



American Carbon Registry (ACR)
Tennessee Nature Conservancy/UT AgResearch Working Woodlands Project
Verification Report

Offset Project Name:	Tennessee Nature Conservancy/UT AgResearch Working Woodlands Project
ACR Project ID	ACR579
American Carbon Registry Standard	ACR Standard v6.0
Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands	Version 1.3
Reporting Period:	26 November 2019 – 21 August 2020
Aster Global Project Number:	20059.00
Report Date:	25 August 2022

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1 Executive Summary

Aster Global Environmental Solutions, Inc., (Aster Global) prepared this verification report in accordance with the outlined requirements of the American Carbon Registry's (ACR) Standard. Aster Global presents verification findings of the *Tennessee Nature Conservancy/UT AgResearch Working Woodlands Project* (hereafter, referred to as "*Project*") – prepared by The Nature Conservancy (hereafter referred to as "*Project Proponent*"). The project verification was conducted as part of ACR's program requirements for GHG offset projects.

By ACR definition, the project is considered an improved forest management project (IFM). Project lands are located within Franklin, Anderson, Morgan, and Scott Counties in Tennessee. As stated in Section A5 of the GHG Plan, the projects goals are to "provide solutions and opportunities through teaching, discovery, and service; improve forest conditions and generate revenues through forest management; support sustainable, nature-based economies, jobs, and provide other ecosystem services, protect water quality and enhance wildlife; provide natural climate solutions through forest carbon sequestration and other services."

The GHG Project Plan validation and implementation verification included carbon sequestered through IFM on approximately 11,363.8 acres on non-contiguous tracts. The project asserts net emission reductions of 136,682 MtCO_{2e} for the reporting period (26 November 2019 – 21 August 2020) and 917,572 MtCO_{2e} over the first crediting period from 26 November 2019 to 25 November 2039.

The validation/verification objective included an assessment of the likelihood that implementation of the planned GHG project would result in the GHG emission removal/ enhancements as stated by the project developer (ISO 14064-3:2006). The objective was to ensure that the project complied with the ACR Standard, the ACR Validation and Verification Standard, and the selected methodology criteria. Aster Global assessed the GHG emission reductions of the IFM project.

Aster Global confirms all validation and verification activities, including objectives, scope and criteria, level of assurance, the GHG Project Plan's adherence to the ACR Standard, and MR adherence to the validated GHG Project Plan, as documented in this report, are complete. Aster Global concludes without any qualifications or limiting conditions that the *Project* meets the requirements of ACR.

The GHG assertion provided by the University of Tennessee and verified by Aster Global has resulted in the net GHG emission reductions of 136,682 MtCO₂ equivalents by the project during the verification period/reporting period (26 November 2019 – 21 August 2020).

2 Introduction

This validation /verification report is prepared in accordance with the outlined requirements of the American Carbon Registry’s (ACR) Standard. Aster Global presents validation and verification findings of the *Project* – prepared by the *Project Proponent*. The project validation and verification were conducted as part of ACR’s program requirements for GHG offset projects (Improved Forest Management). Aster Global is accredited by the American National Standards Institute under ISO14065:2013 for greenhouse gas validation and verification bodies including ISO 14064-3:2006, ISO 14065:2013, and validation/verification of assertions at the project level for Land Use and Forestry (Group 3) and is approved to validate/verify for ACR.

The GHG Project Plan validation and implementation verification included carbon sequestered through IFM on non-contiguous tracts spanning 11,363.8 acres. The project asserts net emissions reduction of 136,682 MtCO₂e for the first monitoring period (26 November 2019 – 21 August 2020).

2.1 Contact Information – Roles and Responsibilities

Project Owner / Project Proponent:	Cynthia Nichols, AgResearch Business Officer and Budget Director Phone: (865) 974-7122 Email: cnichols@utk.edu
Accredited V/V Body:	Aster Global Environmental Solutions, Inc. 3800 Clermont St NW North Lawrence, Ohio 44666
	Shawn McMahon-Lead Validator/Verifier
	Caitlin Sellers-Senior Internal Reviewer
	Mansfield Fisher-Team Member
	Taek Joo Kim-Team Member
	Matthew Campbell-Team Member / Trainee
	Sandesh Shrestha-Team Member / Trainee
	Caris Lyons-Team Member / Trainee
	Matthew Perkowski-Team Member
	Janice McMahon-QA/QC

2.2 Project Description

By ACR definition, the *Project* is considered an improved forest management (IFM) project. Project lands are located within Anderson, Franklin, Morgan, and Scott Counties, Tennessee. As stated in Section A6 of the GHG Plan, the projects goals are:

- “1. Maintenance, restoration, and enhancement of the biological diversity, water quality, and ecological integrity of the UT Forest Resources AgResearch and Education Center through employment of long-term, sustainable forest management practices.
2. Meeting the requirements for FSC Certification and adhering to UT FRREC objectives pertaining to forest and land management.

3. Generation of revenues from sustainable production of forest products, including timber, recreation access, clean water, and carbon sequestration.
4. Sharing lessons learned and fostering future forest management innovation by establishing the Property as a working demonstration for ecologically-based land management, applied research, and educational outreach.
5. Establishment and fostering of positive, viable collaborations with other partners, researchers, and stakeholders to achieve individual and common objectives on a macro scale.
6. Contribution to local economies through creation and preservation of forest jobs, forest products, and compatible nature-based activities, including, but not limited to, outdoor recreation, as well as supporting local economic diversification through revenues generated therefrom.” The baseline scenario is a continuation of common practice forestry in the area which includes even-aged management using clearcuts.”

2.3 Objective

The GHG Project Plan validation/verification objective included an assessment that the implementation of the GHG *Project* resulted in the GHG emission removals/enhancements, as stated by the project developer (ISO 14064-3:2006). The objective was to also ensure the *Project* was in compliance with the ACR Standard and that Aster Global met the ACR Validation and Verification Standard criteria.

2.4 Criteria

The criteria followed by Aster Global included ISO 14064-3, ISO 14065, and the verification guidance documents provided by ACR located at <https://americancarbonregistry.org/carbon-accounting/standards-methodologies>. These documents included:

- *ACR Carbon Registry Standard (v6.0)*
- *ACR Validation and Verification Standard (v1.1)*
- *Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands (v1.3)*
- *ACR Tool for Risk Analysis and Buffer Determination v1.0*

2.5 Scope

The scope of the validation/verification generally included the GHG Plan and Monitoring Report; eligibility criteria of the methodology; GHG project implementation scenario; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHGs; and time periods covered. The geographic scope was defined by the project boundary, which included the carbon reservoir types, management activities, growth and yield models, inventory program, and contract periods. The scope of the *Project* is defined below.

Baseline Scenario	The baseline scenario represents a baseline management scenario that reflects what the university would be more likely to implement to meet increased financial needs over the 20-year baseline period. NPV is analyzed using a 4% discount rate. Baseline practices involve clearcuts.
Activities/ Technologies/ Processes	Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands version 1.3
Sources/Sinks/ Reservoirs	Carbon Pools: Above-ground biomass Below-ground biomass Standing dead wood Harvested wood products Sources: Burning of biomass Market Leakage
GHG Type	CO ₂
Project Location	Anderson, Franklin, Morgan, and Scott Counties, Tennessee
Project Boundary and Time Period	11,363.8 forested acres spanning four counties in Central and Eastern Tennessee Project Start Date: 26 November 2019 Project Crediting Period: 26 November 2019 – 25 November 2039 Verification Period: 26 November 2019 – 21 August 2020

2.6 Level of Assurance

The level of assurance was used to determine the depth of detail that the verifier (Aster Global) placed in the Verification and Sampling Plan to determine if there were any errors, omissions, or misrepresentations (ISO 14064-3:2006). Aster Global selected samples of data and information to be verified to provide *reasonable* assurance and to meet the materiality requirements of the project (ACR Validation and Verification Standard). ACR considers verification to be a risk-based process, where the verifier examines a sufficient amount of data and uses the verifier's professional judgment to provide a *reasonable* assurance.

2.7 Materiality

Materiality is a concept that the individual or aggregation of errors and omissions which could affect the GHG assertion and the decisions of the intended users. Materiality was also used as part of the Verification and Sampling Plan design, to determine the type of verification processes used by Aster Global to minimize the risk of not detecting a material misstatement. ACR's materiality threshold is +/-5% of the GHG project's emission reductions or removal enhancements. In other words, ACR requires that any differences between emission reductions/removals claimed by the *Project Proponent* and estimated by the verifier be immaterial (less than +/- 5%). Individual or

aggregation of errors or omissions greater than the ACR materiality threshold of +/-5% require re-stating before verification statements can be accepted by ACR.

$$\% \text{ Error} = \frac{\text{Project Emission Reduction Assertion} - \text{Verifier Emission Reduction Recalculation}}{\text{Verifier Emission Reduction Recalculation}} \times 100$$

For this Monitoring Period, the calculation is as follows:

Materiality Threshold	
Contributions to Offset Materiality by Type (mTCO₂e):	
Total reported GHG Emission Reductions	136,682
<i>Project Emission Reduction Assertion</i>	136,682
<i>Verifier Emission Reduction Assertion</i>	136,682
[(136,682– 136,682)/ 136,682] *100	0.00%
% Error	0.00%

As the percent error was less than 5%, the Offset Verification Team confirms there is no offset material misstatement. The Issues Log, containing all information for determination of the offset material misstatement, has been compiled and is attached as Appendix A.

A quantitative uncertainty assessment was performed as required by ACR. This involved an examination by the audit team where reported uncertainty typically specifies a quantitative estimate of the likely difference between or dispersion among reported values, and a qualitative description of the likely causes of said differences. The major sources of quantitative uncertainty assessed by the audit team included:

- Estimation or model: quantification methods and mathematical equations;
- Parameter: quantifying parameters in method (emission factor, activity data);
- Systematic: estimation bias (e.g., non-representative data, faulty equipment);
- Statistical: random variability of sample data

Quantitative uncertainty was primarily evaluated through independent data checks of the proponent’s quantification materials. No differences were found using this method of quantitative uncertainty assessment. Please see Section 4.6.8 of this report where the impacts of Total Project Uncertainty (UNC_t) are reported. The audit team found no differences or discrepancies in ERT issuance.

Related to the uncertainty assessment, the audit team also evaluated; “whether the project data and information supporting the GHG assertion were based on assumptions and industry defaults, future projections, and/or actual historical records (ACR Validation and Verification Standard v. 1.1 Chapter 12). It was determined that the project data and information supporting GHG assertions were of high quality. The project was confirmed to have adopted a sensible and appropriate approach to grow forward the inventory. Industry defaults were in line with the audit team’s

expectations (e.g., CO₂ to Carbon biomass conversion factor of 3.664) and approved IFM methodology.

2.8 Validation and Verification Body's QA/QC System

As an accredited VVB by the ANSI National Accreditation Board (ANAB) under ISO 14064-3 and 14065, Aster Global developed the Aster Global Management Systems Manual which provides the procedures, conditions, requirements, and specifically the QA/QC procedures under which Aster Global conducts validations and verifications. For this project specifically, Janice McMahon was responsible for all QA/QC for the project. Additionally, Caitlin Sellers was designated as the Senior Internal Reviewer for this project. The Senior Internal Reviewer conducted a full review of all activities performed by the audit team during the course of the joint validation and verification to ensure the audit team followed all procedures that are outlined in the Aster Global Management Systems Manual.

3 Validation Process and Findings

3.1 Validation Process

The validation process closely followed the guidance provided by The American Carbon Registry Standard, the ACR Validation and Verification Standard, ISO14064-3, ISO 14065, and the Aster Global Management Systems Manual.

As defined by ISO 14064-3:2006 (E), “validation is the systematic, independent and documented process for the evaluation of a greenhouse gas assertion in a GHG project plan against agreed validation criteria.” Specifically, the project validation included the review of the requirements outlined in the ACR Standard. The assessment included the following items: eligibility criteria, baseline approach, additionality, project boundary, emissions, leakage, selected methodology, data and parameters, monitoring plan design, the process of uncertainty determination and environmental impacts.

3.2.1 ACR Standard Requirements/Eligibility

The project was found to be in compliance with ACR's project eligibility requirements set forth in ACR's Standard. Specifically, the GHG Project Plan outlined and described the following aspects of the project:

- The project started 26 November 2019, which is after the earliest allowable start date of 01 January 2000.
- The *Project Proponent* commits to a minimum project term of 40 years, meeting the ACR project term requirement.
- Only direct emission mitigation is counted.
- Ownership of offsets is clear.
- Ownership titling of land is clear.
- Project lands are eligible because they are eligible to be harvested by the *Project Proponent*.

- Project lands meet the definition of “forestland.”

3.2.2 Approved Methodology

The project utilized the following methodology and tools: Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, version 1.3; and the ACR Tool for Risk Analysis and Buffer Determination, version 1.0.

Aster Global confirms that the project meets the applicability requirements of the methodology under which the project was validated and verified:

- The project occurs on non-federal U.S. forestlands.
- There is clear title to land and timber rights.
- There is clear title to offsets.
- The project area is able to be harvested by the *Project Proponent*.
- The project area meets the definition of Forestland.
- The project area is currently FSC certified (although this did not occur within 1-year of the project start date, FSC certification occurred prior to the end of the validation/verification. This was confirmed to be acceptable to ACR)

3.3 Validation Findings and Conclusions

During initial validation, the Aster Global team identified non-conformity reports (NCRs) and clarifications (CL). All were addressed satisfactorily by the *Project Proponent* during the project validation process. These NCRs and CLs provided needed clarity to ensure that the GHG Project Plan was in compliance with ACR’s Standard. Methodological equations and computational approach for uncertainty were examined and confirmed to be consistent with the detailed requirements of the methodology for the baseline and project scenarios and overall project computations.

