35]) and (Free State – 1020 mm[36]) • Soil type - Dominant soil types along both the regions are comprised of sandy, loamy and clayey[37] with no organic present and acidic pH	

[31] https://climateknowledgeportal.worldbank.org/country/kenya/climate-data-historical#:~:text=Kenya's%20average%20annual%20precipitation%20is,is%20the%20productive%20agricultural%20land

[32] https://nccis.environment.gov.za/climate-services/saws-climate-products/maps-and-graphs

https://southafrica.co.za/rainfall-south-africa.html

[33] https://www.researchgate.net/figure/Mean-annual-rainfall-for-the-weather-stations-within-the-three-climatic-regions_fig2_350409353#:~:text=Demlie%2C%202020).-,The%20mean%20annual%20rainfall%20in%20KwaZulu%2DNatal%20ranges%20from%20650,et%20al.%2C%202021)%20

[34] https://www.researchgate.net/figure/Annual-rainfall-mm-summaries-for-the-stations_tbl1_268458598

[35] https://www.sa-venues.com/weather/mpumalanga.php#:~:text=Nelspruit%2C%20the%20capital%20city%20of,in%20the%20Kruger%20National%20Park

[36] https://www.britannica.com/place/Free-State

[37] PRA study of the project area and Climate and agro-ecological zones of south Africa https://www.fao.org/4/y5998e/y5998e06.htm and for the study area https://www.researchgate.net/publication/256295820_Allometric_equations_for_estimating_biomass_in_agricultural_landscapes_I_Aboveground_biomass and https://apps.worldagroforestry.org/economics_papers/anonymous/WKIEMP/Datasets/Louis%20Verchot/Reports%20for%20KARI/Year%202%20and%203%20deliverables/PDFs/Baseline%20Report%20Yala%20River%20Basin%20final.pdf

Parameter	Unit	Description	Frequency and monitoring equipment	Source
			• Altitude and slope – Yala region 1200 m – 2200 m[38] and project area (1800 m (Free state[39]), Mpumalanga (1200 - 1800 m[40]), (Eastern Cape – 2700 m[41]) (KZN avg – 777m – max – 3405 m[42]) Hence, based on: • Fulfillment of condition 5 c of the Tool 18 and hence fulfilling the requirements of the applied Tool 14 • Demonstrated ecological similarity between the study and project areas in accordance with the requirements of Tool 18, VCS methodology requirements, v4.4 section 3.2.7[43] and other internationally accepted studies[44] the VVB considers the applied	

[38] Allometric equations for estimating biomass in agricultural landscapes: I. Aboveground biomass https://www.researchgate.net/publication/256295820_Allometric_equations_for_estimating_biomass_in_agricultural_landscapes_I_Aboveground_biomass

https://www.researchgate.net/figure/Smaller-map-shows-the-location-of-the-Yala-River-Basin-in-western-Kenya-Enlarged-maps_fig1_332327177

[39] https://www.britannica.com/place/Free-State

[40] https://www.britannica.com/place/Mpumalanga

[41] https://www.britannica.com/place/Eastern-Cape-province-South-Africa

[42] https://en-ie.topographic-map.com/map-l68hf3/KwaZulu-Natal/?center=-26.08935%2C31.0517&zoom=6

[43] https://verra.org/wp-content/uploads/2023/08/VCS-Methodology-Requirements-v4.4-updated-4-Oct-2023.pdf

[44] https://winrock.org/wp-content/uploads/2018/08/Winrock-AllometricEquationGuidance-2016.pdf?utm

https://annforsci.biomedcentral.com/articles/10.1007/s13595-014-0415-z?utm

Parameter	Unit	Description	Frequency and monitoring equipment	Source
			allometric equation appropriate for ex-post woody biomass estimation in this project context. Woody biomass calculation is as per AR-Tool 14 v4.2 and plot wise calculation has been included in ERR sheet.	
$AP_{,j,s,t}$	Ha	Area of trees and shrubs of species j in stratum s under project in year t	Monitored annually. There is no monitoring equipment.	Project records
PAm G ,s ,t	Ha	Project areas of grassland with management practice Mg in stratum s in year t	Record the area of grassland with management practice Mg in stratum s. Record the area and management practice just after the management practice has taken place and report annually.	Project records
$SOC_{mG,s,i,t}$	g C/kg soil	SOC stock in the top 30 cm of soil (or greater depth if required) for management practice mG, stratum s (or greater depth if desired), sampling site i	Option 2 is applied to estimate project removals due to changes in SOC, following the procedures for the sampling and measurement of soil properties, including bulk density and organic carbon concentrations, that are outlined in Option 2 in Section 8.2.8 to determine the value of SOC. The General Guidelines for Sampling and Surveys for Small Scale CDM Project Activities has been followed to determine the sampling procedures and the sample size. The sample Soil Organic Carbon (SOC) was measured using the chromic acid wet-oxidation method (Walkley and Black, 1934). A 30 cm soil depth approach of the identified diagnostic horizons was used on the estimation of SOC stock (SOCs, Mg C/ha) by adding up the SOC content of the soil	Project records (Sampling and testing has been done for 22 strata)

Parameter	Unit	Description	Frequency and monitoring equipment	Source
			layers following the respective equation by Qiu et al., (2015). At least once every five years. *Laboratory analysis* The sample Soil Organic Carbon (SOC) was measured using the chromic acid wet-oxidation method (Walkley and Black, 1934). A 30 cm soil depth approach of the identified diagnostic horizons was used on the estimation of SOC stock (SOCs, Mg C/ha) by adding up the SOC content of the soil layers following the respective equation by Qiu et al., (2015). Laboratory analysis data has been transparently included in section 5.2 of the MR v5.	
$BD_{mG,s,i,t}$	g soil/cm3	Soil bulk density in the top 30 cm of soil (or greater depth if required) for management practice mG, stratum s (or greater depth if desired), sampling site i	Laboratory analysis Three replicates of undisturbed core samples were also collected from each identified representative diagnostic horizon in the profiles for the determination of the soil bulk density. At least once every five years.	Project record
$FC_{mG,s,i,t}$	%	Percentage of rocks with a diameter larger than 2mm, roots, and other dead residues in the top 30 cm of soil (or greater depth if desired), for management practice mG,	Laboratory analysis. At least once every five years.	Project record

Parameter	Unit	Description	Frequency and monitoring equipment	Source
		stratum s, sampling site i		
Depth	cm	Total soil depth, for calculating grassland SOC stock in the top 30 cm of soil (or greater depth if required)	The value for soil depth must be consistent with the measurements taken. Soil properties must be measured to the full depth of affected soil layers. Where the full depth of affected soil layers is not known, a minimum depth of 30 cm must be applied. Recorded with each measurement taken	Project records
$W_{l,p}$	Kg	Average weight of livestock under project	Average weights based on IPCC 2006 (Table 10 A2)	Project records
$H_{l,t}$	Hours	Average grazing hours for livestock type l per day during the grazing season in year t	Ground team of the project proponent will visit all the project participant every year to investigate the project situation. This will be done on an annual basis	PRA report (refer to page 3, 37, and 38). The data considered is based on a conservative approach.
Buffer	tCO_2e	The total amount of VCUs is to be deducted from the total ERR per the NPRR tool, v4.1.	At each verification through the application of NPRT Tool (latest/applicable version)	Non-permanence Risk Assessment Report v4

The VVB has validated section 4.1, 4.2 and 4.3 of the MR and found that the monitoring plan provides a detailed estimation process as required by the methodology.

The zero uncertainty assumption is acceptable and in line with section 8.2.9 of the applied methodology since:

- Parameters have been derived from robust, verifiable, and comprehensive datasets. soil organic carbon data are obtained by laboratory tests. Soil organic carbon (SOC) data were obtained through laboratory tests, which are:

  - Laboratory tests provide precise, standardized measurements of SOC. The results can be cross-verified through repeated sampling and testing.
  - Conservative: The use of laboratory-measured SOC changes ensures a high degree of confidence in the data, minimizing uncertainty.

- The project uses Option 2 (measurement approach), with SOC changes estimated through sample surveys conducted in the project area. The use of a large sample size ensures:
  - Statistically significant results.
  - Reduction in sampling error due to broader representation.
  - Reliable derivation of SOC changes based on robust statistical principles.
- By adopting the lower bound of the 95% confidence interval (sample mean - 1.96 × standard error) for SOC sequestration estimates, the project ensures conservativeness and reduces the likelihood of overestimation. This approach inherently addresses uncertainties in the data and aligns with the methodology's requirements.
- The project proponent conducted a full census of project participants whose livestock grazed in the project area during the baseline period. This approach ensures:
  - Complete coverage of all relevant stakeholders.
  - Direct and precise collection of data on grazing activities, including the number of livestock and grazing days.
- Such comprehensive data gathering significantly reduces the risk of variability or error in the baseline parameters, effectively eliminating uncertainties related to missing or incomplete data.
- Conservative values or lower-bound estimates are consistently applied.
- The sampling and measurement processes minimize variability, making any residual uncertainty negligible.

As a VVB, we conclude that the PP's approach aligns with the methodology and provides sufficient confidence in the accuracy of the project's reported parameters. Using the lowest reliable estimate means the project is being conservative. They PP has avoided overestimating the carbon stored, which helps ensure the results are fair and realistic.

