



VALIDATION/VERIFICATION REPORT
ACR VALIDATION/VERIFICATION OF BLUESOURCE - SHAAN SEET IMPROVED
FOREST MANAGEMENT PROJECT
ACR534

Date: 3/15/2021

Version: 1.4

Lead Verifier: Lawson Henderson

Technical Reviewer: Pablo Reed

Table of Contents

Summary.....	2
Abbreviations.....	4
1 Introduction	1
1.1 Project Participants	1
1.2 Description of Project.....	2
1.3 Validation/Verification Objectives.....	2
1.4 Validation/Verification Scope and Criteria	3
1.5 Materiality	4
1.6 Level of Assurance.....	5
1.7 Audit Team	5
2 Audit Process and Methodology	5
2.1 Desk Review.....	5
2.2 Site Visit.....	6
2.3 Quantitative Review (only required for verification)	7
2.4 Interviews.....	8
2.5 Findings	8
2.6 Audit Schedule	9
2.7 Validation Activities	9
2.8 Eligibility Requirements.....	10
2.9 Additionality	12
2.10 Permanence and Risk Mitigation.....	15
2.11 Baseline.....	15
2.12 Leakage	17
2.13 Monitoring Requirements	17
2.14 Community and Environmental Impacts.....	19
2.15 Stakeholder Comments.....	20
2.16 Validation Conclusion	20
3 Verification Activities.....	21
3.1 Project Implementation Status	21

3.2	Data-Checks & Materiality.....	21
3.3	Verification Conclusion.....	25
Appendix A: Reference List		26
	Project Documents	26
	Verifier Documents	28
Appendix B: Findings List		29
Appendix C: Version Tracking		69

Project Name	Bluesource - Shaan Seet Improved Forest Management Project
Project ID	ACR 534
Reporting Period	1/10/2019 – 1/09/2020
Client	Bluesource, LLC
Date of Issue	3/15/2021
Prepared By	S&A Carbon, LLC
Contact	7831 SE Stark Street, Suite 202 Portland, OR 97215 www.saacarbon.com
Audit Team	Lead Auditor: Lawson Henderson Technical Reviewer: Pablo Reed Verification Support: Caitlin Littlefield & Elizabeth McGarrigle Verification Site Visit Team: Beth Daut Project Manager/Approver: Alexa Kandarlis

Summary

The Bluesource – Shaan Seet Improved Forest Management Project is located on approximately 8,891 acres of old growth hemlock-spruce forests on the West side of Prince of Wales Island in Southeastern Alaska. It is part of a much larger land holding of 23,040 acres received by Shaan Seet, Inc. under the terms of the Alaska Native Settlements Act (ANCSA). Historically, forests on these lands were utilized for subsistence use. In the early 1900s it was used for timber supply to support the construction of a cannery, and subsequently used to serve several harvesting and marketing contracts to supply timber to Sealaska Timber Corporation, an Oregon-based timber company and Alaska Timber Corporation in the 1980s.

The project activity is improved forest management, with Shaan Seet, Inc.'s forest management practices representing a significant improvement in the carbon storage and conservation value than higher return, more aggressive management regimes of industrial private lands in the region, which are characterized by shorter, even-aged rotations. Management decisions of the forest focus on sustainable, natural forest growth and maintenance harvests for essential activities and forest health. The project ensures long-term sustainable management of the forests, which could otherwise undergo significant commercial timber harvesting. By committing to maintain forest CO₂ stocks above the regional baseline level, the project will provide significant climate benefits through carbon sequestration. The aim of this project is also to ensure long-term continuance of all environmental benefits provided by the preservation of the old growth sections of forestland.

This report presents the results of the project's validation and initial verification to the American Carbon Registry (ACR) Standards. Its purpose is to systematically assess and report the project's conformance with the ACR standard requirements corresponding to the first reporting period from 1/10/2019 – 1/9/2020. The evaluation involved; document analysis, interviews with interested parties; relevant actors, as well as observations and measurements made directly in the field, while considering a representative sample of the project activities and sites. Validation activities included forest inventory checks, interviews with project managers, contractors and other relevant stakeholders. The context of the surrounding landscape conditions under the baseline and project scenarios was also assessed. The scope of the verification included the ACR verification of the project's initial monitoring period to determine the project's conformance with the ACR Standard version 6.0, the applied ACR Methodology, supporting ACR Program documents, and implementation of the validated GHG Plan.