The complete list of validation findings and resolutions has been compiled and located in Appendix A.

Aster Global confirms all validation activities including objectives, scope and criteria, level of assurance, and the GHG Project Plan’s adherence to the ACR Standard, as documented in the Validation Report, are complete. Aster Global concludes without any qualifications or limiting conditions that the Project meets the requirements of ACR’s Standard.

4 Verification Process, Findings, and Conclusions

The verification process closely followed the guidance provided by ACR Standard, the Validation and Verification Standard, ISO14064-3 and ISO 14065, and the Aster Global Management System and Management System Manual, Section V.03.

As defined by ISO 14064-3:2006 (E), “verification is the systematic, independent and documented process for the evaluation of a greenhouse gas assertion in a GHG project plan against agreed verification criteria”. Specifically, the project verification included the review of the requirements outlined in the ACR Standard. The assessment included the following items: project boundary,

emissions, leakage, quantification of GHG reductions/removals, monitoring, data and parameters, and adherence to the project-level principals (relevance, completeness, uncertainty, accuracy, precision, and conservativeness).

Aster Global's verification was generally broken down into four parts: desktop assessment, site visit, quantitative review, and meetings/interviews.

4.1 Desktop Assessment

Aster Global reviewed the Monitoring Report to assess conformance with the requirements of the ACR Standard. Key factors that impacted the reported emissions reductions were identified, and a Verification and Sampling Plan was created to focus on the critical elements presenting potential risk for errors in reported data. These elements included:

- Implementation of appropriate and adequate approach to project boundary definitions, by reviewing documentation of project boundaries and ownership status, and field conditions relative to clearly delineated ownership extents and control over management activities within the project area.
- Implementation of appropriate and adequate approach to baseline emissions calculations, by reviewing documentation and field conditions which reflect the most-likely without-project scenario and the emissions resulting from that scenario.
- Implementation of appropriate and adequate approach to inventory calculations and modeling, by reviewing documentation, reviewing conversion factors, and re-running selected calculations and modeling
- Implementation of appropriate and adequate monitoring, by confirming the application of approved/acceptable monitoring practices in the field, and the appropriate handling and analysis of field data once collated.
- Implementation of appropriate and adequate approach to data and parameters, by reviewing data handling practices, and reviewing documentation at each step of the data analysis procedure.
- Implementation and adherence to project-level principles, by reviewing documentation and discussing the application of project-level principles with core staff.

A complete list of documents received and reviewed is located in Appendix B.

4.2 Site Visit

Following the initial desk review, Aster Global conducted an on-site assessment of the project lands on 21-25 September 2020. The site visit was used to review project records with representatives of the *Project Proponent*, discuss the calculation of carbon pools and sinks, visit random portions of the ownership for reconnaissance and ground-truth of the submitted data, and confirm the monitoring approach. The verification sample size of 11 plots included approximately 8% of the total inventoried plots.

During the site visit, the following plots were selected for remeasurement as part of field verification:

Plots Visited	Stratum
6	Cumberland North
22	Cumberland North
34	Cumberland North
60	Cumberland South
83	Cumberland South
84	Cumberland South
96	Cumberland South
107	Oak-Ridge
115	Oak-Ridge
118	Oak-Ridge
127	Oak-Ridge

Field review included the following aspects:

- Accuracy of plot locations, including any plot relocation or dropping.
- Adherence to stratification rules outlined by the project’s documentation.
- Adherence to plot measurements methods outlined by the project’s documentation and alignment with common professional practice.
- Boundary delineation.
- Feasibility of the baseline scenario.

The plot remeasurements made by Aster Global were utilized to calculate carbon on the applicable pools. This was compared to the project’s carbon stocks in a paired two sample t-test for means. The t-test provided evidence that the mean carbon stocking value produced by the *Project Proponent* on the eleven sample plots was not statistically dissimilar to the mean carbon stocking value produced by Aster Global on the same plots. The entirety of the site visit paired with the desk review provided *reasonable* assurance that the carbon inventory was implemented in an acceptable and accurate manner.

4.3 Quantitative Review

Aster Global focused on the quantitative analyses undertaken by the *Project Proponent* to assess the carbon pools accounted for by the project (above-ground biomass, below-ground biomass, standing dead wood, and harvested wood products). Aster Global’s review included an assessment of the primary quantitative data supporting the GHG assertion, including the direct sampling of biomass carbon and the use of modeling, as well as the *Project Proponent*’s use of allometric methods and equations for calculating tree biomass, and the calculation of ERTs.

4.4 Meetings/Interviews

During the course of the project verification, Aster Global and the *Project Proponent* held multiple meetings. All other correspondence occurred via email. The details of the meetings are briefly described in the table below.

Date	Attendees	Topics Discussed
03 September 2020	Shawn McMahon Mansfield Fisher Taek Joo Kim David Shoch Devon Ericksen Trisha Johnson Brittney Townsend	Opening Meeting, preliminary review of verification and sampling plan, review of travel logistics, project timeframes and deadlines.
14 September 2020	Shawn McMahon Mansfield Fisher Taek Joo Kim David Shoch Devon Ericksen	Meeting to review calculations/modeling
18 September 2020	Shawn McMahon Mansfield Fisher Taek Joo Kim David Shoch Devon Ericksen Kevin Hoyt Martin Schubert	Field Planning Meeting, discussion of site visit logistics
22 September 2020	Shawn McMahon Mansfield Fisher David Shoch Devon Ericksen Kevin Hoyt Martin Schubert Britt Townsend	Field Verification Opening Meeting - opening meeting for the site assessment including general introductions, review of verification and sampling plan if modifications are necessary, discussion of verification finding/resolutions to date.
25 September 2020	Shawn McMahon Mansfield Fisher David Shoch Devon Ericksen Kevin Hoyt Britt Townsend	Field Verification Closing Meeting - closing meeting for the site assessment including general site visit findings, comments and questions on the validation/verification process, timing.
11 November 2020	Shawn McMahon Taek Joo Kim David Shoch Trisha Johnson	Review of Round 1 findings with project proponent
14 December 2020	Shawn McMahon Mansfield Fisher	Review of Round 2 findings with project proponent

	Taek Joo Kim David Shoch Trisha Johnson	
19 February 2021	Shawn McMahon Mansfield Fisher Taek Joo Kim David Shoch Devon Ericksen Kevin Hoyt Trisha Johnson Britt Townsend	Closing Meeting - Review of draft validation/verification report -Next steps - Request feedback on process
14 January 2022	Shawn McMahon Mansfield Fisher David Shoch Trisha Johnson	Second Opening meeting after baseline update.
14 February 2022	Shawn McMahon Mansfield Fisher David Shoch Trisha Johnson	Baseline update calculation walkthrough call.
17 June 2022	Shawn McMahon Mansfield Fisher David Shoch Trisha Johnson	Closing Meeting

4.5 Verification Milestones

Project/Verification Activity	Date
Aster Global Internal Conflict of Interest (COI) process completed and approved (no issues).	06 August 2020
ACR approval of ACR-Specific COI Form	25 August 2020
Opening meeting with <i>Project Proponent</i>	03 September 2020
Submission of Verification and Sampling Plan to <i>Project Proponent</i> for approval	03 September 2020
Submission and Receipt of signed Verification and Sampling Plan to and from <i>Project Proponent</i> for approval	09 September 2020
Corrective actions/clarification submitted	09 October 2020 09 December 2020
Aster Global completes review	02 February 2021
Aster Global holds closing meeting	19 February 2021

Aster Global finalizes report and submits to ACR and <i>Project Proponent</i>	26 February 2021
Initial contract between Aster Global and <i>Project Proponent</i> amended and ratified to include an additional baseline reassessment task.	16 November 2021
Submission and Receipt of signed amended Verification and Sampling Plan to and from <i>Project Proponent</i> for approval.	15 February 2022
Round 1 corrective actions/clarification submitted	08 March 2022
Aster Global completes review	08 June 2022
Aster Global holds closing meeting	17 June 2022
Aster Global finalizes report and submits to ACR and <i>Project Proponent</i>	17 June 2022

4.6 ACR Forest Carbon Project Standard Requirements

4.6.1 Eligibility Requirements

The *Project* is an IFM project that is intended to create additional carbon stocks in the project area through the implementation of UT's improved forest management practices described in the forest management plan (UTIA_FMP.pdf). The *Project* is in compliance with ACR's Standard. Specific details are located in the Validation portion of this report.

4.6.2 Additionality

Aster Global confirms that the *Project* conducted the proper additionality analysis and conforms to both the methodology additionality requirements and ACR's Three-Prong Additionality Test. The project proponent sufficiently demonstrated in the GHG Project Plan and through the validation/verification process that as of the project start date, the project activities exceed enforced laws and regulations, exceed common practice in the geographic region and forest type, and faced a financial, technological or institutional implementation barrier.

4.6.3 Permanence and Risk Mitigation

The *Project Proponent* commits to a 40-year agreement with ACR. Aster Global confirmed that the *Project Proponent* adequately addressed other potential causes of unintentional reversals including tree death from wildfire, disease, drought, or wind.

The *Project Proponent* utilized the ACR-approved risk assessment tool. Aster Global reviewed and assessed the implementation and outputs of the tool provided by the *Project Proponent* and agrees with the calculated buffer withholding of 16%.

4.6.4 Baseline and Leakage

Aster Global confirms the project baseline as an aggressive harvest regime, targeted to maximize net present value at a 4% discount rate, typical of practices in the project region. The baseline practice involves clearcuts on all non-SMZ strata, staged over 15 years. The final baseline scenario was calculated as the maximization of NPV of plausible harvest regimes.

The *Project Proponent* accounted for market leakage by applying a default market leakage discount factor of 40% per the methodology requirements, as project activities decrease total wood products produced by the project relative to the baseline by 25% or more over the Crediting Period. The calculation of this default market leakage discount factor of 40% was confirmed by Aster Global through independent data checks. The methodology considers any decrease in production would be transferred to forests of a similar type.

4.6.5 Monitoring

Aster Global confirmed the appropriateness and implementation of the project monitoring plan, which details monitored data and parameters, measurements, timing, and data storage procedures. The project has outlined data management procedures including QA/QC procedures in the document titled *FINAL UTIA forest C inventory SOPs* and in Section D1 of the GHG Plan. The VVB reviewed both the GHG Plan and forest inventory SOPs and confirmed that the data management system is in place and the VVB is reasonably assured that the implemented data management system has been appropriately applied.

4.6.6 Community and Environmental Impacts

Aster Global confirms the project's net positive community and environmental impacts and co-benefits, including biodiversity, water quality, and natural habitat enhancements. Forests in the project area will be managed through maintenance and shortleaf pine restoration (on the Cumberland Forest and Highland Rim properties). Ultimately, these management efforts will protect and enhance biodiversity through maintenance of critical habitat and water quality by maintaining extensive areas of canopy closure.

4.6.7 Stakeholders Comments

While the community around the project area does not rely on the property for livelihood, the project addressed stakeholder comments sufficiently. The proponents illustrated that UT FRREC managers have good relations with adjacent landowners and consult them regularly. Additionally, forest managers hold educational outreach and field day events on an annual basis. During the FSC certification process, input on project area management and sites was solicited from area tribes and state historic officers. Additionally, the unique partnership with TNC has led to significant engagement across a wide range of partners whose inputs will be considered when making management decisions. Stakeholder engagement will be continuously monitored through the FSC program.

4.6.8 GHG Emissions Reduction and Removal Enhancements (ERTs)

GHG Reductions or Removals	Units
Baseline Emissions / Reductions	(183,994.3) tCO ₂ e
Project Emissions	43,810.7 tCO ₂ e
Leakage	91,122.0 tCO ₂ e
Uncertainty Deduction Rate	0% ¹
2019 Buffer Pool Contribution	2,857 tCO ₂ e ²
2020 Buffer Pool Contribution	19,013 tCO ₂ e ³
2019 GHG emission reductions total (tCO ₂ e)	17,850
2020 GHG emission reductions total (tCO ₂ e)	118,832
Total Emission Reduction Tonne(s) (ERTs)	136,682

4.7 Verification Findings

The Aster Global validation/verification team identified non-conformity reports (NCRs) and clarifications (CL). All were addressed satisfactorily by the *Project Proponent* during the project verification process. These NCRs and CLs provided needed clarity to ensure that the project was implemented in accordance with the approved methodology and was in compliance with ACR's Standard.

The complete list of verification findings and resolutions has been compiled and located in Appendix A.

4.8 Verification Results/Conclusions

Aster Global confirms all verification activities, including objectives; scope and criteria; level of assurance; and the Monitoring Report's adherence to the ACR Standard and validated GHG Project Plan, as documented in this report, are complete. Aster Global concludes without any qualifications or limiting conditions that the Project meets the requirements of ACR.


The GHG assertion provided by the *Project Proponent* and verified by Aster Global has resulted in the GHG emission reductions 136,682 tCO₂ equivalents by the project during the verification period/reporting period (26 November 2019 – 21 August 2020).

Submittal Information:

¹ Please note that the uncertainty was calculated as ~5.4% but was below the 10% ACR threshold.

² Please note that the risk buffer of 16% was not deducted, as project elected to source risk from external source.

³ Please note that the risk buffer of 16% was not deducted, as project elected to source risk from external source.