Net emission reductions and removals (NERs)

The NER is calculated as per the applied methodology. The audit team confirmed that NER have been estimated in accordance with steps and equations mentioned in the latest version of the applied methodology. The calculation were carefully analysed for accuracy according to the methodology.

The Risk Factor parameter of the Project was estimated through the document VCS AFOLU Non-Permanence Risk Tool, resulting in 18%.

VCUs - The estimated GHG credits eligible for issuance as VCUs has been calculated in line the latest version of the applied methodology. The project has used proper parameters and resulted in an accurate estimate of ex-ante total emissions reductions.

The excel sheet submitted by the PP was evaluated and found to be appropriate and in line with the applied methodology.

Overall, the PP has followed the exact steps mentioned in the latest version of the applied methodology and modules. The steps have been applied correctly to calculate baseline emissions, project emissions, leakage and net GHG emission reductions and removals for the baseline period. The quantification of related emissions are described in detail in the validated PD.

The audit team can confirm that the PD and the ER excel sheets contain a very high level of detail regarding the calculation of GHG emission reductions, such that the following are true:

- All relevant assumptions and data are listed in the project description, including their references and sources.

- All data and parameter values used in the project description are considered reasonable in the context of the project.

- All estimates of the baseline emissions can be replicated using the data and parameter values provided in the project description.

The project proponent along with EWT and conservation Outcomes, hired local communities (monitoring staff and auditing staff) for daily supervision and data management during the project implementation while office manager oversees the whole working group. PP will be responsible for carrying out the monitoring, reporting, and supporting validation and verification of the project.

Steps Taken to Assess Accuracy

- **Spreadsheet Formulae and Aggregations**:
    - **Verification**: The spreadsheets used for calculations were reviewed to ensure all formulae were applied correctly.

- **Consistency**: Data aggregation (e.g., from grazing surveys) was verified to avoid discrepancies.[45]
- **QA/QC Checks**: Cross-verification with project records and monitoring data ensured no manual errors at the final stage.

- **Baseline, Project and Leakage Emissions**:
  - **Methodology Compliance**: Confirmed that calculations follow VM0026, Version 1.1.
  - **Emission Calculations**: Baseline and project emissions were calculated separately, ensuring consistency in methods and assumptions. Leakage emissions is zero PP has identified two leakage forms they are livestock displacement leakage and Market Leakage. The PP has based on the applied methodology has provided analysis for the two potential sources of leakage: livestock displacement leakage and market leakage. Satisfactory justification has been provided in Sections 5.3 of the MR to demonstrate that these emissions due to leakage during the monitoring period is zero. : The VVB has conducted a detailed assessment supporting the consideration of zero leakage, as outlined below:

Leakage Type	PP's justification	VVB's Assessment
Market leakage (LEM,t)	Market leakage is considered negligible as the project does not aim to reduce livestock numbers. Livestock population is stated to be governed by land capacity and rainfall, not by external market demand.	The methodology allows market leakage to be considered negligible if no significant reduction in livestock production occurs (VM0026, Section 8.3). The PP clarifies that livestock numbers are maintained or managed based on ecological carrying capacity, not reduced for commercial reasons. No evidence of herd downsizing or market-driven destocking is reported. The same was cross checked and verified during the site visit and the supporting evidence submitted. **e.g.,** *in the declaration letter from landowner of* ***Greg Martindale (Strata 1)*** *reports the livestock count from 2013 to 2022*

[45] The total number of grazing livestock is correctly aggregated from individual ranch records. Data reported in the final monitoring report matches the original survey data.

c) LIVESTOCK

Year	Cattle	Sheep	Other
2013-2014	0	0	130
2015-2016	0	0	130
2016-2017	21	0	130
2018	21	0	180
2019	21	0	205
2020	25	0	156
2021	29	0	161
2022	30	0	167

*in the declaration letter from landowner of **Pieter Botha (Strata 2)** reports the livestock count from 2013 to 2022*

c) LIVESTOCK

Year	Cattle	Sheep	Other
2013-2014	132	2750	35
2015-2016	135	2755	41
2016-2017	135	2755	35
2018	140	2849	40
2019	140	2800	40
2020	115	2755	40
2021	195	2924	40
2022	140	2830	40

No Reduction in Livestock Numbers:

- Cattle numbers have increased steadily from in 2016–201) to in 2022.
- "Other" livestock (goats, poultry, etc.) has also remained stable or increased slightly compared to the baseline years.
- Sheep numbers are consistently zero in Strata 1 suggesting no change or involvement and increased in Strata 2 suggesting steady increase.

Similar trends have been observed in other Strata.

Hence, there is no decline in livestock that would impact market supply. On the contrary, an increase suggests improved carrying capacity or better grazing management.

Conclusion: This qualifies for zero market leakage.

Grazing displacement leakage (LEGD,t)	**Grazing displacement** is considered negligible due to physical containment: fencing, private land boundaries, and patrol mechanisms (game scouts) effectively prevent livestock movement across the project boundary.	As referred in section 8.3 of the applied methodology and defined in Module VMD0040, v1 [46], activity-shifting leakage may occur in projects implementing Sustainable Grassland Management (SGM) practices if grazing activities are displaced from the project area. Such displacement could lead to increased livestock-related GHG emissions and potential decreases in carbon pools outside the project boundary, particularly due to overgrazing. In this case, the PP has stated that all livestock remain confined within the project boundary, with containment ensured through physical controls such as fencing and regular monitoring. These measures are consistent with the expectations outlined in the methodology for demonstrating that grazing displacement does not occur. Supporting evidence includes: • Site visit observations, discussions with the landowners and photographs confirming the presence of fenced boundaries.

[46] https://verra.org/wp-content/uploads/imported/methodologies/VMD0040-Leakage-from-Displacement-of-Grazing-Activities-v1.0.pdf

- A third-party fencing declaration submitted by the PP during validation, prepared by Bahori Consulting Pty Ltd, verifying the implementation of fencing.

Farm Name	Fencing completion date
Bennidale Trust	05 July 2018
DavMar Agri	23 July 2018
Petrus Jacobus Loots	15 July 2018
Tillietudlum Nature Reserve	12 July 2018
KZN Crane Foundation	01 July 2018
Bergplaats Irene Properties (Pty) Ltd	10 July 2018
Ken Dorning Family Trust	16 July 2018
Field and Stream Pty Ltd	15 July 2018
Allandale Trust	17 July 2018
Riverdene Farming Co	15 July 2018
Longacres CC	22 July 2018
Tandjiesberg Trust	01 July 2018
Thorncliff Trust	07 July 2018
The Fairfield Trust	01 July 2018
Donovale Farming Company (Pty) Ltd	11 July 2018
Blaauwater Trust	31 July 2018
R J Combrink & Seun Familie Trust	19 July 2018
Kleinfontein Trust, KZN	15 July 2018
Kleinfontein Trust, FS	12 July 2018
Giel Beukes Aandele Trust	29 July 2018
The Waterfall Trust	02 July 2018
Die Triangle Trust	15 July 2018

Conclusion: Based on the implemented containment measures and supporting evidence, it is concluded that there is no displacement of grazing activity outside the project boundary, and thus no activity-shifting leakage is expected.

- **SOC Measurement**: SOC changes were derived conservatively by collecting samples from the project area and carrying out lab testing, using the lower bound of the 95% confidence interval. The PP has implemented robust QA/QC measures, including mandatory training for field staff, regular equipment checks, and stratified random sampling. Soil sampling was conducted by trained personnel, with 123 samples collected—exceeding the required minimum for 95% confidence and 15% precision.[47] Analysis was performed in a qualified laboratory following good laboratory practices. Backup samples are retained for retesting, and any deviations from the validated monitoring plan will be formally reported to the VVB.

The VVB has examined each parameter and contrasted it with the methodology's requirements. In that way, the MR contains all necessary parameters, with adequate descriptions as to source of data, measurements procedures, monitoring frequency, monitoring equipment and QA/QC procedures to be applied. The selected monitoring frequency of the parameters is consistent with the methodological requirements. The monitoring and management plan are consistent with the registered PD[48], and no deviations from the approved monitoring plan have been reported in this monitoring period.

4.4 Quality of Evidence to Determine Reductions and Removals

Based on the review of the MR, PD, standard operating procedures, calculation excel sheet, supporting documentation, on-site visits, and interviews with project personnel and local stakeholders, the audit team confirms that the evidence used to determine GHG reductions and removals for the verification period is of sufficient quantity and appropriate quality.

Categories of Evidence and Assessment

- Reliability

    a. The evidence is primarily documented and verified by credible third parties or default IPCC values.

[47] Per section 8.2.9 of the applied methodology - When using sampled field data from the project area: If the values are based on sample surveys (e.g., measured soil carbon stocks), and the sample size is large (more than 30), then the PP must apply a statistical approach to ensure conservativeness: For baseline values: use the upper limit of the 95% confidence interval (i.e., mean + 1.96 × standard error). This results in a higher baseline emission/removal estimate, which reduces claimed project benefits—ensuring conservativeness by ensuring that the project used the highest available SOC value for the baseline scenario when calculating the change in carbon stocks.