The verification was performed through a combination of document review, interviews and communications with relevant personnel, as well as on-site inspections. The site visit to the project was conducted from 18 August 2020 to 19 August 2020, on Prince of Wales Island, Alaska USA. The verification process included several official and documented exchanges between the verifier team and the project proponents in order to gather additional information for review and for examination of compliance with all applicable criteria. These exchanges included 3 rounds of an Issues Log produced by S&A to which the project proponents were required to respond, and for which 10 Non-Conformances, 6 Clarification requests, and 5 New Information Requests were identified. Verifiers confirmed in an email to the project proponents dated 10 December 2020 that all remaining issues were satisfied in the responses provided in the Issues Log.

Once all identified issues were adequately resolved, S&A Carbon drafted this final combined validation & verification report and deems, with a reasonable level of assurance, that the project is in conformance with all of the requirements in the ACR Standards version 6.0, without qualifications or limitations. The project has been implemented in accordance with the validated GHG Plan over the initial monitoring

period with no deviations from the described project activities in the GHG Plan or from the applied ACR methodology.

S&A Carbon is thus able to issue a positive validation opinion of the project's design as outlined in the GHG Plan dated 09 March 2021 and the projected ex-ante GHG emission reductions of 654,347 tCO₂e over the first 20 year crediting period. S&A Carbon is also able to issue a positive verification opinion for the 98,604 tCO₂e of verified emissions reductions, as reported in the Initial Monitoring Report dated 09 March 2020. The verification assessment covered the monitoring period from 10 January 2019 to 9 January 2020 and verified that calculated emission reductions were achieved during the monitoring period with a reasonable level of assurance. The overall risk rating was 16%. Therefore, the total number of credits to be deposited in the buffer account for the initial monitoring period is 15,777 ERTs and the total ERTs to be issued are 82,827 tCO₂e.

Abbreviations

ANSI	American National Standards Institute
BMP	Best Management Practices
CAR	Climate Action Reserve
CO ₂ e	Carbon Dioxide Equivalent
CP	Common Practice
CRT	Climate Reserve Tonnes
EPA	Environmental Protection Agency
ERTs	Emission Reduction Tons
FPP	Forest Project Protocol
GHG	Greenhouse Gas
HWP	Harvested Wood Products
ICS	Initial Carbon Stocks
NRCS	USDA Natural Resource Conservation Service
OMM	Offset Material Misstatement
OP	Offset Provider
PD	Project Developer
PDD	Project Data Document
PP	Project Proponent
RPF	Registered Professional Forester
S&A	S&A Carbon
t	Metric Tonnes
U.S.A	United States of America
USDA	United States Department of Agriculture

1 Introduction

S&A Carbon (S&A) has been asked by Bluesource to verify the emission reductions generated by the Bluesource - Shaan Seet Improved Forest Management Project (the project). The validation/verification process is required by the American Carbon Registry's Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands (ACR IFM Methodology), version 1.3. S&A validation/verification activities began on 8/6/2020. This report presents the findings from the validation/verification of the project's greenhouse gas (GHG) emission reductions/enhancements.

The Offset Project Registry (OPR) for this project is the American Carbon Registry (ACR), listed as ACR534.

1.1 Project Participants

Role	Project Participant	Contact Information
Project Proponent	Shaan Seet, Incorporated	Ed Douville 501, Main Street Craig, AK 99921 907-826-3251
Offset Developer	Bluesource, LLC	Liz Lott 2825 E. Cottonwood Parkway, Ste 400, Cottonwood Heights, UT 84121 949-233-1501
Forest Inventory Contractor	Terra Verde Inc.	Brian Kleinhenz 1200 E. Ennis Ct. La Center, WA 98629-5460 360-263-0677

Entities listed in the table above are collectively referred to as project participants throughout this document.