Report Submitted to:	The University of Tennessee The Nature Conservancy American Carbon Registry
Report Submitted by:	Aster Global Environmental Solutions, Inc. 3800 Clermont St. NW North Lawrence, Ohio 44666
Aster Global Lead Validator/Verifier Name and Signature:	 Shawn McMahon Lead Verifier
Aster Global Internal Reviewer Name and Signature:	 Caitlin Sellers Senior Internal Reviewer
Aster Global Sr. Vice President/Technical Director Name and Signature	 Janice McMahon President
Date:	25 August 2022

MF/SM/20059.00_TNC_UT_ACR570_Val/Val Report_Final_V2 082522.doc

ACR SP: pf 08/25/2022f

Appendix A – Aster Global Verification Findings

Item Number	1
American Carbon Registry Standard Version 6.0	The Project Proponent shall establish and apply quality assurance and quality control (QA/QC) procedures to manage data and information, including the assessment of uncertainty in the project and baseline scenarios. QA/QC procedures shall be outlined in the GHG Project Plan.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	
Findings - Round 1	The audit team was unable to verify QA/QC data management procedures are in place.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence that QA/QC data management procedures are in place.
Round 1 Response from Project Proponent	Data management procedures are now specified in Section 2.2 of the updated "FINAL UTIA forest C inventory SOPs _revOct2020" document
Findings - Round 2	The audit team confirms that QA/QC and data management procedures are included in the new C Inventory SOPs. This item is addressed, no further action is needed.
Item Number	2
American Carbon Registry Standard Version 6.0	Regulatory Compliance - Adherence to all laws, regulations, and other le-gally binding mandates directly related to Project Activities. - Projects must maintain material regulatory compliance. To do this, a regulatory body/bodies must deem that a project is not out of compliance at any point during a re-orting period. Projects deemed to be out of compliance with regulatory requirements are not eligible to earn ERTs during the period of non-compliance.

	Regulatory compliance violations related to administrative processes (e.g., missed application or reporting deadlines) or for issues unrelated to integrity of the GHG emissions reductions shall be treated on a case-by-case basis and may not disqualify a project from ERT issuance. Project Proponents are required to provide a regulatory compliance attestation to a verification body at each verification. This attestation must disclose all violations or other instances of non-compliance with laws, regulations, or other legally binding mandates directly related to Project Activities.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	GHG Plan
Findings - Round 1	Validators understand that project implementation requires meeting regulatory compliance obligations under this requirement. Validators presume that the project has submitted an initial annual ACR Voluntary Offset Project Attestation where this attestation confirms that there have not been any undisclosed or unmitigated adverse environmental or community impacts as a result of the development, operation and/or maintenance of the Project.
Round 1 NCR/CL/OFI	CL: Please provide the initial annual ACR Voluntary Offset Project Attestation or equivalent document that discloses all violations or other instances of noncompliance with laws, regulations, or other legally binding mandates as a result of the development, operation and/or maintenance of the Project.
Round 1 Response from Project Proponent	Please see folder "attestation emails" -email from ACR dated 11.3.20 stating that the annual attestation will be merged with the monitoring report and only be required during verification years rather than annually. UTIA is ready to sign the attestation, however ACR recommends that we wait until the monitoring report is submitted to sign the monitoring report which will include the attestation.
Findings - Round 2	This item is closed as the final MR with the requested attestation has been received.

Item Number	3
American Carbon Registry Standard Version 6.0	Project title, purpose(s), and objective(s);
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	GHG Plan Part A;
Findings - Round 1	The GHG Plan provides a project title and project type, but the VVB could not find purposes or objectives.
Round 1 NCR/CL/OFI	CL: Please include these additional sections in the GHG Plan.
Round 1 Response from Project Proponent	Section A2 is retitled Project Type and Purpose/Objective. Purpose/Objective is specified as "To improve carbon storage in standing biomass through improved forest management/avoidance of unsustainable harvest"
Findings - Round 2	The audit team confirms that the requested additional sections (purposes and objectives) are included in the new version of the GHG plan. This item is addressed, no further action is needed.
Item Number	4
American Carbon Registry Standard Version 6.0	Physical conditions prior to project initiation;
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y

Evidence Used to Assess	GHG Plan
Findings - Round 1	The VVB could not find any description of the physical conditions of the project area prior to project initiation.
Round 1 NCR/CL/OFI	CL: Please include a description of the physical conditions prior to project initiation.
Round 1 Response from Project Proponent	Section A4 is retitled Location and Physical Conditions, and physical conditions prior to project initiation are detailed.
Findings - Round 2	The audit team confirms that the requested additional sections (physical conditions prior to project initiation) are included in the new version of the GHG plan. This item is addressed, no further action is needed.
Item Number	5
American Carbon Registry Standard Version 6.0	Project technologies, products, services, and expected level of activity;
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	GHG Plan General;
Findings - Round 1	This section is not included in the GHG Plan.
Round 1 NCR/CL/OFI	CL: Please include this section in the GHG Plan as it is required.
Round 1 Response from Project Proponent	Section A6 has been retitled Project Action and Technologies, and project technologies, products ... specified.

Findings - Round 2	The audit team confirms that the requested additional sections (Project technologies, products, services, and expected level of activity) are included in the new version of the GHG plan. This item is addressed, no further action is needed.
Item Number	6
American Carbon Registry Standard Version 6.0	Roles and responsibilities, including contact information of the Project Proponent, other project participants, relevant regulator(s) and/or administrators of any GHG program(s) in which the GHG project is already enrolled, and the entities holding offset title and land title;
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	GHG Plan Part A8;
Findings - Round 1	Although the contact information of the project participants is included in the GHG plan, the GHG Plan does not state the responsibilities of each project participant.
Round 1 NCR/CL/OFI	CL: Please include the responsibilities of each project participant in section A8 of the GHG Plan.
Round 1 Response from Project Proponent	Responsibilities are now specified for each project participant in Section A8.
Findings - Round 2	The audit team confirms that the roles and responsibilities are included in the new version of the GHG plan. This item is addressed, no further action is needed.
Item Number	7
American Carbon Registry Standard Version 6.0	Project Proponents shall use the template for Project Monitoring Reports available at www.americancarbonregistry.org .

Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Monitoring Report;
Findings - Round 1	<p>The monitoring report appears to follow the template, except the Verification Section, the following items need to be addressed in the MR:</p> <ul style="list-style-type: none"> • Provide the personnel names and roles/responsibilities for each party involved in monitoring the offset project • Provide a description of the GHG management system employed including: <ul style="list-style-type: none"> • The location and recordkeeping/retention requirements for all stored data • Transfer points and methods of non-automated transfer of data • If applicable, describe any calibration procedures and the frequency with which calibration and other maintenance requirements are performed • Describe the internal audit and other quality assurance/quality control procedures • Sampling methods utilized and performed during the reporting period
Round 1 NCR/CL/OFI	CL: Please address the items described in this criteria in the MR as these are required elements of all MRs.
Round 1 Response from Project Proponent	<p>MR has been updated to respond to all of these items (relevant to the Monitoring, not Verification, section). Text added: Panther Creek Forestry (Ben Myers) undertook the field measurements, TerraCarbon (David Shoch) developed the sample design, administered training and QA/QC and conducted data analysis, and Tennessee Nature Conservancy (Trish Johnson) and UT AgResearch Working Woodlands Project (Kevin Hoyt) coordinated the monitoring effort.</p> <p>All aspects of the GHG management system are detailed in “FINAL UTIA forest C inventory SOPs *” and “UT inventory</p>

	results 2020*”.[note that these documents cover all of the items from the template, and would be too extensive to repeat in the template format]
Findings - Round 2	The audit team confirms that the project proponent has added the requested additional language in the most recent version of the MR. The audit team notes that it would be redundant and not necessary to repeat items that are listed in other referenced documents throughout the MR. This item is addressed, no further action is needed.
Item Number	8
American Carbon Registry Standard Version 6.0	Start Date - For AR or Wetland restoration/re-vegetation projects, the Start Date is when the Project Proponent began planting or site preparation. For IFM, the Start Date may be de-noted by one of the following: 1. The date that the Project Propo-nent began to apply the land management regime to increase carbon stocks and/or reduce emissions relative to the base-line. 2. The date that the Project Propo-nent initiated a forest carbon inventory. 3. The date that the Project Propo-nent entered into a contractual relationship to implement a car-bon project. 4. The date the project was sub-mitted to ACR for listing review. Other dates may be approved by ACR on a case by case basis. For Avoided Conversion of non-forest, the Start Date is when the Project Proponent implemented the project action physically and/or le-gally, such as securing a concession or placing a land conservation agreement on the project land. For other Agricultural Land-based projects, the Start Date is the date by which the Project Proponent began the Project Activity on project lands, or the start of the cultivation year during which the Project Activity began. - See requirements in Chapter 3, Table 2, of the ACR Standard.

Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	GHG Plan Part A3;
Findings - Round 1	The Start Date is reported as 26 November 2019, when IT signed an agreement with TNC to develop a climate mitigation project. However, the audit team was unable to find verifiable evidence that this agreement exists.
Round 1 NCR/CL/OFI	NCR: Please provide verifiable evidence that this agreement exists and has been implemented on the stated date.
Round 1 Response from Project Proponent	See "UTIA TNC Agreements" folder- The following evidence has been submitted in this response: "TNC UTIA Carbon Development and Marketing Agreement 11_26_2019.pdf" and "TNC UTIA Working Woodlands Agreement 11_26_2019"
Findings - Round 2	The audit team reviewed the submitted documents and confirms that the start date, 26 November 2019, is appropriate and properly evidenced by the submitted documents. This item is addressed, no further action is needed.
Item Number	9
ACR Tool for Risk Analysis and Buffer Determination V1.0	Financial Risk: The risk that the organization overseeing or financing project implementation will be unable to continue due to financial failure. This can result from a number of financial constraints, including the inability to secure offset buyers or a sufficient offset price, bankruptcy, or a lack of capital needed to continue monitoring and/or verification.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y

Evidence Used to Assess	GHG Plan Part B8;
Findings - Round 1	A risk score of 3% is applied as the project is a US public land owned by the University of Tenn. However, the audit team was unable to find title documents that demonstrate UT is the owner of these properties.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence that UT owns all the land included in the project area.
Round 1 Response from Project Proponent	See "deeds" folder- title documents have been submitted as part of this response: "CF Unit Deed", "HRF QUITCLAIM DEED 1960", "Mineral_Lease_CumberlandForest" and "UT AgResearch - Oak Ridge Forest (QUITCLAIM DEED) 1961"
Findings - Round 2	The audit team confirms that titles for all properties within the project area were provided. The audit team is reasonably assured that the entire project area is owned by the University of Tenn. This item is addressed, no further action is needed.
Item Number	10
ACR Tool for Risk Analysis and Buffer Determination V1.0	G - Levee Failure and Water Table Changes
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	GHG Plan Part B8;
Findings - Round 1	0% risk was applied because the project proponents indicated that <60% of the project area is forested wetland. However, the audit team was unable to verifiable evidence that this is true.
Round 1 NCR/CL/OFI	CL: Please provide a map or some form of verifiable evidence that less than 60% of the project area contains forested wetlands.

Round 1 Response from Project Proponent	GHG Plan section B8 has been expanded to demonstrate, referencing 2011 Southeast GAP raster dataset and 2016 NLCD dataset.
Findings - Round 2	The audit team reviewed the additional analysis provided in Section B8 of the GHG plan and confirms that <60% of the project area is forested wetlands. This item is addressed, no further action is needed.
Item Number	11
ACR Tool for Risk Analysis and Buffer Determination V1.0	OVERALL RISK Score
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	GHG Plan Part B8;
Findings - Round 1	A risk score of 16% was reported in the Monitoring Report Appendix. However, the audit team notes that the total contribution to the risk buffer in the Monitoring Report Appendix and the total contribution to the risk buffer in the ACR_Calcs_UTK and ACR_Calcs_UTK_Monitoring2020 are different.
Round 1 NCR/CL/OFI	NCR: It is unclear to the audit team which set of calculations are correct. The calculations in the ACR_Calcs UTK spreadsheet or the numbers reported in the appendix of the MR. Please clarify which numbers used are correct and fix the incorrect set of numbers and calculations.
Round 1 Response from Project Proponent	Percent risk (16%) for RP1 is correctly and consistently applied throughout calcs and monitoring report documents. Risk buffer contribution in the ACR Calcs validation worksheet is an ex ante value based on projection only and does not (nor need not) match actual ex post calculated risk buffer contribution reported for RP1.

Findings - Round 2	The audit team agrees with the project proponent's response. The correct risk buffer is applied to RP1. This item is addressed, no further action is needed.
Item Number	12
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands - Version 1.3 April 2018	be certified by FSC, SFI, or ATFS or become certified within one year of the project Start Date; or
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	GHG Plan Part B2
Findings - Round 1	Although the GHG Plan states that FSC certification will be obtained in the Fall of 2020, no verifiable evidence has been provided that shows the FSC certification will be completed within one year of the project start date. The audit team notes that the project area must complete this certification by November of 2020.
Round 1 NCR/CL/OFI	NCR: Please provide verifiable evidence that the FSC certification process is underway and will be completed within one year of the project start date.
Round 1 Response from Project Proponent	See "UTIA TNC Agreements" folder- Evidence that the FSC certification is underway is provided in the submitted memorandum of agreement between UT and TNC to bring the project area under

	TNC's existing FSC Group Certification. See "MOA FINAL Execuded UT-TNC.pdf"
Findings - Round 2	The audit team received the FSC certification for the project area. This item is closed.
Item Number	13
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands - Version 1.3 April 2018	have its forest management plan sanctioned by a by a senior government official within a state, or a state agency, or a federal agency
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	GHG Plan Part B2
Findings - Round 1	Although the audit team reviewed the FRREC Management Plan and UTIA_FMP_DRAFT_TC, it is unclear to the audit team where this planned was signed off by a "sanctioned by a senior government official within a state , or a state agency, or a federal agency".
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence that satisfies this criteria.