[48] https://registry.verra.org/app/projectDetail/VCS/2710

b. Management and monitoring records are maintained under standardized QA/QC procedures. The project area was stratified in advance of sampling based on ranch-level boundaries, ensuring that all areas are exhaustive and mutually exclusive, as required.[49] Sampling points were selected using a systematic approach with a random start. The sample size was calculated using the CDM Tool for Sampling, targeting 15% precision at a 95% confidence level. The final sample size (123 plots across 22 strata) significantly exceeds the minimum required limit of samples (using survey method) of the applied methodology. The stratification logic, random sampling method, and sample size determination follow VM0026 v1.1. The approach ensures representativeness, statistical validity, and conservative estimation of soil carbon stock changes, and is thus deemed acceptable for verification.

c. Field protocols were reviewed and confirmed to be based on sound scientific principles and best practices, capable of capturing carbon stock changes in conformance with the methodology. Section 4.3 of the revised MR includes a visual diagram and tabulated details illustrating the data collection process, responsible personnel/teams, and their respective roles in data collection and reporting. The information presented is consistent with the arrangements observed and discussed during the validation and verification site visit. Relevant organizational representatives and personnel were interviewed during the audit to confirm these arrangements. The diagram added enhances the transparency of the monitoring framework and aligns with best reporting practices.

d. Stratification data in spreadsheets and spatial data were reviewed and verified to contain all necessary information.

e. SOC laboratory analysis data and related calculations were cross-checked against laboratory reports and found consistent.

- Information flow

a. The flow of data from field measurements to emission reduction and removal calculations was reviewed and found to be consistent, with clear monitoring and reporting guidelines. Survey sheets and final analysis sheets were cross-checked, confirming no discrepancies.

b. Field protocols, QA/QC procedures, and monitoring plan mentioned in the registered PD were reviewed and observed to be implemented effectively by field teams during site visits.

[49] Different ranch is having different vegetation coverage and types, so their effects on soil carbon accumulation are also different. The growth status of grassland vegetation is different in each ranches, which has a certain impact on the accumulation of soil carbon.

c. The audit team recalculated and confirmed project and ranch-level area data using provided KML and LULC files, ensuring alignment with reported excel sheet.

- Calibration and calibration frequency

a. Monitoring plans specify calibration frequency and QA/QC procedures for equipment such as GPS units, soil sampling augers, and soil moisture probes.

b. Calibration activities, while not explicitly documented in the soil report, were validated through discussions with field teams and laboratory personnel, and review of calibration logs.

c. Equipment calibration

i. Augers: Depth accuracy verified with rulers or measuring tapes; worn parts replaced to maintain performance.[50]

ii. GPS units: Calibrated by optimizing settings, verifying accuracy against known points, and testing under various conditions.

iii. Laboratory equipment: Calibrated per internationally accepted standards, as confirmed by "The Biodiversity Company.[51]

Conclusion

The PP provided comprehensive documentation for emission reduction calculations, information control systems, and data management processes. The VVB:

- Reviewed the Monitoring Report, measured data, and emission reduction calculations, finding the data transparently documented and reproducible.

[50] Soil survey positions were recorded as waypoints using a handheld GPS. Soils were identified to the soil family level as per the “Soil Classification: A Taxonomic System for South Africa” (Soil Classification Working Group, 2018) as well as the World Reference Base (WRB). The Landscape features such as existing open trenches were also helpful in determining soil types and depth. Soil samples were collected in the respectively diagnostic horizons to the depth of the bedrock where possible. In each diagnostic horizon, soil samples were composited with a minimum of 8 cores. Three representative replicates were analysed for total soil organic carbon and the soil particle textural classes (Bouyoucos hydrometer method) following approved standard international soil analysis methods. Three replicates of undisturbed core samples were also collected from each identified representative diagnostic horizon in the profiles for the determination of the soil bulk density. The undisturbed cores have a diameter of 11 cm and height of 7.7 cm. The sample Soil Organic Carbon (SOC) was measured using the chromic acid wet-oxidation method (Walkley and Black, 1934).

[51] https://thebiodiversitycompany.com/

- Recalculated emission reductions from raw data and validated spreadsheet functionality, confirming alignment with the PD and methodology requirements.
- Conducted interviews with project staff, ranch owners, and field teams, and verified data collection processes and operational systems.

Quality assurance mechanisms and data review techniques were found to be robust. Project staff demonstrated high levels of competence, ensuring reliable data collection and reporting. The audit team concludes that the evidence supporting GHG reductions and removals is of sufficient quantity and appropriate quality. The data collection responsibilities, as illustrated in the diagram added in section 4.3 of the MR, are clearly defined and align with the registered monitoring plan. Roles are appropriately distributed among livestock owners, WeAct Pty Ltd (and its local teams), EWT, Bahori Consulting, and The Biodiversity Company based on expertise and activity type. The structure is consistent with observations made during the site visit and interviews, and it enhances transparency. The arrangement is considered adequate to support reliable and verifiable monitoring. The VVB notes that the clear assignment of responsibilities to different stakeholders reduces risks of data manipulation and enhances the independence of critical monitoring components.

All calculations were verified with no material errors, and the methodologies applied are consistent with the validated project scope and methodology requirements.

The GHG management system is adequate to generate accurate and reliable data, and the evidence used to determine the reductions is sufficient and appropriate for the verification period.

4.5 Non-Permanence Risk Analysis

The proponent used the "AFOLU Non-permanence risk tool v4.0" in line with VCS specifications to analyze the risk in terms of internal risk, external risk, natural risk, and risk mitigation strategies. The Non- permanence risk report and the Excel risk tool are provided by the project proponent.

The VCS recommendations were used to calculate each risk category. Through document analysis, actual visits to the project area, and interviews, the material was verified and cross-checked. The evaluation's specifics are listed below.

Risk Rating	PP Justification	Quality of the data and assessment of quality by the VVB	Audit Conclusion
Internal Risk and rating: 17			
Project Management (Rating: -2)	The audit team assessed the reasons for the risk rating and the steps taken to	The project management team is robust and have extensive experience in	PP has provided enough information for this parameter. Mitigation plan

Risk Rating	PP Justification	Quality of the data and assessment of quality by the VVB	Audit Conclusion
	reduce the risk of the activities which has impact in the project area.	implementing the carbon projects including the AFOLU Sector.[52] The documents and explanations are provided by the PP in the respective sections of the report and the team found the information is of good quality.	detailed in the section is found satisfactory and hence audit team finds risk rating is appropriate.
Financial Viability (risk rating 6)	The audit team assessed the rationale for the risk rating on the project cash flow breakeven point.	The documentation provided is a financial analysis that allowed for assessment by the audit team and is therefore of good quality.	PP has provided enough information for this parameter. Information provided in the section is found satisfactory and hence audit team finds risk rating is appropriate.
Opportunity cost (risk rating -2)	The audit team evaluated the justification for rating the risk and the mitigation plan detailed in the section.	PP is not a non-profit organization.[53] The information presented in this section meets the requirements of Risk parameter and has calculated the risk score properly. The agreements between the landowners and PP have been thoroughly verified, confirming that the project is bound by legally enforceable commitments to sustain management practices that safeguard the credited carbon stocks beyond the duration of the project first crediting period. The agreements were reviewed and found to	Risk rate is appropriate.

[52] https://weact.com.au/projects/

[53] https://weact.com.au

Risk Rating	PP Justification	Quality of the data and assessment of quality by the VVB	Audit Conclusion
		be satisfactory and robust enough to ensure the project's enforcement throughout the duration of 30 years.	
Project longevity (risk rating 18)	The audit team evaluated the justification for rating the risk and the mitigation on legal agreement or requirement to continue the management practice.	PP confirmed that the Project is protected by legally binding commitment of 30 years. Which fulfils the requirement of section 2.2.3 (3) of the AFOLU NPRA Tool v4 Hence the PP has scored 15 for this parameter. The agreements were reviewed and found to be satisfactory and robust enough to ensure the project's enforcement throughout the duration of 30 years.	Risk rate is appropriate.
External risk rating: 0			
Land Tenure and Resource Access/Impacts Risk rating 0	The audit team evaluated the justification for rating the risk and the mitigation.	The agreements between the landowners and PP (to continue the management practice for 30 years) have been thoroughly verified, confirming that the project is bound by legally enforceable commitments giving PP the ownership and resource access rights[54] of the project areas. The documentation provided were duly reviewed by the PP which confirms the selected risk score.	Risk rate is appropriate.