1.2 Description of Project

The Bluesource - Shaan Seet Improved Forest Management Project (ACR534) (the Project) is an Improved Forest Management Project (IFM) project, consisting of 8,891 acres of forestland in the state of Alaska. The project consists of old growth hemlock-spruce forests on the West side of Prince of Wales Island in Southeastern Alaska. The governing jurisdiction is Prince of Wales – Hyder Census Area, in SE Alaska. Historically, forests on these lands were utilized for subsistence use. In the early 1900s it was used for timber supply to support the construction of a cannery, and subsequently used to serve several harvesting and marketing contracts to supply timber to Sealaska Timber Corporation, an Oregon-based timber company and Alaska Timber Corporation in the 1980s.

The project activity is improved forest management, with Shaan Seet, Inc.'s forest management practices representing a significant improvement in the carbon storage and conservation value than higher return, more aggressive management regimes of industrial private lands in the region, which are characterized by shorter, even-aged rotations. Management decisions of the forest focus on sustainable, natural forest growth and maintenance harvests for essential activities and forest health. The project ensures long-term sustainable management of the forests, which could otherwise undergo significant commercial timber harvesting.

Project Commencement Date: 1/10/2019
Reporting Period Start Date: 1/10/2019
Reporting Period End Date: 1/9/2020
Crediting Period Start Date: 1/10/2019
Crediting Period End Date: 1/9/2039
Validation/Verification Start Date: 8/6/2020

1.3 Validation/Verification Objectives

This is the Project's ACR validation and initial verification. This will be a combined project validation and full initial verification, including a site visit to assess the Project's conformance with the ACR criteria outlined below, corresponding to the first reporting period from 1/10/2019 – 1/9/2020.

The objectives of validation are to evaluate:

- Conformance to the ACR Standard;

- GHG emissions reduction project planning information and documentation in accordance with the applicable ACR-approved methodology, including the project description, baseline, eligibility criteria, monitoring and reporting procedures, and quality assurance/quality control (QA/QC) procedures;
- Reported GHG baseline, ex ante estimated project emissions and emission reductions/removal enhancements, leakage assessment, and impermanence risk assessment and mitigation (if applicable).

The objectives of verification are to evaluate the following:

- Reported GHG baseline, project emissions and emission reductions/removal enhancements, leakage assessment, and impermanence risk assessment and mitigation (if applicable);
- Any significant changes to the project procedures or criteria since the last verification (N/A); and
- Any significant changes in the GHG project's baseline emissions and emission reductions/removal enhancements since the last verification (N/A).

Further, S&A will review the GHG Project Plan, GHG Assertion and any additional relevant documentation to determine:

- That the reported emissions reductions and/or removal enhancements are real;
- Degree of confidence in and completeness of the GHG assertion;
- That project implementation is consistent with the GHG Project Plan;
- Eligibility for registration on ACR; and
- Sources and magnitude of potential errors, omissions, and misrepresentations, including:
 - o Inherent risk of material misstatement; and
 - o Risk that the existing controls of the GHG project will not prevent or detect a material misstatement

1.4 Validation/Verification Scope and Criteria

Validation shall include examination of all the following elements of a GHG Project Plan:

- Project boundary and procedures for establishing the project boundary;
- Physical infrastructure, activities, technologies, and processes of the project;
- GHGs, sources, and sinks within the project boundary;
- Temporal boundary;
- Description of and justification for the baseline scenario;
- Demonstration of additionality;
- Methodologies, algorithms, and calculations that will be used to generate estimates of emissions and emission reductions/removal enhancements;
- Process information, source identification/counts, and operational details;

- Data management systems;
- QA/QC procedures;
- Processes for uncertainty assessments; and
- Project-specific conformance to ACR eligibility criteria

Verification shall include examination of some or all of the following elements of a GHG Project Plan:

- Physical infrastructure, activities, technologies, and processes of the GHG project;
- GHG SSRs within the project boundary;
- Temporal boundary;
- Baseline scenarios;
- Methods and calculations used to generate estimates of emissions and emission reductions/removal enhancements;
- Original underlying data and documentation as relevant and required to evaluate the GHG assertion;
- Process information, source identification/counts, and operational details;
- Data management systems;
- Roles and responsibilities of project participants or project proponent staff;
- QA/QC procedures and results;
- Processes for and results from uncertainty assessments; and
- Project-specific conformance to ACR eligibility criteria

The criteria for the offset verification services are:

- The American Carbon Registry Standard, v6.0, July 2019
- The ACR Validation and Verification Standard, v1.1, May 2018
- The Improved Forest Management (IFM) Methodology for Non-Federal U.S. Forestlands, v1.3, April 2018
- ACR Tool for Risk Analysis and Buffer Determination v1.0
- ISO Standards 14064-2 and 14064-3, 2006

1.5 Materiality

The verification team must state with reasonable assurance that the percent overstatement of the total reported GHG emission reductions and removal enhancements are no more than a 5.00% overstatement of the “true” GHG emission reductions and removal enhancements, as calculated by the verifier using the equation below. The analysis must consider all errors, omissions or misstatements for the subset of data included in the data checks.

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

1.6 Level of Assurance

S&A Carbon provides reasonable assurance that the Project meets the above criteria.

1.7 Audit Team

Role	Name
Lead Verifier	Lawson Henderson
Technical Reviewer	Pablo Reed
Verification Support	Elizabeth McGarrigle Caitlin Littlefield
Verification Site Visit	Beth Daut
Project Manager/Approver	Alexa Kandarlis

2 Audit Process and Methodology

S&As audit included the following activities:

2.1 Desk Review

A document request and kickoff call agenda list were sent to the PP on 8/5/2020. A kickoff conference call was held on 8/6/2020. The project team and verifiers discussed initial findings from a desk review of submitted documents, targeting aspects of the project and supporting information that might affect the evaluation. Meeting minutes were prepared following the kickoff meeting.

The GHG Plan and Monitoring Report were provided 7/20/2020. The verifiers reviewed these documents and assessed the eligibility criteria required to design, measure, and monitor the Project to the requirements of the FPP. Verifiers confirmed that the ACR eligibility requirements were met. The Verification Plan was completed and sent to the PP.

A draft Sampling Plan was prepared based on information available from the PP. The Sampling Plan evaluates the credibility and rigor of the verification methodology items. A risk evaluation was conducted assessing the Inventory Methodology Verification Items of the ACR Standard. Finally, the plan outlined a sampling scheme, based on the risk assessment and document reviews, to evaluate the projects monitoring system's compliance with the ACR Standard. The final Sampling Plan summarizes the results of the sampling and the data checks performed on the sampled data.

The Sampling Plan will be retained by S&A for a period of not less than 15 years following the submission of the Project Verification Statement. All material received, reviewed, and generated by the provision of Offset Verification Services will be retained by S&A for the same period.

2.2 Site Visit

A site visit was conducted by Beth Daut from 8/18/2020 through 8/19/2020. An opening meeting was conducted on 8/18/2020. Attendees of the opening meeting are as follows:

Attendee	Company	Role	Attend Opening Meeting	Attend Field Sampling	Attend Closing Meeting
Lawson Henderson	S&A Carbon	Lead Auditor	X		X
Ian Hash	Bluesource, LLC	Project Developer	X	X	X
Brian Kleinhenz	Terra Verde Inc.	Forest Inventory Contractor	X	X	
Beth Daut	S&A Carbon	Contractor, S&A Site Visit Team	X	X	

During the opening meeting, the objectives of the site visit and overall validation/verification process were presented by the verification team including an overview of the statistical t-test required for verification of the forest inventory; the qualifications of the PP were confirmed; inventory procedures and QA/QC were discussed and clarified; and site visit logistics & safety, personnel and vehicles/transport, and schedules were discussed and planned.

Over the course of two days, verification team activities included the measurement of five randomly selected forest inventory plots across the project area. Following plot data collection, the verifiers ran their verification data through the t-test. The analysis showed that the project's inventory was verifiable at a confidence interval of 90%. Further, throughout the site visit, GPS data were collected, conditions of the forested conditions (e.g. species composition, age class, canopy cover) found on the project area was observed, and baseline common practice forest management practices in the surrounding region was assessed.