Round 1 Response from Project Proponent	Dr. Kevin Hoyt, Center Director, UT Forest Resources AgResearch and Education Center, has the authority from UTIA to sign off on the forest management plan and the activities on the property. He will sign the plan when it is completed and passes the FSC audit. The TN Department of Agriculture Department of Forestry's Assistant State Forester was consulted regarding a legal framework in Tennessee whereby state owned forest managers must have a senior government official other than UTIA sign off on the plan. This framework in the state of TN does not exist, however TDF is happy to review and provide feedback to the UTIA plan. Please see the assistant state forester's response "attestation emails" folder from an email dated 11.3.20.
Findings - Round 2	After discussions with ACR and the project proponents and review of the evidence provided in the Round 1 response, the audit team confirms that this criteria is satisfied. No further action is needed.
Item Number	14
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands - Version 1.3 April 2018	Project proponent must demonstrate its ownership or control of timber rights at the project start date
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	GHG Plan

Findings - Round 1	<p>No title documents were provided by the project proponent.</p> <p>Additionally, please provide updated GIS and supporting documents that account for the incorrect property boundaries discussed on the site visit. Specifically, the property boundaries near Plot 34 in the Cumberland North property. Additionally, please ensure that the correct boundaries and used for the rest of the project area.</p>
Round 1 NCR/CL/OFI	<p>CL: Please provide a copy of the titles for each parcel within the project area.</p> <p>CL: Please correct the project area boundary for Cumberland North.</p> <p>CL: Please consult the inventory crews to ensure that there were no other areas where the boundary as shown in the GIS file was different from what was seen on the ground.</p>
Round 1 Response from Project Proponent	<p>see "deeds" folder- Title documents have been submitted with this response. Adjustments to the project area have been made on the basis of field observations and all downstream calculations revised - details provided in "response finding 14 boundary adjustments."</p>
Findings - Round 2	<p>The audit team confirms that titles for all properties within the project area were provided. The audit team is reasonably assured that the entire project area is owned by the University of Tenn. This item is addressed, no further action is needed.</p> <p>The audit team reviewed the details provided in the document "response finding 14 boundary adjustments" and confirmed that the details of the document were correct by reviewing the updated shapefiles. The audit team confirms the new total acres within the project area are correct and that the acreage within each stratum is also correct. Additionally, the audit team confirmed that plots 17 and 59 were properly excluded as they fell outside the new project boundary. However, the audit team found that in the UTK inventory calcs and stats revOct2020 workbook, plot 32 was excluded and plot 33 was erroneously included.</p> <p>The audit team notes that the project proponent consulted with the</p>

	inventory crews in updating and correcting any boundary discrepancies. This item is addressed, no further action is needed.
Round 2 NCR/CL/OFI	CL: Please include Plot 32 and exclude Plot 33 in all necessary workbooks and update the downstream calculations.
Round 2 Response from Project Proponent	Plot 32 has been reinstated and plot 33 excluded. All calculations updated.
Findings - Round 3	The audit team confirms that this correction has been made. This item is closed.
Item Number	15
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non- Federal U.S. Forestlands - Version 1.3 April 2018	Soil organic carbon - Excluded - Changes in the soil carbon pool are considered de minimis as a result of project implementation
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	GHG Plan Table B1
Findings - Round 1	SOC is excluded however the language in the GHG Plan Table B1 for this category appears to be erroneously included, as it references the litter pool.

Round 1 NCR/CL/OFI	CL: Please update the language in Table B1 for the SOC pool to reflect the appropriate pool.
Round 1 Response from Project Proponent	Table B1 corrected to refer to soil organic carbon pool.
Findings - Round 2	The audit team reviewed the updated GHG Plan and confirms this change was made. This item is addressed. No further action is needed.
Item Number	16
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non- Federal U.S. Forestlands - Version 1.3 April 2018	The baseline determination is project-specific and must describe the harvesting scenario that would maximize NPV of perpetual wood products harvests over a 100-year modeling period.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	PD Section E1, NPV Calculation workbooks.

Findings - Round 1	<p>The audit team assessed the NPV_UTK workbook, in which the project proponents determined the harvesting scenario that maximizes the NPV over a 100-year modeling period. The audit team confirms that the calculations were carried out appropriately and the selected baseline scenario maximizes NPV over a 100-year modeling period.</p> <p>However, the audit team noted that in the determination of the optimal rotation length the input data used by the project proponent is different than the data provided to the audit team.</p> <p>Additionally, the audit team is confused as to why the data provided to the audit team (UTK FVS NPV workbook) for the "r002" runs has two entries for year 0.</p>
Round 1 NCR/CL/OFI	<p>CL: Please clarify why the data from the UTK FVS NPV workbook for the "r002" runs, which are used to determine the optimal rotation length in the NPV_UTK workbook, is different from the FVS output data provided to the audit team. If the incorrect data was used please redo the NPV optimal rotation calculations. Based on the audit team calculations there are only two stands for which the optimal rotation age would change (OR and HW_HW). If the project proponent believes the correct data was used please provide the audit team with the specific workbook where this data is located.</p> <p>CL: Please clarify why the data from the UTK FVS NPV workbook for the "r002" runs has two entries for the Year 2019. It is unclear to the audit team which 2019 row data should be used for the calculations.</p>
Round 1 Response from Project Proponent	<p>Data used to assess NPV are strictly from "UTK FVS NPV runs revOct2020.xlsx", submitted with this response. In all cases, optimal rotation lengths are far beyond the 20-year baseline projection, and so a moot point of the analysis. FVSONline summary stats now produce two entries for each harvest year, one for immediate pre-harvest stocks and one for immediate post-harvest stocks.</p>

Findings - Round 2	<p>The NPV analysis strictly follows "NPV calculation and optimal harvest scheduling" in "UT AgResearch Project GHG Plan_revOct2020.docx", and the audit team confirms that NPV FVS was carried out according to the "NPV calculation and optimal harvest scheduling". The two entries for the Year 2019 is due to FVS output providing both immediate pre-harvest stocks and immediate post-harvest stocks at the same time.</p> <p>This item is closed.</p>
Item Number	17
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands - Version 1.3 April 2018	<p>The baseline management scenario shall be based on silvicultural prescriptions recommended by published state or federal agencies to perpetuate existing onsite timber producing species while fully utilizing available growing space.</p>
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Baseline files; GHG Plan;
Findings - Round 1	<p>The audit team was unable to find any mention that the proposed silvicultural prescriptions were based published recommendations from state or federal agencies to perpetuate existing onsite timber producing species while fully utilizing available growing space.</p>
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence to meet this criteria.

Round 1 Response from Project Proponent	We have added the following text to the GHG Plan and provided a copy of the source UT Ag Extension pub: "Clearcuts are a recommended even-aged management practice per University of Tennessee Agricultural Extension Service "Forest Practice Guidelines for Tennessee" (UT Agricultural Extension publication PB1523)."
Findings - Round 2	The audit team confirms the additional language in the updated GHG Plan. The additional language satisfies this criteria. This item is addressed. No further action is needed.
Item Number	18
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands - Version 1.3 April 2018	Project Proponents shall include roading and harvesting costs as appropriate to the terrain and unit size.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Baseline files; GHG Plan;
Findings - Round 1	The project proponent indicated that there is good road access through the project area and thus no road construction costs are used; however, it is unclear to the audit team how road degradation from logging operations will be repaired. Ultimately, it is unclear why there are no road maintenance costs included in the NPV maximization. Based on discussions on the site visit, the project

	proponent indicated that TMS stumpage prices generally included road maintenance.
Round 1 NCR/CL/OFI	Cl: Please confirm that the assumption that road maintenance is included within the TMS stumpage prices.
Round 1 Response from Project Proponent	<p>Regional average stumpage prices reported by TMS reflect stumpage prices that include, but not always, road maintenance and/or rehabilitation costs, confirmed by Don Hodges of UT, who works with this data frequently, and with direct consultation with TMS. Thus, road maintenance is included to a certain (undefined) degree in the TMS stumpage data. Email received from Matthew Gaw of TMS on 23 Oct 2020: "The stumpage price is the price paid to the landowner for the right to harvest their timber. Mills pay a delivered price for the incoming raw material.</p> <p>The difference between the delivered price and the stumpage price accounts for any costs associated with cutting, loading, and hauling the wood to the mill. This could include road construction and maintenance costs. (Delivered – Costs = Stumpage)</p> <p>TMS published prices are based on timber sale data as reported by numerous industry professionals that are involved in the buying and selling of timber. We receive both stumpage and delivered price data. TMS published stumpage prices are calculated independently of the published delivered prices." Don Hodges added in an email from 29 Oct 2020 "I am not sure I can provide you with confirmation necessarily, but the TMS prices are based on the prices reported by buyers and sellers for the specific state. Those prices are from actual sales in which the prices determined based on the expenses the buyer/harvester will incur – including road maintenance/rehabilitation. Most contracts I have seen include requirements for dealing with roads as part of the harvest operations."</p>
Findings - Round 2	The audit team reviewed the email conversation with the project proponent and TMS. Based on the audit teams understanding of TMS prices as stumpage prices and the support provided by TMS and the Project Proponent this item is addressed. No further action is needed.

Item Number	19
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands - Version 1.3 April 2018	Equation (1)
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Project Documents;
Findings - Round 1	The audit team reviewed the relevant workbooks and noted that in the UTK inventory calcs and stats 24Aug2020 workbook in the "tree data" tab, the tree in row 1387 has a DBH of 4.95 but has an assigned plot expansion factor of .10. This appears to be an error as only trees with a DBH ≥ 5 inches should be assigned to the 1/10th an acre plot expansion factor.
Round 1 NCR/CL/OFI	CL: Please update the plot expansion for this row and recalculate the defect percentage calculations. Additionally, please update all downstream calculations that are affected by this change.
Round 1 Response from Project Proponent	TPA and plot expansion factor for this tree were corrected in the inventory calcs and stats and FVS input database, and all downstream calculations rerun.
Findings - Round 2	The audit team confirms that the requested change was made. This item is addressed. No further action is needed.

Item Number	20
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands - Version 1.3 April 2018	DCBSL, TREE, t Change in the baseline carbon stock stored in above and below ground live trees (in metric tons CO ₂) for year t.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Project Documents;
Findings - Round 1	The audit team reviewed the bsl live tree proj UT workbook and noted that the first pivot table on the PIVOT LIVE tab does not appear to be summing correctly. For example, the 2020 value for CNr001 in the pivot table (cell B6) is 0.1028462..; however, in the FVS proj tab this value is .10295.
Round 1 NCR/CL/OFI	CL: Please update the pivot table and ensure that the correct values are being used. Furthermore, please update the downstream calculations that these values affect.
Round 1 Response from Project Proponent	Values in pivot refreshed and all downstream calculations revised.
Findings - Round 2	The audit team checked "bsl live tree proj UT_revOct2020.xlsx" and confirms that the pivot table was refreshed and all downstream calculations were revised.

	This item is closed.
Item Number	21
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands - Version 1.3 April 2018	Below-ground dead wood is conservatively neglected.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Inventory Spreadsheet; FVS
Findings - Round 1	Based on a review of FVS and ACR inventory calculations it appears that root biomass of standing dead trees is included in the carbon calculations. As stated in the methodology below-ground dead wood should be conservatively neglected.
Round 1 NCR/CL/OFI	CL: Please remove the below-ground dead wood from carbon estimates.
Round 1 Response from Project Proponent	Belowground standing dead wood pool has been removed from all calcs and narrative.

Findings - Round 2	<p>The audit team checked "bsl snag proj UT_revOct2020.xlsx", "UTK inventory calcs and stats revOct2020.xlsx", and "UTK GROWN Aug2020 calcs and stats_revOct2020.xlsx" and confirms that below-ground dead wood from carbon estimates were not accounted in the calculation.</p> <p>This item is closed.</p>
Item Number	22
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands - Version 1.3 April 2018	1. Determining the amount of carbon in trees harvested that is delivered to mills (bole without bark).
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Site visit
Findings - Round 1	During the site visit the audit team noted that there were harvested areas that were not accounted for.
Round 1 NCR/CL/OFI	CL:Please update the HWP calculations to include these additional harvests.