[54] In line with the requirements of the VCS Standard v4.4 Section 3.7.1 (4)

Risk Rating	PP Justification	Quality of the data and assessment of quality by the VVB	Audit Conclusion
Community engagement. Risk rating: -5	The audit team evaluated the justification for the risk rating on the consult to the stakeholders associated with the project area.	From the documents review and site visit assessment, it was confirmed that 100% of the households living within the project area who are reliant on the project area have been consulted. Documents provided by the PP on the consultations were checked and found of good quality.	Risk rate is appropriate.
Political Risk: Risk rating: -0	The audit team evaluated the justification for rating the governance risk and the mitigation on planned activities.	The governance score for this project is 0.1. the audit team checked the documentation and explanation provided on the mitigation plan and found of good quality. The audit team also replicated the estimation through the online available WGI data and found the risk score appropriate.	Risk rate is appropriate.
Natural Risk rating: 1			
Fire (Risk rating 0)	The audit team evaluated the justification for rating the all the natural risk and the actions of mitigation.	Apart from the analysis provided by the PP, the VVB assesses the risk score through independent sources[55] which confirm the	Risk rate is appropriate.
Pest and Disease outbreaks (Risk rating 0)			

[55] http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0038-23532016000600019
https://earthmap.org/?aoi=za&boundary=level0&layers=%7B%22burnedArea%22%3A%7B%22opacity%22%3A1%7D%7D&map=%7B%22center%22%3A%7B%22lat%22%3A-25.455947143826222%2C%22lng%22%3A23.657584058527608%7D%2C%22zoom%22%3A5%2C%22mapType%22%3A%22terrain%22%7D&statisticsOpen=true
https://www.globalforestwatch.org/dashboards/country Data of Region Eastern Cape, Free State, KZN and Mpumalanga
https://www.cifor.org/publications/pdf_files/Books/Nair.pdf
https://www.preventionweb.net/news/helping-africas-farmers-control-climate-induced-pests
https://www.frontiersin.org/articles/10.3389/fevo.2019.00263/full
https://climateknowledgeportal.worldbank.org/country/south-africa/extremes

Risk Rating	PP Justification	Quality of the data and assessment of quality by the VVB	Audit Conclusion
Extreme Weather (Risk rating 1)		appropriateness of the risk scores given for each of the Natural Risk Parameters. Explanation given by in this section found satisfactory.	
Geological Risk (Score 0)			
Overall Risk rating from the report is 18			

The calculation has been verified using the VCS tool, which was used to calculate the non-permanence risk. The calculated overall risk rating was 18%. For the current project activity all the parameters in different risk category are same though project areas are in different regions of South Africa. Therefore, the calculated risk rating will be same for the entire project area. As a result, the value taken into account is according to the suitable tool, and a conservative value has been taken into account for the project.

Also, responding to FAR 01 raised during the validation, The PP has provided justification that the project area is distributed in 4 different regions of South Africa . Climatic condition is the only variable factor for these regions whereas Micro climatic condition does not have any effect on the NPRR. Overall, the project activity is homogeneous in nature. Moreover, given that the same land-use practices and risk management strategies will be implemented in these areas, the existing NPRR remains valid for this project. Hence, the justification provided by the PP supports the applicability of a single NPRR for the entire grouped project. The project maintains homogeneous land-use practices, uniform management strategies, and similar risk factors across all sites, making a single NPRR appropriate and applicable across the project boundary. Hence, the project is in line with section 3.6.19 of the VCS Standard v4.7.

https://www.ier.co.za/what-you-need-to-know-about-earthquakes-in-south-africa/

Kijko, Andrzej & Smit, Ansie & Papadopoulos, Gerassimos & Novikova, Tatyana. (2018). Tsunami Hazard Assessment of Coastal South Africa Based on Mega-Earthquakes of Remote Subduction Zones. Pure and Applied Geophysics. 175. 10.1007/s00024-017-1727-3.

https://thinkhazard.org/en/report/227-south-africa/TS

5 VERIFICATION OPINION

5.1 Verification Summary

4KES conducted the verification of the "Soil Carbon Improvement Project through Grassland Management in South Africa" and confirms that the project is in conformance with the Verified Carbon Standard (VCS) version 4.7, without any limitations. The verification of the GHG statement was carried out in accordance with ISO 14064-3:2019, and the responsibility for the GHG statement rests with WeAct Pty Ltd.

The estimated quantification of the net GHG removals during this monitoring period is free of major misrepresentation and conforms to the verification requirements. This assessment was performed with a fair degree of assurance.

The verification process addressed all relevant issues and criteria of the VCS. The conclusions of this report demonstrate that the project, as described in the monitoring report, aligns with all applicable criteria for verification. The project has been implemented in accordance with the validated project description and any validated variations described in Section 3.1 of this report.

The verification assessment covered the first monitoring period from 01 July 2018 to 31 December 2022 and confirmed that the calculated emission reductions were achieved during this period with a reasonable level of assurance.

Based on the findings, 4KES concludes that the project satisfies all relevant criteria and requirements, and recommends that the project activity be accepted for credit issuance for this monitoring period.

5.2 Verification Conclusion

4K Earth Science Private Limited is able to issue a positive verification opinion for the 984,785 tCO_2e as reported in the monitoring report for the reporting period below. The overall non-permanence risk rating was 18%. Therefore, the total number of credits to be deposited in the buffer account is 178,814 VCUs and the total VCUs to be issued are 805,971 VCUs. The level of assurance for this verification is reasonable with respect to material errors, omissions, and misrepresentations.

The VVB had cross-checked the ranches through site visits and remote sensing and observed an increasing trend in grassland cover following project implementation. A few examples are provided below.:

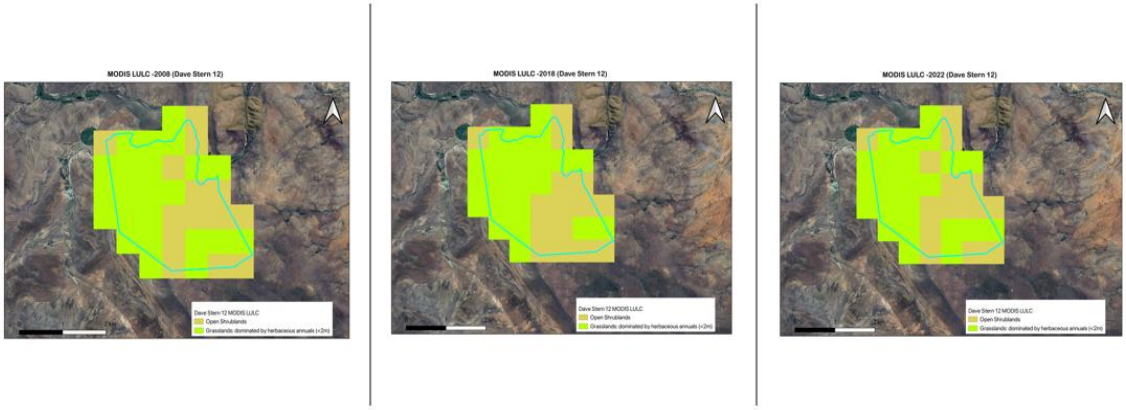


Figure 1: LULC of Dave Stern 12 Ranch (2008 - 18 - 22)

Dave Stern 12: The grassland area decreased from 475.38 ha in 2008 to 454.82 ha in 2018, it increased to 466.61 ha in 2022, maintaining a consistent percentage contribution of around 60%. This resilience highlights the effectiveness of sustainable grassland management in ensuring these ecosystems continue to function as critical carbon sinks.

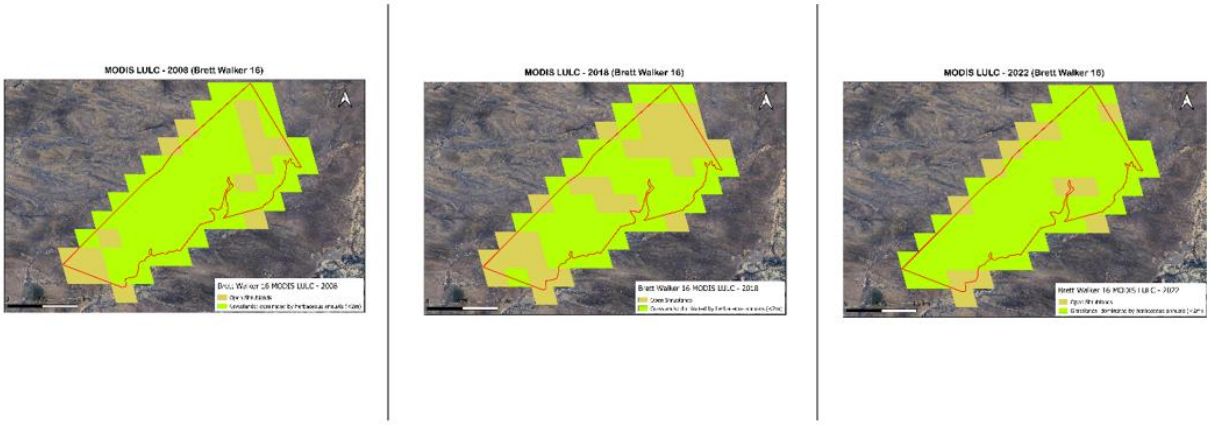


Figure 2: LULC of Brett Walker 16 Ranch (2008 - 18 - 22)

Brett Walker 16: in 2008 the grassland cover was 1,139.21 ha in 2008, which declined to 859.78 ha in 2018. After the project implementation the grassland cover increased to 1,203.69 ha in 2022, indicating a successful intervention in grassland restoration efforts.