A closing meeting for the site visit was held on 8/19/2020. Attendees are described in the table above. Other topics also discussed included preparation of the Issue Log, scheduling of the baseline model review call, and drafting of the validation/verification report and proposed schedule; and reflections and learnings from the site visit.

2.3 Quantitative Review (only required for verification)

S&A conducted various quantitative analyses of the project & baseline carbon stocks, covering the relevant carbon pools quantified by the PP, and the inputs used in the calculation of the projected ex-ante emission reductions over the first 20-year crediting period as well as the actual ex-post emission reductions for the initial reporting period (1/10/2019 – 1/9/2020). The audit team implemented a detailed review of all aspects of the carbon stock modeling, including the stratification process, forest inventory design and specifications, measurement techniques used by the PP's inventory crew review of the species in the inventory and the correct assignment of volume and biomass equations, and checks to confirm that modeled growth used to project carbon stocks forward have been calculated and applied correctly. The modeling methods were assessed to ensure an approved model was used, that it was appropriately calibrated for the region, and inventory data flow through the modeling system was reviewed.

The reported ex-post emission reductions were confirmed by tracking all components of the PP's emission reduction calculation workbooks. This included checks that the entries for initial carbon stocks, confidence deduction, baseline stocks, baseline and harvested wood products, and the reversal risk determinations, leakage and uncertainty are all entered and calculated correctly from their computed sources, as well as confirming the accuracy of their sources. The entire inventory treelist was independently recalculated by the verifiers for tCO₂e and the results were compared to the PP's reported carbon stocks. Uncertainty and associated deductions were also independently calculated by the verifier. The verifier's methods are considered a complete check of the inventory data on a plot-by-plot level, using the PP's raw data and verification of all the PP's calculations for accuracy and completeness.

For projects where re-sampling is required during verification, guidance received from ACR indicated that VVBs shall resample a minimum of 5% of plots ensuring representation of all strata, and ensuring statistical agreement using a t-test at 90% confidence interval. This minimum sampling intensity was considered in the selection of sample plots to be measured by the verifiers along with allocation of sample plots among individual project strata based on risk. All trees on the selected sample plots were re-measured by the verifiers. In/out status and all diameters, species calls, defect calls, live/dead calls, and all heights were independently measured

using tools identical or comparable to those used by the PP. Inventory re-measurement was confirmed to meet the ACR recommendations and all measurement methods were conformed to be consistent with the PP's inventory specification. Carbon per plot and across the project area was calculated from the sampled plots and compared to the PP's inventory for the same plots. The verifier calculations and the PP's calculations were entered into a t-test worksheet, using the paired plot method (Two-tailed t-test, at the 90% confidence interval), and confirmed to meet the statistical standards expected by ACR for projects that require independent re-measurement for verification.

2.4 Interviews

The following is a list of the people interviewed as part of the validation/verification. The interviewees included those people directly, and in some cases indirectly, involved and/or affected by the project activities. The training and qualifications of the PP team was confirmed by referencing bios for the team on the PP website on 15 November 2019 (<http://www.bluesource.com/about-us/the-team/>). The verification team also confirmed these qualifications during interviews with PP Staff throughout the validation/verification site visit.

Date	Name	Title
Throughout Verification	Ben Parkhurst	Director, Technical Services – Bluesource, LLC
Throughout Verification	Liz Lott	Director, Forest Carbon Projects – Bluesource, LLC
Throughout Verification	Josh Clark	Director, Forest Carbon Modeling – Bluesource, LLC
Throughout Verification	Ian Hash	Manager, Forest Carbon Projects – Bluesource, LLC
8/18/2020 – 8/19/2020	Brian Kleinhenz	VP of Operations, Terra Verde Inc.
5/5/2020	Mike Sheets	Tongass National Forest Young Growth Coordinator, USFS
5/5/2020	Samia Savell	NRCS Conservation Service, NRCS, USDA
5/5/2020	Clarie Doig	Forest and Land Management, Owner

*The verifiers note that the final 3 interviews listed in the table above (5/5/2020) were conducted prior to the verification start date and as part of a separate verification of another project located nearby (ACR499) on Prince of Whales Island, AK. These interviews were however still considered relevant to this verification and covered a variety of topics applicable to both projects.