Round 1 Response from Project Proponent	One harvest was conducted in the project area in 2020, on the Oak Ridge property. Evidence is provided in "TS-ORF-19-1 Bid and Sale Conditions (FINAL2)" and "ORF Sale Map Revised 1-16-19", and calculations of harvested wood products and standing stocks removed are provided in "UTK_OakRidge_HarvestCalcs_2020.xlsx" The monitoring report has been amended to include these calculations.
Findings - Round 2	The audit team confirms that the calculations of harvested wood products and standing stocks removed are provided in c"UTK_OakRidge_HarvestCalcs_2020.xlsx" and included in overall carbon estimation in "ACR_Calcs UTK Monitoring2020_revOct2020.xlsx". Also, the audit team confirms "TS-ORF-19-1 Bid and Sale Conditions (FINAL2).doc" is provided. This item is closed.
Item Number	23
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands - Version 1.3 April 2018	Equation (11)
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	UTK Aug2020 calcs and stats.xlsx, wp live tree proj UT.xlsx

Findings - Round 1	The audit team reviewed the wp live tree proj UT workbook and noted that the first pivot table on the PIVOT LIVE tab does not appear to sum correctly. For example, the 2020 value for CNr001 in the pivot table (cell B5), is 220.246; however, in the FVS proj tab this value is 222.68.
Round 1 NCR/CL/OFI	CL: Please update the pivot table and ensure that the correct values are being used. Furthermore, please update the downstream calculations that these values affect.
Round 1 Response from Project Proponent	Values in pivot refreshed and all downstream calculations revised.
Findings - Round 2	<p>The audit team confirms that values in pivot refreshed and all downstream calculations revised in "bsl hwp proj UT_revOct2020.xlsx".</p> <p>This item is closed.</p>
Item Number	24
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non- Federal U.S. Forestlands - Version 1.3 April 2018	Equation (12)
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y

Evidence Used to Assess	UTK Aug2020 calcs and stats.xlsx
Findings - Round 1	The audit team was unable to locate where the standing dead tCO ₂ /acre estimates in the wp proj tab of the ACR_Calcs UTK were derived from.
Round 1 NCR/CL/OFI	CL: Please clarify how these estimates are derived.
Round 1 Response from Project Proponent	In the wp proj tab of the ACR Calcs sheets, standing dead is assumed to be constant. Section E6 of the GHG Plan already states, "Stocks of standing dead wood are assumed to be constant through the period."
Findings - Round 2	<p>The audit team confirms that standing dead tCO₂/acre is from "UTK inventory calcs and stats revOct2020.xlsx" and "Stocks of standing dead wood are assumed to be constant through the period." (See Section E6. EX-ANTE ESTIMATION METHODS, UT AgResearch Project GHG Plan_revOct2020.docx).</p> <p>This item is closed.</p>
Item Number	25
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands - Version 1.3 April 2018	There may be no leakage beyond de minimis levels through activity shifting to other lands owned, or under management control, by the timber rights owner.
Applicability to the Project (Y or N/A)	Y

Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	UT AgResearch Project GHG Plan 27Aug2020.docx
Findings - Round 1	Quantification of leakage is limited to market leakage and the audit team notes that this criteria is being met by FSC certification; however, at this point all land owned by the UT is not FSC certified this process is underway.
Round 1 NCR/CL/OFI	CL: Please provide evidence that all land owned by the project proponent is undergoing FSC certification and not just the land within the project Area.
Round 1 Response from Project Proponent	We have added in the project folders "UTIA TNC Agreements" the FSC MOA between UTIA and TNC. In addition please see the email in the "attestation emails" project folders from the Dean of the Institute of Agriculture supporting the claim that there will be no leakage as well as a memo noting all REC property acreage and management with supporting excel spreadsheet.
Findings - Round 2	After receiving clarification from ACR that the project completed FCS certification for the project area during the verification/validation as a result this finding is closed. No further action is needed.
Item Number	26
ACR - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands - Version 1.3 April 2018	Equation (18)

Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	UTK inventory calcs and stats 24Aug2020.xlsx
Findings - Round 1	The audit team reviewed 'UTK Aug2020 calcs and stats.xlsx' and 'UTK inventory calcs and stats 24Aug2020.xlsx' files and found a discrepancy between the numbers for PIVOT LIVE tab. It looks numbers from 'UTK inventory calcs and stats 24Aug2020.xlsx' are referenced in 'UT AgResearch Project GHG Plan 27Aug2020.docx' and 'UT_MonitoringReport_2020 APPENDIX.docx' but clarification is needed on why the calculation in PIVOT LIVE tabs are different between 'UTK Aug2020 calcs and stats.xlsx' and 'UTK inventory calcs and stats 24Aug2020.xlsx' files .
Round 1 NCR/CL/OFI	CL: Please address in line with findings.
Round 1 Response from Project Proponent	UTK Aug2020 calcs and stats.xlsx' and 'UTK inventory calcs and stats 24Aug2020.xlsx': the former are the grown forward (to Aug 2020), and the latter are starting stocks (Nov 2019, but file vs 24Aug2020).
Findings - Round 2	The audit team confirms the Round 1 response from project proponent. This item is closed.
Item Number	27
FVS	Calibration
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y

Evidence Used to Assess	FVS related Materials
Findings - Round 1	Please check if the correct PV_Code was entered. Please refer to the message in 2020MR_FVSoutput.txt that "HABITAT/PV_CODE IGNORED.", or default setting may be used for Ecoregion / PV_Code / PV_Ref_Code in FVS_StandInit table.
Round 1 NCR/CL/OFI	CL: Please address in line with findings.
Round 1 Response from Project Proponent	<p>Ecoregion subsection codes were added to the FVS input database (replacing previous PV_Codes):</p> <p>North and South Cumberland – M221Cd (Southern Cumberland Mountains)</p> <p>Oak Ridge – 221Ja (Rolling Limestone Hills)</p> <p>Highland Rim – 223Eb (Eastern Karst Plain)</p>
Findings - Round 2	<p>The audit team confirms that the Ecoregion subsection codes were appropriately added and the PV_Code was deleted.</p> <p>This item is closed.</p>
Item Number	28
FVS	Review .key files
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	FVS related Materials

Findings - Round 1	<p><u>Baseline (BSLN)</u></p> <p>1. Please specify how the area of each Stratum (sub-stratum) has been determined in FVS software (i.e. CN (non SMZ) 1,889 acres (StandID CN r001), Table Baseline management scenarios in UT AgResearch Project GHG Plan 27Aug2020.docx). Was it determined by "Stands - Relative weights of each replicate", or classified in FVS_StandInit table (UTK_Database.accdb) before reading into FVS software?</p> <p>2. Please specify the parameters entered for Clearcut/Coppice keyword (Components - Management - Categories: Regeneration Methods: Even-aged):</p> <ul style="list-style-type: none"> - Based on the BSLN_FVSkeywords.txt, was default setting used except for "Diameter of smallest tree cut"? - Based on the BSLN_FVSkeywords.txt, for example of CN (non SMZ) 1,889 acres (StandID CN r001), it is specified in Table Baseline management scenarios (UT AgResearch Project GHG Plan 27Aug2020.docx) that clearcut was conducted in 2020 but the BSLN_FVSkeywords.txt specifies 2019 instead of 2020. Please also check years for other stratum where clearcut was conducted or provide explanation why years earlier (one year) than specified were used (or clearcut was conducted before growing season). Providing a screen capture of Clearcut/Coppice keyword would help better understand the parameters entered into the Clearcut/Coppice keyword (only one example would suffice, for example, N (non SMZ) 1,889 acres: StandID CN r001). <p>3. Also for Thin throughout a diameter range keyword, why years earlier (one year) than specified in Table Baseline management scenarios were used? If possible, providing a screen capture of Thin throughout a diameter range keyword (only one example would suffice, for example, CN (SMZ) 308 acres: StandID CN r002) would be appreciated.</p>
Round 1 NCR/CL/OFI	CL: Please address in line with findings.
Round 1 Response from Project Proponent	For the baseline modeling, FVS run is carried out without considering spatial context but accounted in the carbon quantification by applying the area of each sub-stratum.
Findings - Round 2	The audit team confirmed that FVS run was carried out without considering spatial context for the baseline modeling.

	This item is closed.
Item Number	29
FVS	Review .key files
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	FVS related Materials
Findings - Round 1	<p>NPV</p> <ol style="list-style-type: none"> 1. How does baseline scenarios differ between the baseline (BSLN) case and the NPV case, in other words, the difference between Table Baseline management scenarios (16 cases, page 35, UT AgResearch Project GHG Plan 27Aug2020.docx) and Table NPV (17 cases, page 33, UT AgResearch Project GHG Plan 27Aug2020.docx)? 2. For projecting NPV baseline scenario, have UTK_Database.accdb been used as the input file? There is no data for HR_RG regime in FVS_PlotInit table. 3. MgmtID A002 cannot be located within "NPV_FVSoutput.txt". <p>WP</p> <ol style="list-style-type: none"> 1. Please confirm that CN r001 1 only associates to cutlist of 2019, and CN r002 1 to 2024, and so on. In other words, how does each run (so, CS r002 1) associates to years in "UTK FVS WP runs Carbon OUT.xlsx" and "UTK FVS WP runs Cutlist OUT.xlsx". 2. How was above- and belowground dead trees ("ABGB t CO2/ac" column) assessed in "UTK FVS WP runs Carbon OUT.xlsx", or "wp live tree proj UT.xlsx" for the year 2019?

Round 1 NCR/CL/OFI	CL: Please address in line with findings.
Round 1 Response from Project Proponent	Table Baseline management scenarios (16 cases, page 35, UT AgResearch Project GHG Plan 27Aug2020.docx) reflects the results of NPV calculation and optimal harvest scheduling for the baseline development.
Findings - Round 2	<p>The audit team confirms the Round 1 response from project proponent.</p> <p>This item is closed.</p>
Item Number	30
FVS	General Quantification Finding
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Quantification Files
Findings - Round 1	This item is a new calculation finding for Round 2.
Round 1 NCR/CL/OFI	NA
Round 1 Response from Project Proponent	NA
Findings - Round 2	<p>In “UTK inventory calcs and stats revOct2020.xlsx”, In "decay class dead" tab, decay class 4 relates to bole (stem + bark), but why stem biomass was only considered in the calculation? For Snag Decay Class 4, the following equation was applied = $AGB \times \exp(JENKINS_STEM_WOOD_RATIO_B1 + JENKINS_STEM_WOOD_RATIO_B2 / (DIA * 2.54)) \times (0.722 * ((100-L)/100) + 0.278 * ((100-K)/100))$, and please provide the source for $(0.722 * ((100-L)/100) + 0.278 * ((100-K)/100))$ and</p>

	include it in "UT AgResearch Project GHG Plan_revOct2020.docx".
Round 2 NCR/CL/OFI	CL: Please address in line with findings.
Round 2 Response from Project Proponent	narrative added to GHG Plan to clarify source of scaling factors of defects. Decay class 4 by definition restricted to stem biomass only (snag with broken top and no branches)
Findings - Round 3	The audit team confirmed that the narrative regarding decay class of standing dead trees has been added to updated GHG Plan (page 31. UT AgResearch Project GHG Plan_revDec2020.docx). This item is addressed.
Item Number	31
FVS	General Quantification Finding
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Quantification Files
Findings - Round 1	This item is a new calculation finding for Round 2.
Round 1 NCR/CL/OFI	NA
Round 1 Response from Project Proponent	NA

Findings - Round 2	In “uncertainty” tab of “ACR_Calcs UTK Monitoring2020_revOct2020.xlsx”, please check the coding for “UNCbsl”. Probably, “SQRT(('bsl proj'!C5*B17*11363.770251)^2+('bsl proj'!D5*J17*11363.770251)^2+('bsl proj'!G4*B17)^2+(C19*B17)^2)/('bsl proj'!C5*11363.770251+'bsl proj'!D5*11363.770251+'bsl proj'!G4+C19)” should be used. I think there was mistake: not 'bsl proj'!C4 and 'bsl proj'!D4, and total area should be multiplied as units are different between HWP and Live/Dead. HWP is based on total area not t CO2/acre.
Round 2 NCR/CL/OFI	CL: Please address in line with findings.
Round 2 Response from Project Proponent	Equation amended to =SQRT(('bsl proj'!C5*'ACR IFM calc template'!H3*B17)^2+('bsl proj'!D5*'ACR IFM calc template'!H3*J17)^2+('bsl proj'!G4*B17)^2+(C19*B17)^2)/SUM('bsl proj'!C5*'ACR IFM calc template'!H3,'bsl proj'!D5*'ACR IFM calc template'!H3,'bsl proj'!G4,C19)
Findings - Round 3	The audit team confirmed that the updated (correct) coding for uncertainty calculation was applied for UNCbsl (uncertainty, ACR_Calcs UTK Monitoring2020_revDec2020.xlsx). This item is addressed.
Item Number	32
FVS	General Quantification Finding
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Quantification Files
Findings - Round 1	This item is a new calculation finding for Round 2.

Round 1 NCR/CL/OFI	NA
Round 1 Response from Project Proponent	NA
Findings - Round 2	In “uncertainty” tab of “ACR_Calcs UTK Monitoring2020_revOct2020.xlsx”, why "hardcoded from 2020 inventory" was used to calculate year 2021's uncertainty of “UNCp”? Based on the template from ACR "acr-ifm-ert-calculator-v1-0.xlsx", it looks like "project year (stocks at beginning) 2021" should be used. Please check.
Round 2 NCR/CL/OFI	CL: Please address in line with findings.
Round 2 Response from Project Proponent	Finding in error, per call with Aster on Dec 14 2020
Findings - Round 3	The audit team confirmed that the calculation was conducted as per acr-ifm-ert-calculator-v1-0.xlsx. This item is addressed.
Item Number	33
FVS	General Quantification Finding
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Quantification Files
Findings - Round 1	This item is a new calculation finding for Round 2.
Round 1 NCR/CL/OFI	NA

Round 1 Response from Project Proponent	NA
Findings - Round 2	In “ACR IFM calc template” tab of “ACR_Cals UTK Monitoring2020_revOct2020.xlsx”, please check the coding for ERT: $\text{ROUNDDOWN}((E24-E17)*(1-\text{IF}(E26<0.1,0,E26))*(1-\$D4),0)$. I think (1-BUF) is missing from the coding, so the coding should be $\text{ROUNDDOWN}((E24-E17)*(1-\text{IF}(E26<0.1,0,E26))*(1-\$D4)*(1-\$D5),0)$. This finding is based on the template from ACR "acr-ifm-ert-calculator-v1-0.xlsx".
Round 2 NCR/CL/OFI	CL: Please address in line with findings.
Round 2 Response from Project Proponent	Buffer has not been deducted, explained in Monitoring Report Section 6 "The buffer pool contribution will be transferred from another project."
Findings - Round 3	The audit team confirmed that the risk buffer will not be included as a part of ERT quantification, as explained in UT_MonitoringReport_2020 APPENDIX_revDec2020.docx that "Note that the buffer pool contribution will be transferred from another project." This item is addressed.
Item Number	34
FVS	General Quantification Finding
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Quantification Files
Findings - Round 1	This item is a new calculation finding for Round 2.