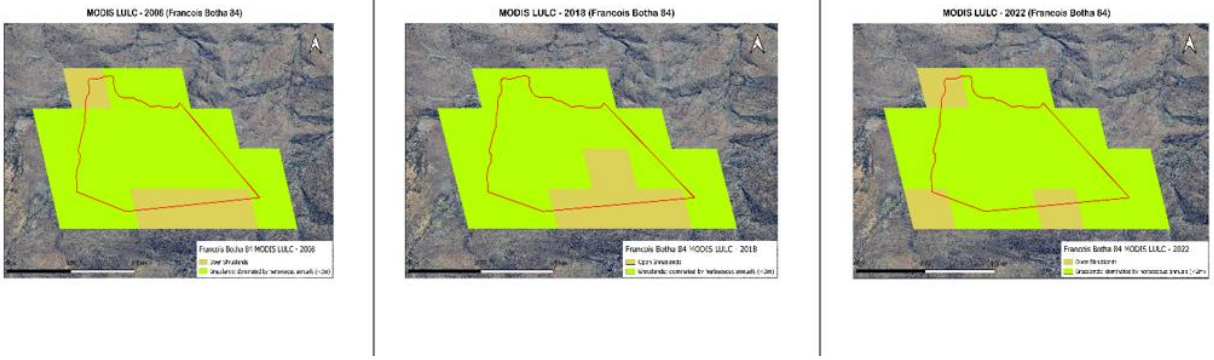


Figure 3: LULC of Francois Botha 84 (2008 - 18 - 22)

Francois Botha 84: Grasslands demonstrated positive growth, increasing from 343.91 ha in 2008 to 365.41 ha in 2022, with a corresponding increase in percentage contribution from 80.00% to 85.00%.

Verification period: From 1-July-2018 to 31-December-2022

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

The non-permanence risk rating (%)	18%
If applicable, the Long-term Average (LTA), whether it has been properly updated, and if it has been reached.	Not applicable
Whether a loss has been appropriately accounted for, in accordance with the VCS Program rules, if applicable.	Not applicable as there is no loss event or reversal for this monitoring period

Vintage period	Baseline emissions (tCO_2e)	Project emissions (tCO_2e)	Leakage emissions (tCO_2e)	Buffer pool allocation (tCO_2e)	Reductions VCUs (tCO_2e)	Removals VCUs (tCO_2e)	Total VCU issuance (tCO_2e)
01-Jul-2018 to 31-Dec-2018	16,557.49	-92,369	0	19,705	-543.65	109,470	89,222
01-Jan-2019 to 31-Dec-2019	32,845.02	-186,701	0	39,847	-1,825.80	221,371	179,699
01-Jan-2020 to 31-Dec-2020	32,935.01	-184,287	0	39,458	-1,988.82	219,211	177,764

01-Jan-2021 to 31-Dec-2021	32,845.02	-186,704	0	39,872	-1,960.69	221,510	179,677
01-Jan-2022 to 31-Dec-2022	32,845.02	-186,697	0	39,933	-2,308.43	221,850	179,609
Total	**148,028**	**-836,757**	**0**	**178,814**	**-8,627.38**	**993,412**	**805,971**

5.3 Ex-ante vs Ex-post ERR Comparison

Vintage period	Ex-ante estimated reductions/ removals	Achieved reductions/ removals	Percent difference	Explanation for the difference
01-Jul-2018 to 31-Dec-2018	111,651	108,927	-2.44%	The difference between ex-ante and ex-post calculations arises due to the methodology applied in each case. Ex-ante calculations are based on projected average values of the monitored parameters, representing an estimate prior to actual project implementation. In contrast, ex-post calculations are derived from actual monitored data collected during the verification period. This approach reflects real-world conditions and provides a more accurate assessment of GHG reductions or removals achieved. The observed difference between the two calculations is minor, as the ex-post data is based on measured and verified parameters. The explanation provided is reasonable and demonstrates a conservative approach, ensuring the integrity and reliability of the reported GHG reductions and removals.
01-Jan-2019 to 31-Dec-2019	221,482	219,546	-0.87%	
01-Jan-2020 to 31-Dec-2020	221,482	217,222	-1.92%	
01-Jan-2021 to 31-Dec-2021	221,482	219,549	-0.87%	
01-Jan-2022 to 31-Dec-2022	221,482	219,542	-0.88%	
Total	997,577	984,785	-1.28%	

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

Section	*Information*	*Justification*	*Assessment method and conclusion*
1.1	Ranch name	Because of privacy issue, veld name should not be included in the public version	VVB found this is appropriate
2.3.5	Benefit sharing	Because of commercial sensitivity and privacy issue, this information can't be published in public version	VVB found this is appropriate
3.1	Ranch name	Because of privacy issue, veld name should not be included in the public version	VVB found this is appropriate
4.3	Under "sampling framework", veld name has been included	Because of privacy issue, veld name should not be included in the public version	VVB found this is appropriate
ER sheet	"PDB_Fertilizer" – Ranch name "PDB_Burning" – Ranch name "PDB_Livestock" – Ranch name and livestock details "PDB_woody perennials"- Ranch name and beneficiary name Veld name and their details in every sheet	Because of commercial sensitivity and privacy issue, this information can't be published in public version	VVB found this is appropriate
Agreements and financial data	Agreement with project participant and PP	Because of commercial sensitivity and privacy issue, this information can't be published in public version	VVB found this is appropriate

APPENDIX 2: LIST OF DOCUMENTS REFERRED

Ref. No	Title of Document	Version	Date
1	VCS Program Guide	4.3	
2	VCS Standard	4.7	
3	VCS Validation and Verification Manual	3.2	
4	VCS Validation report template	4.4	
5	AFOLU Non-Permanence Risk Tool	4.0	
6	VCS Project Description Template	4.2	
7	Project Description (PD)	7	
8	Emission Reductions Calculation Spread sheet for the MP	4	25/07/2025
9	Soil sample analysis sheet		
9	VERRA webpage with global consultation (https://registry.verra.org/app/projectDetail/VCS/2710)		
10	SouthAfrica_Grassland_KMLs_310523_VCS2710		
11	Maps showing location of communities and villages		
12	CDM A/R methodological tool Calculation of the number of sample plots for measurements within A/R CDM project activities	2.1.0	
13	SOP		
14	Website - UN Sustainable Development Goals (www.undp.org)		
15	Non Permanence Risk Analysis Report.doc	3	25/07/2025
16	Grievance Policy		
17	Survey Reports		
18	LULC Report		
19	Vegetation Survey Report		

20	SouthAfrica_Grassland_Shapefile_310523_VCS2710		
21	VCS-Risk-Report-Calculation.xlx		
22	Declaration Fencing completion		
23	PRA reports		
24	Land ownership legal documents		
25	MoU between the PP and Land owners		Updated version submitted on 2/12/2023
26	WeAct Pty Ltd. Website - https://www.weact.com.au/		
27	VCS methodology VM0026 “Sustainable Grassland Management”	1.1	
28	Undertaking for double counting		
29	Stakeholder Consultations minutes of meetings, attendance sheets and photographs		
30	South African Government land use law https://www.gov.za/issues/land-reform https://uk.practicallaw.thomsonreuters.com/6-622-8796?transitionType=Default&contextData=(sc.Default)&firstPage=true https://www.gov.za/documents/labour-relations-act https://www.gov.za/1913-natives-land-act-centenary https://www.gov.za/sites/default/files/gcis_document/201409/a63-010.pdf		
31	Google earth - https://www.google.com/earth		
32	CVs of management team and technical experts		
33	HR policy		
34	Barrier Analysis Risk Report GSC Pty. Ltd		
34	Employment Contract		
35	Training records and photographs		
36	Vegetation survey report		
37	Baseline assessment		

	https://www.weathersa.co.za/Documents/Corporate/Annual%20State%20of%20the%20Climate%202021_04042022114230.pdf Black, W. J. (2023) Historical Woody Change of Strata 18. Pretoria https://www.gov.za/about-sa/geography-and-climate http://fred.csir.co.za/project/tmg/agrohydrology_atlas/atlas_172t.html http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0038-23532022000400017 The physical environment and major vegetation types of Sekhukhuneland, South Africa, SJ Siebert 1,2 *, AE van Wyk1 and GJ Bredenkamp 1, November 2001. South African Journal of Botany, ISSN 0254-6299 https://cer.org.za/wp-content/uploads/2019/01/Phase2.pdf https://www.sciencedirect.com/science/article/pii/S2468227622003970 https://www.gcis.gov.za/content/resourcecentre/sa-info/yearbook2015-16 A short guide to the soils of South Africa, their distribution and correlation with World Reference Base soil groups by Martin V. Fey, School of Earth and Environment, The University of Western Australia, Crawley, WA 6009, Australia, Department of Soil Science, Stellenbosch University, Private Bag X1, Matieland, 7602, South Africa https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428292/ https://agmip-ie.wenr.wur.nl/free-state-s.-africa https://www.sciencedirect.com/science/article/abs/pii/S0169204600000682 https://www.mdpi.com/2071-1050/14/23/16023 http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0006-82412022000100006 World Weather Online		