2.5 Findings

Throughout the validation/verification, findings were recorded by the audit team as per guidance outlined in the ACR IFM Methodology and supporting documents cited above. Any discrepancies identified by the validation/verification team were documented in the Issues Log. The validation/verification team has also documented in the Issues Log the source of any difference identified, including whether the difference results in a correctable error. The Issues Log was submitted to the client. Prior to completion of the validation/verification, all identified non-conformances were required to be addressed, and correctable errors

were required to be fixed. The client submitted additional evidence for S&A's evaluation for conformance. The client corrected all correctable issues.

2.6 Audit Schedule

The following table summarizes the key audit milestones:

Verification Activity	Proposed Date	Actual Date
Kick-off meeting	8/6/2020	8/6/2020
Site visit	8/18/2020 – 8/21/2020	8/18/2020 – 8/19/2020
S&A Carbon submits issues log v1.0 (*actual document issued with preliminary calculation issues)	+ 1 month following SV closing meeting	8/21/2020
TC response to issues	+10	8/26/2020
S&A Carbon submits issues log v2.0 (*actual document issued as v1.1 with comprehensive issues)	+10	9/14/2020
TC response to issues	+10	10/2/2020
S&A Carbon submits issues log v3.0 (*actual document issued as v2.0 with second round findings)	+10	10/23/2020
TC response to issues	+10	12/7/2020
S&A Carbon closes out issues log	+10	12/10/2020
S&A Carbon submits validation/verification report for Technical Review	+5	12/28/2020
S&A Carbon submits verification report for TC review/approval	+5	1/21/2021
S&A Carbon submits final validation/verification documents to ACR	+3	1/22/2021

2.7 Validation Activities

The validation and concurrent verification were performed through a combination of document review, interviews and communications with relevant personnel, as well as on-site inspections. The site visit to the project was conducted from 18 August 2020 to 19 August 2020, on Prince of Wales Island, Alaska USA. The validation/verification process included several official and documented exchanges between the verifier team and the project proponents in order to gather additional information for review and for examination of compliance with all applicable criteria. These exchanges included 3 rounds of an Issues Log produced by S&A to which the project proponents were required to respond, and for which 10 Non-Conformances, 6 Clarification requests, and 5 New

Information Requests were identified. Verifiers confirmed in an email to the project proponents dated 10 December 2020 that all remaining issues were satisfied in the responses provided in the Issues Log.

2.8 Eligibility Requirements

The verifiers assessed the project against the eligibility criteria of the ACR Standard as well as the applicability conditions applied the ACR IFM methodology by the project and determined the project to be eligible, and applicable to the ACR methodology. The project applied an ACR approved methodology, Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, v1.3. The project was found to meet the eligibility requirements of the ACR Standards in terms of its Start Date, Minimum Project Term, Crediting Period length, Land Eligibility & Title/Ownership, Adherence to Natural Forest Management Requirements and the Permanence of the generated GHG emission reductions. It was also found to meet the applicability conditions of this methodology in terms of land ownership type, legality of harvesting activities, types of project activities and natural forest management criteria.

The project start date (10 January 2019) is after 1 November 1997, is therefore considered eligible and is within one year of the date in which the initial GHG Plan was submitted to ACR (13 December 2019). The start date is denoted by the date the PP entered into a contractual relationship to implement the carbon project, with supporting documentation provided, and is the same date as the beginning of the first crediting period. The project is expected to achieve validation against the ACR standards within 3 years of the project start date. The minimum project term stated in the GHG Plan is 40 years as required by the methodology. The Crediting period is 20 years, consistent with the applied methodology.