Round 1 NCR/CL/OFI	NA
Round 1 Response from Project Proponent	NA
Findings - Round 2	<p>For “ACR_Calcs UTK_revOct2020.xlsx”, “ACR IFM calc template” tab will be re-checked after verification of ERT calculation in "ACR_Calcs UTK Monitoring2020_revOct2020_.xlsx".</p> <p>The values of Project case for ACR Account Year Date 2020 are not updated (compare the values with "ACR_Calcs UTK Monitoring2020_revOct2020_.xlsx").</p>
Round 2 NCR/CL/OFI	CL: Please address in line with findings.
Round 2 Response from Project Proponent	The values for the project scenario are not, nor need be, the same between the 20 year ex ante projection (“ACR_Calcs UTK_revOct2020.xlsx”) and the monitored values ("ACR_Calcs UTK Monitoring2020_revOct2020_.xlsx"). This is because the projections are based on modeled results (not reported for crediting), while the monitored values are based on actual measured results.
Findings - Round 3	<p>The audit team confirmed that ACR IFM calc template tab of ACR_Calcs UTK_revOct2020.xlsx is projected values and it does not reflect actual monitored values, as per call from DEC 14, 2020.</p> <p>This item is addressed.</p>
Item Number	35
American Carbon Registry Standard Version 6.0, July 2018 Section	The report shall describe the current status of project operation, and include the data monitored and monitoring plan, and the calculated emission reductions for the reporting period.
Applicability to the Project (Y or N/A)	Y

Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	Monitoring Report; GHG Plan
Findings - Round 1	All data and parameters listed in the Monitoring Plan of the GHG Plan are not reported in the MR.
Round 1 NCR/CL/OFI	CL: Please update the MR to satisfy the requirements of this criteria.
Round 1 Response from Project Proponent	Monitoring report was updated to report on parameter BS (=0, no logging slash burned during monitoring period).
Findings - Round 2	The VVB reviewed the updated MR and confirmed the MR now includes all the parameters listed in the Monitoring Plan section of the GHG Plan. This item is closed.
Item Number	36
FVS	Overarching FVS Modeling Finding
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess	FVS Files, GHG Plan
Findings - Round 1	The audit team reviewed updated modeling in line with modifications made to the baseline. It was noted that no minimum harvest threshold was applied. It is unclear how this approach is realistic in the baseline scenario, as stands with low harvestable volume are typically not financially viable for commercial clearcutting.

Round 1 NCR/CL/OFI	CL: Please clarify how the baseline without a minimum harvest threshold is appropriate, and financially feasible, for plots with low harvestable volumes.
Round 1 Response from Project Proponent	The smallest annual cuts in the baseline are 15-30 acres at Highland Rim. Per Kevin Hoyt, UT, "... some years we will potentially harvest small clearcut areas/blocks (i.e. > 10 acres to meet FSC guidelines) for research and this will be completed with either our internal staff, equipment and myself or by a small finesse logger that operates in our area/region. I believe the audit team is not aware (or has lack of knowledge) of this method of harvesting that goes on in our region. There is in fact many small commercial clearcutting that is completed throughout the East Tennessee region that may in fact only be 5 – 10 acres in size."
Findings - Round 2	The project provided an attestation from a RFP (Registered Professional Forester), Kevin Hoyt, who attests that the baseline harvests are in line with common practice. This item is closed.

Appendix B – List of Documents Received and Reviewed by Aster Global

File Name	Date Received
ACR_Calcs UTK.xlsx	8/31/2020
UT AgResearch Project GHG Plan 27Aug2020.docx	8/31/2020
UTK Aug2020 calcs and stats.xlsx	8/31/2020
UT_MonitoringReport_2020 APPENDIX.docx	8/31/2020
UT_MonitoringReport_2020.docx	8/31/2020
ACR_Calcs UTK Monitoring2020.xlsx	8/31/2020
UTK Aug2020 calcs and stats.xlsx	8/31/2020
UT_MonitoringReport_2020 APPENDIX.docx	8/31/2020
UT_MonitoringReport_2020.docx	8/31/2020
2020MR_FVSkeywords.txt	8/31/2020
2020MR_FVSoutput.txt	8/31/2020
FVSOut.db	8/31/2020
UTK FVS 2020MR Treelist OUT.xlsx	8/31/2020
CFNorthloc1.dbf	8/31/2020
CFNorthloc1.prj	8/31/2020
CFNorthloc1.qpj	8/31/2020
CFNorthloc1.shp	8/31/2020
CFNorthloc1.shx	8/31/2020
CFNorthloc1.txt	8/31/2020
CFNorthloc2.dbf	8/31/2020
CFNorthloc2.prj	8/31/2020
CFNorthloc2.qpj	8/31/2020
CFNorthloc2.shp	8/31/2020
CFNorthloc2.shx	8/31/2020
CFNorthloc2.txt	8/31/2020
CFNorthloc3.dbf	8/31/2020
CFNorthloc3.prj	8/31/2020
CFNorthloc3.qpj	8/31/2020
CFNorthloc3.shp	8/31/2020
CFNorthloc3.shx	8/31/2020
CFNorthloc3.txt	8/31/2020
CuF N boundary - topo.png	8/31/2020
CuF N boundary - topo.pngw	8/31/2020
CuF N boundary -ortho.png	8/31/2020
CuF N boundary -ortho.pngw	8/31/2020
CuF South Boundary - ortho.png	8/31/2020
CuF South Boundary - ortho.pngw	8/31/2020
CuF South Boundary - topo.png	8/31/2020
CuF South Boundary - topo.pngw	8/31/2020
morganboundary1.dbf	8/31/2020

morganboundary1.shp	8/31/2020
morganboundary1.shx	8/31/2020
morganboundary2.dbf	8/31/2020
morganboundary2.prj	8/31/2020
morganboundary2.qpj	8/31/2020
morganboundary2.shp	8/31/2020
morganboundary2.shx	8/31/2020
morganboundary3.dbf	8/31/2020
morganboundary3.prj	8/31/2020
morganboundary3.qpj	8/31/2020
morganboundary3.shp	8/31/2020
morganboundary3.shx	8/31/2020
morganboundary4.dbf	8/31/2020
morganboundary4.prj	8/31/2020
morganboundary4.qpj	8/31/2020
morganboundary4.shp	8/31/2020
morganboundary4.shx	8/31/2020
UTK inventory data for FVS.xlsx	8/31/2020
UTK_Database.accdb	8/31/2020
UTK_site_index.xlsx	8/31/2020
BSLN_FVSkeywords.txt	8/31/2020
BSLN_FVSoutput.txt	8/31/2020
FVSOut.db	8/31/2020
UTK FVS BSLN runs Carbon OUT.xlsx	8/31/2020
UTK FVS BSLN runs Cutlist OUT.xlsx	8/31/2020
UTK FVS BSLN runs SnagDet OUT.xlsx	8/31/2020
FVSOut.db	8/31/2020
NPV_FVSkeywords.txt	8/31/2020
NPV_FVSoutput.txt	8/31/2020
UTK FVS NPV runs.xlsx	8/31/2020
FVSOut.db	8/31/2020
UTK FVS WP runs Carbon OUT.xlsx	8/31/2020
UTK FVS WP runs Cutlist OUT.xlsx	8/31/2020
WP_FVSkeywords.txt	8/31/2020
WP_FVSoutput.txt	8/31/2020
ACR_Calcs UTK.xlsx	8/31/2020
bsl hwp proj UT.xlsx	8/31/2020
bsl live tree proj UT.xlsx	8/31/2020
bsl snag proj UT.xlsx	8/31/2020
UT AgResearch Project GHG Plan 27Aug2020.docx	8/31/2020
UTCommonPracticeCalcs.xlsx	8/31/2020
wp hwp proj UT.xlsx	8/31/2020

wp live tree proj UT.xlsx	8/31/2020
UTK_PlotPoints.zip	8/31/2020
UTK_Strata_rev082620.zip	8/31/2020
HRF Boundary - ortho.png	8/31/2020
HRF Boundary - ortho.pngw	8/31/2020
HRF Boundary - topo.png	8/31/2020
HRF Boundary - topo.pngw	8/31/2020
HRF Boundary.cpg	8/31/2020
HRF Boundary.dbf	8/31/2020
HRF Boundary.shp	8/31/2020
HRF Boundary.shx	8/31/2020
97Forest Growth and Yield Modeling on Continuous Forest_Richard Cristan.ppt	8/31/2020
cfi field manual.pdf	8/31/2020
Field Sheet.xlsx	8/31/2020
Plot Design.png	8/31/2020
scott county plot locator cards.pdf	8/31/2020
Thesis.pptx	8/31/2020
2012 CFI Plot Data Tally Sheets.pdf	8/31/2020
2012 CFI Tree Data Tally Sheets.pdf	8/31/2020
2012 Plot Centers.cpg	8/31/2020
2012 Plot Centers.dbf	8/31/2020
2012 Plot Centers.prj	8/31/2020
2012 Plot Centers.sbn	8/31/2020
2012 Plot Centers.sbx	8/31/2020
2012 Plot Centers.shp	8/31/2020
2012 Plot Centers.shp.xml	8/31/2020
2012 Plot Centers.shx	8/31/2020
Copy of 2012 measures.xlsx	8/31/2020
Brushy_Mtn.mxd	8/31/2020
Brushy_Nad83_16N.mxd	8/31/2020
LB_MTN.mxd	8/31/2020
Wilson_mtn.mxd	8/31/2020
Brushy_Plot_Center_2009.apl	8/31/2020
Brushy_Plot_Center_2009.dbf	8/31/2020
Brushy_Plot_Center_2009.prj	8/31/2020
Brushy_Plot_Center_2009.shp	8/31/2020
Brushy_Plot_Center_2009.shx	8/31/2020
CFSWorkPL2009.dxf Group Layer.lyr	8/31/2020
drg_s_tn129.sid.lyr	8/31/2020
SC Working PLs.dxf Group Layer.lyr	8/31/2020
SCWorkingPLs.dbf	8/31/2020

SCWorkingPLs.prj	8/31/2020
SCWorkingPLs.sbn	8/31/2020
SCWorkingPLs.sbx	8/31/2020
SCWorkingPLs.shp	8/31/2020
SCWorkingPLs.shp.xml	8/31/2020
SCWorkingPLs.shx	8/31/2020
SCWorkingPLs_Selection.dbf	8/31/2020
SCWorkingPLs_Selection.prj	8/31/2020
SCWorkingPLs_Selection.sbn	8/31/2020
SCWorkingPLs_Selection.sbx	8/31/2020
SCWorkingPLs_Selection.shp	8/31/2020
SCWorkingPLs_Selection.shp.xml	8/31/2020
SCWorkingPLs_Selection.shx	8/31/2020
CFSWorkPL2009.dbf	8/31/2020
CFSWorkPL2009.prj	8/31/2020
CFSWorkPL2009.sbn	8/31/2020
CFSWorkPL2009.sbx	8/31/2020
CFSWorkPL2009.shp	8/31/2020
CFSWorkPL2009.shp.xml	8/31/2020
CFSWorkPL2009.shx	8/31/2020
CFSWorkPL2009_Selection.dbf	8/31/2020
CFSWorkPL2009_Selection.prj	8/31/2020
CFSWorkPL2009_Selection.sbn	8/31/2020
CFSWorkPL2009_Selection.sbx	8/31/2020
CFSWorkPL2009_Selection.shp	8/31/2020
CFSWorkPL2009_Selection.shp.xml	8/31/2020
CFSWorkPL2009_Selection.shx	8/31/2020
HRF_PLpolygon.dbf	8/31/2020
HRF_PLpolygon.prj	8/31/2020
HRF_PLpolygon.sbn	8/31/2020
HRF_PLpolygon.sbx	8/31/2020
HRF_PLpolygon.shp	8/31/2020
HRF_PLpolygon.shp.xml	8/31/2020
HRF_PLpolygon.shx	8/31/2020
ORF_PLpolygon.dbf	8/31/2020
ORF_PLpolygon.prj	8/31/2020
ORF_PLpolygon.sbn	8/31/2020
ORF_PLpolygon.sbx	8/31/2020
ORF_PLpolygon.shp	8/31/2020
ORF_PLpolygon.shp.xml	8/31/2020
ORF_PLpolygon.shx	8/31/2020
Brushy_GPS_Plot.apl	8/31/2020