38	CDM Tool for Estimation of Carbon Stocks and Change in Carbon Stocks of Trees and Shrubs in A/R CDM Project Activities	4.2	
39	Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities, VT0001	3	
40	Global Forest Watch https://www.globalforestwatch.org/		
41	Project area confirmation letter - Landmark Agri Exports Private Limited		02/02/2024
42	Project area Confirmation letter – Terrasight		24/04/2024
43	Software used to validate the project area: 1) Google Earth Engine (EPSG:3857) 2) Google Earth Pro 3) QGIS (EPSG 4326)		
44	WeAct Policy for Commitment to Gender Sensitivity, Non-Discrimination, Anti-Harassment, Employee & Stakeholders Welfare, and Work-Life Balance		Adoption year 2021
45	Policy for Safeguarding Human Rights in the Workplace		01/01/2021
46	Policy for Protection of Rights of Indigenous People and Cultural Heritage		05/07/2023
47	Internal Policy Draft on Environmental Safeguarding, Ecosystem Health, and Protection of Rare, Threatened, and Endangered Species		15/01/2021
48	Policy Review Statement by all the Ranchers included in the first PAI		
49	Annual Survey Reports (of all 22 Ranches) for the MP – 2018 - 2022		
50	Employment Record (of all 22 Ranches) for the MP – 2018 - 2022		
51	Training Records (of all 22 Ranches) for the MP – 2018 - 2022		
52	Statement of health and safety (of all 22 Ranches)		
53	Declarations from each ranch include details of the activities implemented and the areas undertaken for the project. The document also encompasses parameters such as the number of livestock, woody vegetation, fertilizers		

	used, and burning activities for the fiscal years 2013–2022 and rotational grazing management practices		
54	Grievance Record		
55	Soil Carbon Project Improvement Report (The Biodiversity Company)	v2	December 2022
56	Monitoring Report	v5	20/09/2025
57	VCS Monitoring Report Template	v4.4	
58	VCS Verification Report Template	v4.4	
59	VCS Registration and Issuance Process	v4.6	16th Oct 2024
61	Source of the allometric equation used for ex-post woody biomass calculation • Allometric equations for estimating biomass in agricultural landscapes: I. Aboveground biomass https://www.researchgate.net/publication/256295820_Allometric_equations_for_estimating_biomass_in_agricultural_landscapes_I_Aboveground_biomass • Baseline Report Yala and Nzoia River Basins https://apps.worldagroforestry.org/economics_papers/anonymous/WKIEMP/Datasets/Louis%20Verchot/Reports%20for%20KARI/Year%202%20and%203%20deliverables/PDFs/Baseline%20Report%20Yala%20River%20Basin%20final.pdf • https://www.researchgate.net/figure/The-agro-climate-zone-map-of-Kenya-based-on-LGP-classes_fig6_265236048 • Climate and agro-ecological zones of South Africa https://www.fao.org/4/y5998e/y5998e06.htm • https://climateknowledgeportal.worldbank.org/country/kenya/climate-data-historical#:~:text=Kenya's%20average%20annual%20precipitation%20is,is%20the%20productive%20agricultural%20land • https://nccis.environment.gov.za/climate-services/saws-climate-products/maps-and-graphs • https://southafrica.co.za/rainfall-south-africa.html		

	• https://www.researchgate.net/figure/Mean-annual-rainfall-for-the-weather-stations-within-the-three-climatic-regions_fig2_350409353#:~:text=Demlie%2C%202020).-,The%20mean%20annual%20rainfall%20in%20KwaZulu%2DNatal%20ranges%20from%20650,et%20al.%2C%202021)%20 • https://www.researchgate.net/figure/Annual-rainfall-mm-summaries-for-the-stations_tbl1_268458598 • https://www.sa-venues.com/weather/mpumalanga.php#:~:text=Nelspruit%2C%20the%20capital%20city%20of,in%20the%20Kruger%20National%20Park • https://www.britannica.com/place/Free-State • PRA study of the project area and Climate and agro-ecological zones of south Africa https://www.fao.org/4/y5998e/y5998e06.htm and for the study area https://www.researchgate.net/publication/256295820_Allometric_equations_for_estimating_biomass_in_agricultural_landscapes_I_Aboveground_biomass and https://apps.worldagroforestry.org/economics_papers/anonymous/WKIEMP/Datasets/Louis%20Verchot/Reports%20for%20KARI/Year%202%20and%203%20deliverables/PDFs/Baseline%20Report%20Yala%20River%20Basin%20final.pdf • https://www.researchgate.net/figure/Smaller-map-shows-the-location-of-the-Yala-River-Basin-in-western-Kenya-Enlarged-maps_fig1_332327177 • https://www.britannica.com/place/Free-State • https://www.britannica.com/place/Mpumalanga • https://www.britannica.com/place/Eastern-Cape-province-South-Africa • https://en-ie.topographic-map.com/map-l68hf3/KwaZulu-Natal/?center=-26.08935%2C31.0517&zoom=6 • https://verra.org/wp-content/uploads/2023/08/VCS-Methodology-Requirements-v4.4-updated-4-Oct-2023.pdf • https://winrock.org/wp-content/uploads/2018/08/Winrock-AllometricEquationGuidance-2016.pdf?utm		

	• https://annforsci.biomedcentral.com/articles/10.1007/s13595-014-0415-z?utm		
62	Secondary literature to confirm conservativeness of the baseline SOC considered • Dlamini et al. (2014) (Land degradation impact on soil organic carbon and nitrogen stocks of sub-tropical humid grasslands in South Africa) https://www.sciencedirect.com/science/article/abs/pii/S0016706114002870 • Odebiri et al. (2022) (Dissertation: The application of deep learning for remote sensing of soil organic carbon stocks distribution in South Africa) https://core.ac.uk/reader/541929100 • Odebiri et al. (2024) Mapping sub-surface distribution of soil organic carbon stocks in South Africa's arid and semi-arid landscapes: Implications for land management and climate change mitigation https://www.sciencedirect.com/science/article/pii/S2352009424000646 • https://openknowledge.fao.org/server/api/core/bitstreams/b9039c44-16bc-4031-9958-64c83dddb440/content other references checked to build the context and reliability • https://www.researchgate.net/publication/227695493_Rate_of_Carbon_Sequestration_at_Two_Thicket_Restoration_Sites_in_the_Eastern_Cape_South_Africa • https://www.researchgate.net/publication/234071619_Land_use_and_soil_organic_matter_in_South_Africa_1_A_review_of_spatial_variability_and_the_influence_of_rangeland_stock_production_Land_use_and_soil_organic_matter_in_South_Africa_1_A_review_of_spatia • The Impact of Land Degradation on the Quality of Soils in a South African Communal Rangeland https://www.intechopen.com/chapters/50695 • The Impact of Land Degradation on the Quality of Soils in a South African Communal Rangeland https://bsssjournals.onlinelibrary.wiley.com/doi/epdf/10.1111/sum.12790		

	• Identification and mapping of soils rich in organic carbon in South Africa as a climate mitigation option https://www.international-climate-initiative.com/en/iki-media/publication/identification_and_mapping_of_soils_rich_in_organic_carbon_in_south_africa_as_a_climate_mitigation_option/		

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APPENDIX 3: LIST OF FINDINGS

Table 1. CAR from this verification

CAR ID	01	Section no.	A.1 (General Description)	Date: 27/10/2024
Description of CAR				
PP is requested to update the page numbers in the content table.				
Project participant response				**Date:** 07/11/2024
the ToC of the MR has now been corrected.				
Documentation provided by project participant				
Revised MR				
VVB assessment				**Date:** 15/11/2024
The corrections made are fine. The CAR is now closed.				

CAR ID	02	Section no.	A.1 (General Description)	Date: 27/10/2024
Description of CAR				
1. In the description of Section 1.12, the PP has stated that during this MP, contributions to SDGs 15 and 6 have not been quantified and, therefore, are not included in Table 1 of the PD. However, SDG 15 has been included in Table 1. The PP should review this inconsistency and make the necessary corrections in either the description or the table. 2. PP must submit evidence for SDGs 1, 2, and 4. 3. The PP has been implementing project activities in the project area since 2018, as included in the first PAI. How is it possible that there has been no improvement in land quality and quantity and quantity during this time to show SDG's 15 contributions, justify?				
Project participant response				**Date:** 07/11/2024
1. The PD has been revised, and Table 1 now clearly states that contributions to SDG 6 and SDG 15 have not been accounted for in this MP. 2. Evidence for SDGs 1, 2, and 4 has now been submitted. 3. PP has done "Yearly Stakeholder Survey" for qualitative monitoring of this parameter. PP would like to clarify that biodiversity impacts or related effects are generally macroscopic; the changes are expected over the period of time rather than short span like 3-4 years. Therefore, PP shall initiate such survey during the next monitoring cycle; whereas this SDG holds a significant importance at the overall project level hence reported from the first monitoring period itself. From MP2, this parameter will monitor by detail Biodiversity survey.				
Documentation provided by project participant				
Revised MR Evidence – employment records, training records and Annual Stakeholder Survey records				
VVB assessment				**Date:** 15/11/2024

1. The revised PD is fine and the corrections made are okay. The response provided for point 3 is also fine
2. Though PP has submitted evidence, however there are several findings strata wise. Following are the findings:

Set of data

STRATA 1

- There are no training records for Strata 1

STRATA 2

- There is no signature or approval on the employment record submitted. Please check and provide signed agreement.
- Training records is not clear to the VVB. PP must provide a clear and acceptable training record

STRATA 10

- The PP must clarify how an email confirming the date of training can be considered sufficient proof that the trainings were conducted. Additional supporting evidence, such as attendance sheets, training materials, or photographs, should be provided to substantiate the claim.

STRATA 11

There is no annual survey form for Strata 11

There is no employment record

The statement regarding Health and Safety (H&S) has not been provided for this stratum.

The training record submitted is not clear to the VVB. PP must check and clarify how the submitted evidence can be considered as training evidence.