The project is an Improved Forest Management (IFM) project type, and as demonstrated through review of historic imagery, it has consisted of forest cover through the project start date and initiation. The current project activities do not involve any commercial harvesting, and currently no such harvesting is anticipated in the future. The verifiers are reasonably assured that the project area is located on non-federally owned lands within the state of AK, USA. The project area lands were conveyed to the Shaan Seet Native Corporation through the Alaska National Lands Conservation Act, which resulted in the federal US government no longer having jurisdiction over the conveyed lands. As such, the land is considered to be under private ownership, and there are no legally binding restrictions to harvest timber on privately owned lands in the state of Alaska.

The project area is composed of forest cover, made up of 100% native species. The project activity doesn't involve any use of non-native species. The project area is composed of 100% native species, with western hemlock being the most prevalent species at approximately 66% by BA. Even aged management practices typical for the region do not involve any back planting, and vegetation composed of native species is allowed to naturally regenerate. While wetlands may exist on the project area, consisting of muskegs and riparian areas, the project activities do not involve any draining or flooding of wetland areas. The vast majority of the project area is made up of highly variable topography ranging in elevation from at sea level, to approximately 2,000 feet.

The project's GHG Plan outlines a risk assessment conducted in accordance with the ACR Tool for Risk Analysis and Buffer Determination. Percent contributions for each risk category have been applied based on guidance in the tool. Mostly, default risk values have been applied consistent with the tool. Supporting justification that the project is in a low fire risk region was provided. The project area is not considered to be of a forested wetland category. The project is also not located in a region with the presence of an epidemic disease or infestation. Following the closure of all findings, and prior to the submission of the final validation/verification materials for Technical Review, the PP informed the verifiers that ACR had provided guidance that Alaska Native Corporations could apply the default financial and project management risk scores for non-US public & tribal owned lands. In total, 16% of the gross emission reductions will be deposited into the ACR pooled buffer account. This deduction is made to the gross ERT calculations produced by the PP's to determine the total tradeable balance of ERTs generated by the project over the initial reporting period. Carbon stocks are projected to increase compared to the baseline conditions, through maintenance of stocks, and continued forest growth over time, and the supporting quantification materials have shown an increase in on-site carbon stocks over the initial reporting period.

The table below presents the verifiers' findings pertaining to the Project's Permanence Risk Rating, following the guidance in the ACR Tool for Risk and Analysis and Buffer Determination. The verifiers concur with the assessment offered in the Initial GHG Plan and found that it conforms with ACR guidance for each risk type. The table summarizes the evidence used to support each risk level.

Risk Type	Conform	Finding	GHG Plan	Verifier Check
Financial	Y	Default	3%	3%
Project Management	Y	Default	3%	3%
Social/Policy	Y	Default	2%	2%
Conservation Easement Deduction	Y	Default	0%	0%
Fire	Y	Low Fire Risk Region	2%	2%
Diseases and Pests	Y	Default	4%	4%
Levee Failure and Water Table Changes	Y	Default	0%	0%
Other Natural Disaster Events	Y	Default	2%	2%
Total Risk	Y		16.0%	16.0%

2.9 Additionality

In order to demonstrate the GHG emission reductions from the project are additional and considered to be above and beyond the “business as usual” scenario, it must pass the ACR three-prong additionality test prove that it currently exceeds current effective and enforced laws and regulations; exceed common practice in the relevant industry sector and geographic region; and face at least one of the three implementation barriers (financial, technological or institutional). The project was found to be additional and the project activities are considered to be above and beyond the business-as-usual scenario for privately owned commercially managed forest lands in Southeastern Alaska.

The laws and regulations outlined in Section C1 of the GHG plan were found to comprehensively identify the applicable laws that could affect the project. The verifiers assessment of these laws determined that none of them impact the project activities, and require the PP to implement the project activities, thereby demonstrating regulatory surplus. The description of applicable laws and regulations in the GHG Plan was found to consider all of applicable laws and regulations in both the project and baseline activities. Applicable legal constraints were found to be adequately incorporated into the modeled baseline harvest scenario, and the verifiers are reasonably assured all applicable laws and regulations have been considered in addressing the Regulatory Surplus Test. Applicable National, State and local laws assessed by the verifiers included the Federal Clean Water Act, the Federal Endangered Species Act, the Federal Bald and Golden Eagle Protection Act, the Alaska National Interest Lands Conservation Act, the Loggers Guide to the New OSHA Logging Safety Standards, and the Alaska Forest Resources and Practices Act. While Binding International Agreements are described in the GHG Plan, none are considered to impact the baseline scenario or the project activities.