Brushy_GPS_Plot.dbf	8/31/2020
Brushy_GPS_Plot.prj	8/31/2020
Brushy_GPS_Plot.sbn	8/31/2020
Brushy_GPS_Plot.sbx	8/31/2020
Brushy_GPS_Plot.shp	8/31/2020
Brushy_GPS_Plot.shx	8/31/2020
roads.apl	8/31/2020
roads.dbf	8/31/2020
roads.prj	8/31/2020
roads.shp	8/31/2020
roads.shx	8/31/2020
Wilson_GPS_Plot.apl	8/31/2020
Wilson_GPS_Plot.dbf	8/31/2020
Wilson_GPS_Plot.prj	8/31/2020
Wilson_GPS_Plot.sbn	8/31/2020
Wilson_GPS_Plot.sbx	8/31/2020
Wilson_GPS_Plot.shp	8/31/2020
Wilson_GPS_Plot.shx	8/31/2020
80806170.dbf	8/31/2020
80806170.prj	8/31/2020
80806170.shp	8/31/2020
80806170.shx	8/31/2020
meta1.html	8/31/2020
Metadata.xml	8/31/2020
Brushy_mtn.jpg	8/31/2020
Brushy_mtn2.jpg	8/31/2020
Wilson_mtn.jpg	8/31/2020
Wilson_mtn2.jpg	8/31/2020
85600961.dbf	8/31/2020
85600961.prj	8/31/2020
85600961.shp	8/31/2020
85600961.shx	8/31/2020
meta1.html	8/31/2020
Metadata.xml	8/31/2020
36256387.dbf	8/31/2020
36256387.prj	8/31/2020
36256387.shp	8/31/2020
36256387.shx	8/31/2020
meta1.html	8/31/2020
Metadata.xml	8/31/2020
90010732.dbf	8/31/2020
90010732.prj	8/31/2020

90010732.shp	8/31/2020
90010732.shx	8/31/2020
meta1.html	8/31/2020
Metadata.xml	8/31/2020
Scott_Plot_Center_2009.apl	8/31/2020
Scott_Plot_Center_2009.dbf	8/31/2020
Scott_Plot_Center_2009.prj	8/31/2020
Scott_Plot_Center_2009.sbn	8/31/2020
Scott_Plot_Center_2009.sbx	8/31/2020
Scott_Plot_Center_2009.shp	8/31/2020
Scott_Plot_Center_2009.shx	8/31/2020
Brushy_Boundary.dbf	8/31/2020
Brushy_Boundary.prj	8/31/2020
Brushy_Boundary.sbn	8/31/2020
Brushy_Boundary.sbx	8/31/2020
Brushy_Boundary.shp	8/31/2020
Brushy_Boundary.shx	8/31/2020
Brushy_Compartments.dbf	8/31/2020
Brushy_Compartments.prj	8/31/2020
Brushy_Compartments.sbn	8/31/2020
Brushy_Compartments.sbx	8/31/2020
Brushy_Compartments.shp	8/31/2020
Brushy_Compartments.shx	8/31/2020
Brushy_Harvest.dbf	8/31/2020
Brushy_Harvest.prj	8/31/2020
Brushy_Harvest.sbn	8/31/2020
Brushy_Harvest.sbx	8/31/2020
Brushy_Harvest.shp	8/31/2020
Brushy_Harvest.shx	8/31/2020
Brushy_MTN_Boundary.dbf	8/31/2020
Brushy_MTN_Boundary.prj	8/31/2020
Brushy_MTN_Boundary.sbn	8/31/2020
Brushy_MTN_Boundary.sbx	8/31/2020
Brushy_MTN_Boundary.shp	8/31/2020
Brushy_MTN_Boundary.shx	8/31/2020
Brushy_Plots_by_Compartment.dbf	8/31/2020
Brushy_Plots_by_Compartment.prj	8/31/2020
Brushy_Plots_by_Compartment.sbn	8/31/2020
Brushy_Plots_by_Compartment.sbx	8/31/2020
Brushy_Plots_by_Compartment.shp	8/31/2020
Brushy_Plots_by_Compartment.shx	8/31/2020
Brushy_Plot_Center_2009.dbf	8/31/2020

Brushy_Plot_Center_2009.prj	8/31/2020
Brushy_Plot_Center_2009.shp	8/31/2020
Brushy_Plot_Center_2009.shx	8/31/2020
Road_turn_off_pts.dbf	8/31/2020
Road_turn_off_pts.prj	8/31/2020
Road_turn_off_pts.sbn	8/31/2020
Road_turn_off_pts.sbx	8/31/2020
Road_turn_off_pts.shp	8/31/2020
Road_turn_off_pts.shx	8/31/2020
Scott County Boundary.dbf	8/31/2020
Scott County Boundary.prj	8/31/2020
Scott County Boundary.sbn	8/31/2020
Scott County Boundary.sbx	8/31/2020
Scott County Boundary.shp	8/31/2020
Scott County Boundary.shx	8/31/2020
Scott_Co_Boundary.dbf	8/31/2020
Scott_Co_Boundary.prj	8/31/2020
Scott_Co_Boundary.shp	8/31/2020
Scott_Co_Boundary.shx	8/31/2020
Scott_Plots.dbf	8/31/2020
Scott_Plots.prj	8/31/2020
Scott_Plots.sbn	8/31/2020
Scott_Plots.sbx	8/31/2020
Scott_Plots.shp	8/31/2020
Scott_Plots.shx	8/31/2020
Scott_Plots_Project.edb	8/31/2020
Scott_Plots_Project.prj	8/31/2020
Scott_Plots_Project.shp	8/31/2020
Scott_Plots_Project.shx	8/31/2020
Scott_Stand_Roads.dbf	8/31/2020
Scott_Stand_Roads.prj	8/31/2020
Scott_Stand_Roads.sbn	8/31/2020
Scott_Stand_Roads.sbx	8/31/2020
Scott_Stand_Roads.shp	8/31/2020
Scott_Stand_Roads.shx	8/31/2020
Wilson Boundary .dbf	8/31/2020
Wilson Boundary .prj	8/31/2020
Wilson Boundary .sbn	8/31/2020
Wilson Boundary .sbx	8/31/2020
Wilson Boundary .shp	8/31/2020
Wilson Boundary .shx	8/31/2020
wilson.dbf	8/31/2020

wilson.prj	8/31/2020
wilson.sbn	8/31/2020
wilson.sbx	8/31/2020
wilson.shp	8/31/2020
wilson.shx	8/31/2020
Wilson_Harvest.dbf	8/31/2020
Wilson_Harvest.prj	8/31/2020
Wilson_Harvest.sbn	8/31/2020
Wilson_Harvest.sbx	8/31/2020
Wilson_Harvest.shp	8/31/2020
Wilson_Harvest.shx	8/31/2020
wilson_Plots.dbf	8/31/2020
wilson_Plots.prj	8/31/2020
wilson_Plots.sbn	8/31/2020
wilson_Plots.sbx	8/31/2020
wilson_Plots.shp	8/31/2020
wilson_Plots.shp.xml	8/31/2020
wilson_Plots.shx	8/31/2020
Wilson_Plots2009_Projected.dbf	8/31/2020
Wilson_Plots2009_Projected.prj	8/31/2020
Wilson_Plots2009_Projected.sbn	8/31/2020
Wilson_Plots2009_Projected.sbx	8/31/2020
Wilson_Plots2009_Projected.shp	8/31/2020
Wilson_Plots2009_Projected.shx	8/31/2020
Wilson_Plot_Center_2009.dbf	8/31/2020
Wilson_Plot_Center_2009.prj	8/31/2020
Wilson_Plot_Center_2009.shp	8/31/2020
Wilson_Plot_Center_2009.shx	8/31/2020
Wilson_Stand_Roads.dbf	8/31/2020
Wilson_Stand_Roads.prj	8/31/2020
Wilson_Stand_Roads.sbn	8/31/2020
Wilson_Stand_Roads.sbx	8/31/2020
Wilson_Stand_Roads.shp	8/31/2020
Wilson_Stand_Roads.shx	8/31/2020
Wilson_Plot_Center_2009.apl	8/31/2020
Wilson_Plot_Center_2009.dbf	8/31/2020
Wilson_Plot_Center_2009.prj	8/31/2020
Wilson_Plot_Center_2009.shp	8/31/2020
Wilson_Plot_Center_2009.shx	8/31/2020
FRREC Management Plan.pdf	8/31/2020
TPlot for Foresters 16 tabs June 2020.xls	8/31/2020
US Forest Service Log Grade Field Card.pdf	8/31/2020

UTIA_FMP_DRAFT_TC.docx	8/31/2020
NPV additionality UTK.xlsx	8/31/2020
NPV UTK.xlsx	8/31/2020
TENNESSEE 4Q2019.pdf	8/31/2020
ORF Compartments updated 2017.png	8/31/2020
ORF Compartments updated 2017.pngw	8/31/2020
stand polys.cpg	8/31/2020
stand polys.dbf	8/31/2020
stand polys.prj	8/31/2020
stand polys.qpj	8/31/2020
stand polys.shp	8/31/2020
stand polys.shx	8/31/2020
ORF boundary 2-18.cpg	8/31/2020
ORF boundary 2-18.dbf	8/31/2020
ORF boundary 2-18.prj	8/31/2020
ORF boundary 2-18.qpj	8/31/2020
ORF boundary 2-18.shp	8/31/2020
ORF boundary 2-18.shx	8/31/2020
ORF Boundary 2018 Aerial (w-forensic).pdf	8/31/2020
ORF Boundary 2018 Aerial.pdf	8/31/2020
ORF Boundary 2018 Topo (w-forensic).pdf	8/31/2020
ORF Boundary 2018 Topo.pdf	8/31/2020
HRF Deed Call Map (with designated triangle parcel - red font).pdf	8/31/2020
UT Cumberland Forest - North Tract (CFI plot location grid).pdf	8/31/2020
UT Cumberland Forest - North Tract - Plat Map.pdf	8/31/2020
UT Cumberland Forest - South Tract (CFI Plot Location map).pdf	8/31/2020
UT Cumberland Forest - South Tract (Little Brushy Mt.) - Plat Map.pdf	8/31/2020
UT Cumberland Forest - South Tract (Wilson Mt.) - Plat Map.pdf	8/31/2020
UT Cumberland Forest - South Tract Working Boundary Map (on color topo).pdf	8/31/2020
UT FRREC - Highland Rim Forest Google Boundary Line Map .pdf	8/31/2020
UT FRREC - Oak Ridge Forest - Rogers Group 56 acre parcel legal description.pdf	8/31/2020
UT FRREC - Oak Ridge Forest Property Map.pdf	8/31/2020
UT FRREC AND ROGERS PROPERTY SALE (56 ACRE PARCEL).pdf	8/31/2020
Plot Maps CN.pdf	8/31/2020
Plot Maps CS.pdf	8/31/2020
Plot Maps HR.pdf	8/31/2020
Plot Maps OR.pdf	8/31/2020

UTK Overview Plot Map.pdf	8/31/2020
FINAL UTIA forest C inventory SOPs UPDATED 12Mar2020 CLEAN.docx	8/31/2020
UT inventory results 2020.docx	8/31/2020
UTK inventory calcs and stats 24Aug2020.xlsx	8/31/2020
UTK sample design 2018 data.xlsx	8/31/2020
UTK sample design Aug2018 data.xlsx	8/31/2020
Aster UTIA Round 1 findings and responses.xlsx	11/5/2020
ACR_Calcs UTK Monitoring2020_revOct2020.xlsx	11/5/2020
ACR_Calcs UTK_revOct2020.xlsx	11/5/2020
Aster UTIA Round 1 findings and responses.xlsx	11/5/2020
bsl hwp proj UT_revOct2020.xlsx	11/5/2020
bsl live tree proj UT_revOct2020.xlsx	11/5/2020
bsl snag proj UT_revOct2020.xlsx	11/5/2020
FINAL UTIA forest C inventory SOPs _revOct2020.docx	11/5/2020
NPV additionality UTK _revOct2020.xlsx	11/5/2020
NPV UTK_revOct2020.xlsx	11/5/2020
ORF Sale Map Revised 1-16-19.png	11/5/2020
pb1523.pdf	11/5/2020
response finding 14 boundary adjustments.docx	11/5/2020
TS-ORF-19-1 Bid and Sale Conditions (FINAL2).doc	11/5/2020
UT AgResearch Project GHG Plan_revOct2020.docx	11/5/2020
UT inventory results 2020_revOct2020.docx	11/5/2020
UTCommonPracticeCalcs_revOct2020.xlsx	11/5/2020
UTIA_FMP_Sections_1_9_TC_10_16_2020.docx	11/5/2020
UTK GROWN Aug2020 calcs and stats_revOct2020.xlsx	11/5/2020
UTK inventory calcs and stats revOct2020.xlsx	11/5/2020
UTK_OakRidge_HarvestCalcs_2020.xlsx	11/5/2020
UTK_Strata_rev10302020.zip	11/5/2020
UT_MonitoringReport_2020 APPENDIX_revOct2020.docx	11/5/2020
UT_MonitoringReport_2020_revOct2020.docx	11/5/2020
wp hwp proj UT_revOct2020.xlsx	11/5/2020
wp live tree proj UT_revOct2020.xlsx	11/5/2020
ACR Annual Attestation requirement for UTIA project email from ACR.msg	11/5/2020
RE Question regarding state sanctioned forest management plans.msg	11/5/2020
RE questions for our carbon audit finding re leakage.msg	11/5/2020
CF Unit Deed.pdf	11/5/2020
HRF QUITCLAIM DEED 1960.pdf	11/5/2020
Mineral_Lease_CumberlandForest.png	11/5/2020
UT AgResearch - Oak Ridge Forest (QUITCLAIM DEED) 1961.pdf	11/5/2020