STRATA 13

The PP must clarify how a simple Excel template can be considered a valid employment record for the employees. There should be additional evidence, such as a payment slip, employment contract, or any other formal written proof documenting the relationship between the employee and the employer, which can be deemed acceptable as an employment record.

STRATA 15

No annual survey form submitted

The statement regarding Health and Safety (H&S) has not been provided for this strata.

STRATA 17

Please provide clear details of the employment record.

No attendance sheet has been submitted for the training conducted

STRATA 18

No attendance sheet has been submitted for the training conducted

STRATA 19

No attendance sheet has been submitted for the training conducted

STRATA 20

Strata 21

Training records not provided

Employment record is not clear to the VVB. PP must check and provide evidence which can be deemed acceptable as an employment record.

Strata 22

The PP must clarify how a simple word template can be considered a valid employment record for the employees. There should be additional evidence, such as a payment slip, employment contract, or any other formal written proof documenting the relationship between the employee and the employer, which can be deemed acceptable as an employment record.

STRATA 4

No training and employment record submitted. The submitted evidence as the training and employment record cannot be accepted.

The PP must clarify how the above evidence can be considered valid employment and training records. There should be additional evidence, such as a payment slip, employment contract, or any other formal written proof documenting the relationship between the employee and the employer, photographs, and attendance sheets, which can be deemed acceptable as an employment record.

STRATA 5

No training records submitted

STRATA 6

No employment records submitted

STRATA 7

The PP must clarify how the above evidence can be considered sufficient proof that the trainings were conducted. Additional supporting evidence, such as attendance sheets, training materials, or photographs, should be provided to substantiate the claim.

Strata 8 No annual survey form submitted PP must clarify how the submitted employment evidence confirms that the employment is given as part of the project under the Strata 8 No training record submitted Strata 9 No training records submitted
Project participant response **Date:** 18/11/2024
The PP has provided all the required details Strata wise to the VVB including employment records, training records and annual survey data.
Documentation provided by project participant
Employment records, Training records and Annual Survey data.
VVB assessment **Date:** 11/05/2024
The PP has submitted the required details and records. The CAR is now closed.

CAR ID	03	**Section no.**	2.1.1	**Date:** 27/10/2024
Description of CAR				
1. PP must elaborate the process of used to identify stakeholders likely impacted by the project. PP should include the detailed information given in section 2.1.1 of the registered PD.				
Project participant response				**Date:** 07/11/2024
The corrections has now been made in the revised MR.				
Documentation provided by project participant				
Revised MR				
VVB assessment				**Date:** 15/11/2024
The correction made is okay. The CAR is now closed.				

CAR ID	04	**Section no.**	2.1.2	**Date:** 27/10/2024
Description of CAR				
1. PP has referred to wrong Appendix of the MR for Stakeholder consultation details. PP must check and make required corrections. 2. How can a consultation be documented solely through emails and phone calls? The PP must have maintained proper records of the consultations. The PP is required to submit evidence to substantiate the same. Also, PP is requested to re-submit the stakeholder consultation/PRA reports for verification. 3. PP is must submit the copy of attendance register for stakeholders meeting 4. For the Stakeholder Inputs - the details added are not in line with the requirements of the parameter. Per the requirement “describe how due account was taken of all input received during the consultation. Include details on any updates to the project design or justify why updates were not necessary or appropriate.” PP must check section 2.1.2 of the applied template and add all the required details.				
Project participant response				**Date:** 07/11/2024

1. The corrections have been incorporated into the revised MR. 2. The description has been updated to include details on how consultations were documented in the revised MR. 3. Copies of attendance sheets, stakeholder reports, PRA, and photographs have been submitted to the VVB. These documents were also shared with the VVB during validation. 4. The stakeholder inputs row has been revised to align with the requirements of Section 2.1.2 of the MR template.
Documentation provided by project participant
Revised MR Copies of stakeholder consultations attendance sheets, stakeholder reports, PRA, and photographs
VVB assessment **Date:** 15/11/2024
The corrections made in the PD and supporting evidence submitted are fine. The CAR is now closed.

CAR ID	05	**Section no.**	2.1.3	**Date:** 27/10/2024
Description of CAR				
1. The details added are not in line with the requirements of the parameter. Per the requirement "Describe how consent was obtained from those concerned, including IPs, LCs, and customary rights holders, and a transparent agreement is reached. Describe any ongoing or unresolved conflicts and demonstrate that the project does not exacerbate nor influence the outcomes of unresolved conflicts." PP must check section 2.1.3 of the applied template and add all the required details. 2. PP has mentioned that "project implementation will not impact local stakeholder's property rights without free, prior and informed consent". PP is requested to provide evidence in support of this statement.				
Project participant response				**Date:** 07/11/2024
1. The description has been updated to include details on how consent was obtained from those concerned, including IPs, LCs, and customary rights holders, and a transparent agreement is reached. 2. Official declaration has been submitted by PP				
Documentation provided by project participant				
Revised MR Official declaration has been submitted by PP				
VVB assessment				**Date:** 15/11/2024
The corrections made in the MR and supporting evidence submitted are fine. The CAR is now closed.				

CAR ID	06	**Section no.**	2.2.1	**Date:** 27/10/2024
Description of CAR				
The details added are not in line with the requirements of the section. Per the requirement "Demonstrate that management teams have expertise or experience in implementing similar project activities and engaging communities. Where relevant experience is lacking, demonstrate how the project proponent has partnered with other organizations to support the project or have a recruitment strategy to fill the identified gaps. If a new entity is now involved in project design or implementation, demonstrate the management experience of such entities." PP must check section 2.2.1 of the applied template and add all the required details.				
Project participant response				**Date:** 07/11/2024
Section 2.2.1 has now been completely revised in line with the requirements of section 2.2.1 of the MR.				

Documentation provided by project participant	
Revised MR	
VVB assessment	**Date:** 15/11/2024
The corrections made in the MR are now in line with the section 2.2.1 of the MR requirements. The CAR is now closed.	

CAR ID	07	**Section no.**	2.2.2, 2.3.1, 2.3.2, 2.3.3, 2.3.4, 2.3.5 and 2.4	**Date:** 27/10/2024
Description of CAR				
PP must submit evidence for all the claims made in section 2.2.2 of the MR				
Project participant response				**Date:** 07/11/2024
PP has now submitted the supporting evidence.				
Documentation provided by project participant				
1. Commitment to Gender Sensitivity, Non-Discrimination, Anti-Harassment, Employee & Stakeholders Welfare, and Work-Life Balance 2. Policy for Safeguarding Human Rights in the Workplace 3. Policy for Protection of Rights of Indigenous People and Cultural Heritage 4. Internal Policy Draft on Environmental Safeguarding, Ecosystem Health, and Protection of Rare, Threatened, and Endangered Species 5. Policy Review Statement				
VVB assessment				**Date:** 15/11/2024
the policy documents submitted by the PP are fine and are sufficient to substantiate the claims made from sections 2.2.2 – 2.4. the CAR is now closed.				

CAR ID	08	**Section no.**	2.3.5	**Date:** 27/10/2024
Description of CAR				
1. The details added are not in line with the requirements of the section. Per the requirement "Describe the benefit sharing plan. If stakeholders re-negotiated or opted out of the plan during the monitoring period, describe any changes to the benefit sharing plan. Where affected stakeholder groups wish to keep elements of the plan private, provide the full plan as a commercially sensitive document. The project proponent must demonstrate that the community wishes to keep this information private, where relevant" PP must check section 2.3.5 of the applied template and add all the required details. 2. According to the agreement signed between the ranchers and the PP, a benefit-sharing arrangement has been established regarding credits and other resources between the PP and the landowners. The PP must review the terms and conditions outlined in the agreement and include all required details in accordance with the specified template. If the PP intends to classify certain information as commercially sensitive, it must clearly indicate this in this section and include it in Appendix 1 as well. PP must include all the required details per the section's requirements.				
Project participant response				**Date:** 07/11/2024
1. MR has now been updated in line with the MR template requirements. The required details are now been added. 2. The detailed BSM agreed both by the PP and the land owners has now been added in the updated MR.				
Documentation provided by project participant				

Revised MR	
VVB assessment	**Date:** 15/11/2024
Per the section's requirements, PP must clarify "If stakeholders re-negotiated or opted out of the plan during the monitoring period, describe any changes to the benefit-sharing plan. PP must add the same clarification in the section.	
Project participant response	**Date:** 18/11/2024
MR has now been updated and it is now included that the stakeholders does not re-negotiated or opted out of the plan during the current monitoring period. There are no changes to the benefit-sharing plan.	
Documentation provided by project participant	
Revised MR	
VVB assessment	**Date:** 23/11/2024
The updated MR is fine and the CAR is now closed.	

CAR ID	09	**Section no.**	2.4	**Date:** 27/10/2024
Description of CAR				
Per the section's requirement, PP must clarify and provide evidence that the project area was not cleared of existing ecosystems, unless such clearing took place at least 10 years prior, or the dominant land cover was invasive. PP must include this description and evidence in this section.				
Project participant response				**Date:** 07/11/2024
PP has now explained that project area was not cleared of existing ecosystems, unless such clearing took place at least 10 years prior to the start of the project. LULC shapefiles and KML of the project area evidence submitted to support the claim				
Documentation provided by project participant				
Revised MR KML LULC Shapefiles				
VVB assessment				**Date:** 15/11/2024
The revisions made in the MR are fine. The supporting evidence submitted are sufficient to substantiate the claims. The CAR is now closed.				