UTK FVS 2020MR Treelist OUT revOct2020.xlsx	11/5/2020
UTK FVS BSLN runs Carbon OUT revOct2020.xlsx	11/5/2020
UTK FVS BSLN runs Cutlist OUT revOct2020.xlsx	11/5/2020
UTK FVS BSLN runs SnagDet OUT revOct2020.xlsx	11/5/2020
UTK FVS BSLN runs SUMMARY OUT revOct2020.xlsx	11/5/2020
UTK FVS NPV runs revOct2020.xlsx	11/5/2020
UTK FVS WP runs Carbon OUT revOct2020.xlsx	11/5/2020
UTK FVS WP runs Cutlist OUT revOct2020.xlsx	11/5/2020
UTK FVS WP runs SUMMARY OUT revOct2020.xlsx	11/5/2020
UTK_Database revOct2020.accdb	11/5/2020
MOA FINAL Executed UT-TNC.pdf	11/5/2020
TNC UTIA Carbon Development and Marketing Agreement 11_26_2019.pdf	11/5/2020
TNC UTIA Working Woodlands Agreement 11_26_2019.pdf	11/5/2020
Aster UTIA Round 1 findings and responses (003).xlsx	11/24/2020
Leased UT Owned REC Acreage Report.xlsx	11/24/2020
List and area of UT AgRECs_cover letter to TNC_Nov_20_2020.pdf	11/24/2020
20059.00 UT TNC Round 2 Findings 20201209_Responses.xlsx	12/23/2020
ACR_Calcs UTK Monitoring2020_revDec2020.xlsx	12/23/2020
ACR_Calcs UTK_revDec2020.xlsx	12/23/2020
bsl hwp proj UT_revDec2020.xlsx	12/23/2020
bsl live tree proj UT_revDec2020.xlsx	12/23/2020
bsl snag proj UT_revDec2020.xlsx	12/23/2020
NPV additionality UTK_revDec2020.xlsx	12/23/2020
NPV UTK_revDec2020.xlsx	12/23/2020
UT AgResearch Project GHG Plan_revDec2020.docx	12/23/2020
UT inventory results 2020_revDec2020.docx	12/23/2020
UTK GROWN Aug2020 calcs and stats_revDec2020.xlsx	12/23/2020
UTK inventory calcs and stats revDec2020.xlsx	12/23/2020
UT_MonitoringReport_2020 APPENDIX_revDec2020.docx	12/23/2020
UT_MonitoringReport_2020_revDec2020.docx	12/23/2020
wp hwp proj UT_revDec2020.xlsx	12/23/2020
wp live tree proj UT_revDec2020.xlsx	12/23/2020
ACR attestation_Xin_Jan_11_2021.pdf	12/23/2020
Congratulations - The University of Tennessee is FSC Certified .msg	12/23/2020
Leased UT Owned REC Acreage Report updated Jan_11_2021.xlsx	12/23/2020
UTK FVS 2020MR Treelist OUT revDec2020.xlsx	12/23/2020
UTK FVS BSLN runs Carbon OUT revDec2020.xlsx	12/23/2020
UTK FVS BSLN runs Cutlist OUT revDec2020.xlsx	12/23/2020
UTK FVS BSLN runs SnagDet OUT revDec2020.xlsx	12/23/2020

UTK FVS BSLN runs SUMMARY OUT revDec2020.xlsx	12/23/2020
UTK FVS NPV runs revDec2020.xlsx	12/23/2020
UTK FVS WP runs Carbon OUT revDec2020.xlsx	12/23/2020
UTK FVS WP runs Cutlist OUT revDec2020.xlsx	12/23/2020
UTK FVS WP runs SUMMARY OUT revDec2020.xlsx	12/23/2020
UTK_Database revDec2020.accdb	12/23/2020
20059.00 UT TNC Round 2 Findings 20201209_Responses.xlsx	1/13/2021
ACR_Calcs UTK Monitoring2020_revDec2020.xlsx	1/13/2021
ACR_Calcs UTK_revDec2020.xlsx	1/13/2021
bsl hwp proj UT_revDec2020.xlsx	1/13/2021
bsl live tree proj UT_revDec2020.xlsx	1/13/2021
bsl snag proj UT_revDec2020.xlsx	1/13/2021
NPV additionality UTK _revDec2020.xlsx	1/13/2021
NPV UTK_revDec2020.xlsx	1/13/2021
UT AgResearch Project GHG Plan_revDec2020.docx	1/13/2021
UT inventory results 2020_revDec2020.docx	1/13/2021
UTK GROWN Aug2020 calcs and stats_revDec2020.xlsx	1/13/2021
UTK inventory calcs and stats revDec2020.xlsx	1/13/2021
UT_MonitoringReport_2020 APPENDIX_revDec2020.docx	1/13/2021
UT_MonitoringReport_2020_revDec2020.docx	1/13/2021
wp hwp proj UT_revDec2020.xlsx	1/13/2021
wp live tree proj UT_revDec2020.xlsx	1/13/2021
ACR attestation_Xin_Jan_11_2021.pdf	1/13/2021
Congratulations - The University of Tennessee is FSC Certified .msg	1/13/2021
Leased UT Owned REC Acreage Report updated Jan_11_2021.xlsx	1/13/2021
UTK FVS 2020MR Treelist OUT revDec2020.xlsx	1/13/2021
UTK FVS BSLN runs Carbon OUT revDec2020.xlsx	1/13/2021
UTK FVS BSLN runs Cutlist OUT revDec2020.xlsx	1/13/2021
UTK FVS BSLN runs SnagDet OUT revDec2020.xlsx	1/13/2021
UTK FVS BSLN runs SUMMARY OUT revDec2020.xlsx	1/13/2021
UTK FVS NPV runs revDec2020.xlsx	1/13/2021
UTK FVS WP runs Carbon OUT revDec2020.xlsx	1/13/2021
UTK FVS WP runs Cutlist OUT revDec2020.xlsx	1/13/2021
UTK FVS WP runs SUMMARY OUT revDec2020.xlsx	1/13/2021
UTK_Database revDec2020.accdb	1/13/2021
acr-project-listing-form-v2-0-20190620.pdf	1/13/2021
ACR attestation_Xin_Jan_11_2021.pdf	1/13/2021
Leased UT Owned REC Acreage Report updated Jan_11_2021.xlsx	1/13/2021
The Nature Conservancy FSC CoC cert IN-2018-1.pdf	1/13/2021
UT_acr-monitoring-report_final_1.25.21.pdf	2/2/2021

UT_acr-monitoring-report_final_2.09.21 (1)	2/9/2021
ACR_Calcs UTK Monitoring2020_revFeb2020	2/16/2021
UT AgResearch Project GHG Plan FINAL12232020	2/16/2021
UT_acr-monitoring-report_final_2.17.21	2/17/2021
UT AgResearch Project GHG Plan FINAL12232020 (1)	2/19/2021
UT_acr-monitoring-report_final_2.19.21	2/19/2021
UT FRREC FMP 2020_ClimateSmart_TC.docx	4/23/2021
ACR579_ UniversityOfTennessee_RP1_ACR_Review_v1 0 TC and TNC responses.docx	4/30/2021
UTK_Strata_rev04_22_2021.shp.zip	5/6/2021
ACR579_ UniversityOfTennessee_RP1_ACR_Review_v2 0 responses.docx	5/7/2021
UT AgResearch Project GHG Plan rev7May2021.docx	5/7/2021
UT AgResearch Project GHG Plan rev8May2021.docx	5/7/2021
UTK_Strata_rev04_22_2021.shp.zip	5/7/2021
ACR_Calcs UTK Monitoring2020_revOct2021.xlsx	1/27/2022
ACR_Calcs UTK_revOct2021.xlsx	1/27/2022
BSL REV SnagDet.xlsx	1/27/2022
FVS Online Project.boxnote	1/27/2022
NPV additionality UTK_revOct2021.xlsx	1/27/2022
UT AgResearch Project GHG Plan revDec2021 clean.docx	1/27/2022
UT AgResearch Project GHG Plan revOct2021 track changes.docx	1/27/2022
UT_acr-monitoring-report_revOct2021 clean.docx	1/27/2022
UT_acr-monitoring-report_revOct2021 track changes.docx	1/27/2022
UT_MonitoringReport_2020 APPENDIX_revOct2021 clean.docx	1/27/2022
UT_MonitoringReport_2020 APPENDIX_revOct2021 track changes.docx	1/27/2022
UTK FVS BSL REV Cutlist.xlsx	1/27/2022
UTK FVS BSL REV Stand C.xlsx	1/27/2022
UTK_Database revDec2020.accdb	1/27/2022
wp live tree proj UT_revDec2020.xlsx	1/27/2022
2c7dc9ce-5383-4607-a024-01d60edbf85e.key	1/27/2022
2c7dc9ce-5383-4607-a024-01d60edbf85e.out	1/27/2022
2c7dc9ce-5383-4607-a024-01d60edbf85e.RData	1/27/2022
3a37e7bc-d2d2-42c6-aa4e-a3b4b2f54084.key	1/27/2022
3a37e7bc-d2d2-42c6-aa4e-a3b4b2f54084.out	1/27/2022
3a37e7bc-d2d2-42c6-aa4e-a3b4b2f54084.RData	1/27/2022
43441b4e-da37-4884-a915-9928e43b9dae.key	1/27/2022
43441b4e-da37-4884-a915-9928e43b9dae.out	1/27/2022
43441b4e-da37-4884-a915-9928e43b9dae.RData	1/27/2022

43441b4e-da37-4884-a915-9928e43b9dae.sng	1/27/2022
5e92cd80-3a3d-4379-8d60-33369a59ea00.key	1/27/2022
5e92cd80-3a3d-4379-8d60-33369a59ea00.out	1/27/2022
5e92cd80-3a3d-4379-8d60-33369a59ea00.RData	1/27/2022
AcadianGY.R	1/27/2022
AdirondackFunctionsV1.R	1/27/2022
AdirondackV1.R	1/27/2022
autoOutKeys.R	1/27/2022
componentWins.R	1/27/2022
customRun_fvsRunAcadian.R	1/27/2022
customRun_fvsRunAdirondack.R	1/27/2022
databaseDescription.xlsx	1/27/2022
editDataUtilities.R	1/27/2022
FVS_Data.db	1/27/2022
FVS_Data.db.default	1/27/2022
FVS_Data.db.empty	1/27/2022
FVS_Runs.RData	1/27/2022
FVSie.so	1/27/2022
FVSOnline.log	1/27/2022
FVSOnline.older.log	1/27/2022
fvsOnlineHelp.html	1/27/2022
fvsOnlineHelpRender.html	1/27/2022
FVSOut.db	1/27/2022
fvsOutUtilities.R	1/27/2022
fvsRunUtilities.R	1/27/2022
FVSsn.so	1/27/2022
mkInputElement.R	1/27/2022
mkpkeys.R	1/27/2022
modalDialog.R	1/27/2022
nullPlot.png	1/27/2022
prms.RData	1/27/2022
projectId.txt	1/27/2022
projectIsLocked.txt	1/27/2022
runScripts.R	1/27/2022
server.R	1/27/2022
SpatialData.RData	1/27/2022
SpatialData.RData.default	1/27/2022
sqlQueries.R	1/27/2022
svsTree.R	1/27/2022
treeforms.RData	1/27/2022
ui.R	1/27/2022
fvsAddActivity.R	1/27/2022

fvsAddTrees.R	1/27/2022
fvsCompositeSum.R	1/27/2022
fvsGetDims.R	1/27/2022
fvsGetEventMonitorVariables.R	1/27/2022
fvsGetRestartcode.R	1/27/2022
fvsGetSpeciesAttrs.R	1/27/2022
fvsGetSpeciesCodes.R	1/27/2022
fvsGetStandIDs.R	1/27/2022
fvsGetSummary.R	1/27/2022
fvsGetSVSDims.R	1/27/2022
fvsGetSVSObjectSet.R	1/27/2022
fvsGetTreeAttrs.R	1/27/2022
fvsGetUnitConversion.R	1/27/2022
fvsInteractRun.R	1/27/2022
fvsLoad.R	1/27/2022
fvsRun.R	1/27/2022
fvsSetCmdLine.R	1/27/2022
fvsSetSpeciesAttr.R	1/27/2022
fvsSetTreeAttr.R	1/27/2022
fvsSetupSummary.R	1/27/2022
FVSlogo.png	1/27/2022
message-handler.js	1/27/2022
TNC FSC FM audit 22 DRAFT Feb 7.pdf	2/11/2022
TNC FSC - FINAL for Cal year 21.pdf	2/24/2022
20059.00_TNC_UT_Round 1 Findings _Response28Mar2022 (2).xlsx	3/29/2022
ACR_Calcs UTK Monitoring2020_revMar2022.xlsx	3/29/2022
TS-CF-2020-01.pdf	3/29/2022
TS-HRF-2015-01.pdf	3/29/2022
TS-HRF-2017-01.pdf	3/29/2022
TS-ORF-2019-01.pdf	3/29/2022
UT_acr-monitoring-report_revMar2022 (2).docx	3/29/2022
UT_UpdatedHarvestAreas_20220419.cpg	4/19/2022
UT_UpdatedHarvestAreas_20220419.dbf	4/19/2022
UT_UpdatedHarvestAreas_20220419.prj	4/19/2022
UT_UpdatedHarvestAreas_20220419.qmd	4/19/2022
UT_UpdatedHarvestAreas_20220419.shp	4/19/2022
UT_UpdatedHarvestAreas_20220419.shx	4/19/2022
Attestation From Kevin Hoyt Professional Forester.pdf	5/19/2022
FW_ UT IFM project, harvest feasibility demonstration - draft response to CL.eml	5/19/2022
UT_acr-monitoring-report_revJun2022.docx	6/7/2022
UT_acr-monitoring-report_revJun2022 (1).docx	6/15/2022

UT_acr-monitoring-report_revJun2022 FINAL SIGNED.pdf	06/17/2022
UT AgResearch Project GHG Plan revDec2021 clean FINAL.docx	06/17/2022