CAR ID	10	**Section no.**	3.1	**Date:** 27/10/2024
Description of CAR				

Although the PP has listed the implementation across all strata, it has not provided the required details as per the specified template. According to the section's requirements, the PP must include the following information: For AFOLU projects: • If no new project activities have been implemented during the current monitoring period, demonstrate that previously implemented project activities continued during this period. If this is not applicable, the PP must provide clarification. • Report any loss of carbon stock that occurred during the monitoring period. This should include the date of the loss(es), date of discovery, size (hectares impacted), and extent (tCO_2e) of the loss. Specify whether the loss meets the definition of a loss event and/or reversal. The PP must justify how the project meets VCS requirements related to loss events and reversals. If this situation does not apply to the project, the PP must clarify this as well.
Project participant response **Date:** 07/11/2024
MR has now been updated in line with the MR template requirements. The required details are now been added.
Documentation provided by project participant
Revised MR
VVB assessment **Date:** 15/11/2024
The revisions made in the MR are fine and in line with the requirements if section 3.1 of the MR template. The CAR is now closed.

CAR ID	11	**Section no.**	4.1	**Date:** 27/10/2024
Description of CAR				
PP must submit evidence for the following: 1. Documented management records 2. SOC lab report				
Project participant response				**Date:** 07/11/2024
For all the 22 Strta PP has submitted 1. Annual survey reports 2. SOC lab				
Documentation provided by project participant				
1. Annual survey reports 2. SOC lab				
VVB assessment				**Date:** 15/11/2024
The submitted documents are fine, the starta-wise finding has been raised in CAR 2. Once the CAR 2 is closed this finding too will be closed.				

CAR ID	12	**Section no.**	4.1	**Date:** 27/10/2024
Description of CAR				

1. PP has considered values of PEGHGMD,t, PRWPt, and PRt for 4.5 years i.e., total values divided with the Total yera. While the same approach has not been used for the values of PEN2OSN,t, PEGHGBB,t and PECH4EF,t. PP must check and clarify the same.
2. In the submitted ERR sheet, the final ERR estimate for the MR is unclear. The PP has included the following three sub-sheets for the final ERR estimations:

    1. Emission Removal_MR
    2. MR
    3. Project Emission Removals

This creates confusion for the reader regarding which sheet to refer to for the final value. The PP must consolidate the ex-post quantification into a single, comprehensive final sheet for the Monitoring Period to ensure clarity and transparency for the reviewer.

Project participant response	**Date:** 07/11/2024

3. Rectified in the MR
4. In the ER, sheet name updated. Sheet named “Ex-post Emission Removal” is the final sheet of ER quantification for this MP

Documentation provided by project participant
Revised MR and ERR sheets

VVB assessment	**Date:** 15/11/2024

1. PP must clearly specify the following:
    a. The exact changes made to the ERR sheet.
    b. The parameters and values that have been updated.

    PP is requested to avoid providing an unclear response that requires the VVB to continually investigate what has been done.PP has not added the values for Reduction VCUs has not been added in the “Ex-post Emission Removal” sub-sheet.
2. The corrections made are okay.

Project participant response	**Date:** 07/11/2024
In MR version 1, PP mentioned the average value for PEGHGMD,t, PRWPt, and PRt. For PEN2OSN,t, PEGHGBB,t and PECH4EF,t mentioned total value. Now in MR version 2, under heading “total “ PP included total value for all parameters. There is no change in ER sheet. Calculation is based on the total value.	

Documentation provided by project participant
Revised ERR sheet

VVB assessment	**Date:** 15/11/2024
The response made by the PP is okay. The CAR is now closed.	

CAR ID	13	**Section no.**	5.4	**Date:** 27/10/2024
Description of CAR				

1. PP has included 18% in the loss event row which is not the case. This loss is not due to a loss event. The ERR value is due to the removal of buffer value that has been estimated by the PP using the NPRR tool. PP must heck the definition of “loss event” per the “VCS definition document, v4.4” and make required corrections. Additionally, Check the value of buffer per the revised ERR sheet and make the required corrections in the table 2. The ERR values must be updated in line with CAR 10. Also, PP must include 3. Check the value of buffer per the revised ERR sheet and make the required corrections in the table
Project participant response **Date:** 07/11/2024
1. The corrections have now been made in the MR. 2. The ERR values have been revised in accordance with the corrections made in the Ex-post ER sheet, in line with CAR 10. 3. The buffer value has been corrected, and the buffer tCO2e values have also been updated.
Documentation provided by project participant
Revised MR and ERR sheets
VVB assessment **Date:** 15/11/2024
The changes made by the PP for 1 and 2 are okay. However, point 3 finding will be closed once the NPRR is updated per NPRT v4.2

CAR ID	14	**Section no.**	Appendix 1	**Date:** 27/10/2024
Description of CAR				
The PP has not included all the documents communicated to the VVB in the commercially sensitive list. The PP must review and ensure that all reports shared with the VVB are included in the commercially sensitive list. e.g., carbon agreements financial data BSM agreement				
Project participant response				**Date:** 07/11/2024
4. The corrections have now been made in the MR. 5. The ERR values have been revised in accordance with the corrections made in the Ex-post ER sheet, in line with CAR 10. 6. The buffer value has been corrected, and the buffer tCO2e values have also been updated.				
Documentation provided by project participant				
Revised MR and ERR sheets				
VVB assessment				**Date:** 15/11/2024
The changes made by the PP for 1 and 2 are okay. However, point 3 finding will be closed once the NPRR is updated per NPRT v4.2				

CAR ID	15	Section no.	Appendix 1	Date: 27/10/2024
Description of CAR				
Per the revised guidelines of the VERRA, any submission of registration or verification request must apply Version 4.2 of the NPRT. However, PP has not updated the same. PP must update the same and submit the revised NPRT report to the VVB for verification.				
Project participant response				**Date:** 19/02/2025
This is to inform you that our project is eligible to apply NPRT 4.0 as per the clarification published by VERRA on 18 February 2025 (https://verra.org/wp-content/uploads/2025/02/Clarification-to-Verra-Program-Rules-and-Requirements-AFOLU-NPRT-v4.pdf). Hence, no corrections has been made				
Documentation provided by project participant				
NA				
VVB assessment				**Date:** 19/02/2025
Per the revised clarification published by VERRA on 18 February 2025 (https://verra.org/wp-content/uploads/2025/02/Clarification-to-Verra-Program-Rules-and-Requirements-AFOLU-NPRT-v4.pdf, this project can still apply the NPRT v4, considering the project is requesting verification approval for a verification period that includes vintages of 2022 and earlier only. The CAR is now closed.				

APPENDIX 3: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Certificate of Competence		
Name	☒ Mr. ☐ Ms.	**Ma Paa Puratchikkanal**
Qualification Procedure		*Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.*

Appointed to work as:

	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
Appointed	Yes	Yes	Yes	Yes	Yes	No
Appointed Date	29-07-2019					

Authorized to work as Technical Expert for:

Authorized Technical Area	Sectoral Scope	TA Code	Technical Area within the scope
	Energy industries (renewable - / non-renewable sources)	1.1	Thermal energy generation
	Energy industries (renewable - / non-renewable sources)	1.2	Renewables
	Energy demand	3.1	Energy demand
	Construction	6.1	Construction
	Waste handling and disposal	13.1	Solid waste and wastewater
	Agriculture	15.1	Agriculture

Authorized to work as Local Expert for:			
Country/Countries	India		
Compliance check by: Anand S. R.			

Certificate of Competence

Name	☒ Mr. ☐ Ms.	Pfano Ramukhithi
Qualification Procedure	*Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.*	

Appointed to work as:

	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
Appointed	No	No	Yes	Yes	No	No
Appointed Date	18-05-2022					

Authorized to work as Technical Expert for:

Authorized Technical Area	Afforestation and reforestation	14.1	Afforestation and reforestation

Authorized to work as Local Expert for:

Country/Countries	South Africa

Compliance check by: Anand S.R.	

Certificate of Competence

Name	☐ Mr. ☒ Ms.	**Zainab Hassan**
Qualification Procedure		*Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.*

Appointed to work as:

	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
Appointed	No	No	Yes	Yes	No	No
Appointed Date	29-07-2019					

Authorized to work as Technical Expert for:

Authorized Technical Area	Afforestation and reforestation	14.1	Afforestation and reforestation

Authorized to work as Local Expert for:

Country/Countries	India

Compliance check by: Anand S.R.	

Certificate of Competence

Name	☒ Mr. ☐ Ms.	Chetan Swaroop Sharma
Qualification Procedure		*Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.*

Appointed to work as:

	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
Appointed	Yes	Yes	Yes	Yes	Yes	No
Appointed Date	29-07-2019					

Authorized to work as Technical Expert for:

	Sectoral Scope	TA Code	Technical Area within the scope
Authorized Technical Area	Energy industries (renewable - / non-renewable sources)	1.1	Thermal energy generation
	Energy industries (renewable - / non-renewable sources)	1.2	Renewables
	Energy demand	3.1	Energy demand
	Waste handling and disposal	13.1	Solid waste and wastewater

Authorized to work as Local Expert for:

Country/Countries	India

Compliance check by: Anand S. R.	