Section B.5 of the GHG Plan offers a reasonable definition of the baseline harvest scenario, which the PP asserts is the common practice harvesting regime in the region for similar types of landowners. The defined common practice baseline scenario “represents an aggressive industrial harvest regime, targeted to maximize net present value at a 6% discount rate (for private industrial forestlands) typical of ca. 2019 practices in the project region on Alaska Native Corporation lands. Baseline practices involve pre-commercial thinning on overstocked second growth stands while simultaneously harvesting merchantable timber on old growth stands. Final harvest for the baseline was modeled for when the stand reached 12,000 BF, with an intermediate round of pre-commercial thinning at 15 years.”

The verifiers were provided with a supporting explanation of common practice silviculture in the region, cited from Brian Kleinhenz VP of Operations with Terra Verde. Brian has over 15 years of forestry experience in Alaska, including working with Native Corporations and their forest management operations. The PP asserts that even-aged (clear-cut) harvest, natural regeneration and Pre-commercial thinning in that order and combination is by far the most common silvicultural practiced in Southeast Alaska. This common practice harvesting in the region suggests the defined baseline harvest scenario is indeed common practice in the region, and that this type of management is being applied by both public landowners (e.g. USFS) and private landowners including other Native Corporations. The verifiers interviewed a variety of stakeholders to gain a better understanding of common practice

management and harvesting practices in the region. It is noted that some of these key interviews which the verifiers carried out on 5 May 2020 were formally part of the ACR validation/verification of a different project (ACR499), but the information shared were still considered relevant to the Shaan Seet project. Both projects are ACR IFM projects, located on Prince of Whales Island, AK, face the same legal constraints and are of the same landowner type. Through these interviews, overall support for the common practice baseline harvesting regime as described in the GHG Plan was communicated to the verifier. The verifiers also conducted internet searches for information pertaining to common silvicultural practices in Southeast Alaska.

Further, the verifiers conducted a coarse assessment on the extent to which the project activities (e.g. forest carbon offset projects) have penetrated the market to demonstrate the project activities aren't common practice. The verifiers found that of the 13 Alaska Native Corporations (ANCs), 4 (31%) have developed/implemented forest carbon offset projects. While not all ANCs appear to have extensive forestlands on their ownership, 8 appear to, so the percent of ANCs with at least some forested acreage that have forest carbon projects was found to be 50%. The verifiers found a total of 16 forest carbon projects in the state of Alaska, owned by various Alaska Village Native Corporations. The total number of ANCs where these projects are located/developed was found to be 5, making the total number of ANCs where forest carbon offset projects are located as 31%.

Of the verifiers estimated total ANC acreage of approximately 35 million acres, and the total acreage under a forest carbon project in Alaska (about 1 million acres), the proportion of the estimated total ANC land covered by a forest carbon project was only around 3%. Considering the verifiers estimate of only the ANCs with at least some forested acreage (around 21 million acres) the total forest carbon project acreage in AK would only be about 5% of this area. Based on the estimated commercial forest acreage in southeast Alaska (4.8 million acres), and the total area under a forest carbon project in the region which was found to be around 210,000 acres, only approximately 4% of the commercial forest in southeast Alaska is under a forest carbon project. From the verifiers estimate of the total ANC owned forestland in southeast Alaska (around 390,000 acres), only about 55% of this area is under a forest carbon project. Based on these rough estimates, it does not imply the project activities are common practice, considering the degree to which forest carbon projects have been adopted in the region and by the ANC landowner group. Therefore verifiers are reasonably assured that the project, and associated project activities, in which there is no current or future commercial harvesting exceed common practice in the timber industry in southeast Alaska, including private lands held by Native Corporations.

The PP has elected to demonstrate there are financial barriers to implementation of the project activities and adherence to the ACR Implementation Barrier Test for additionality. Specifically, the PP asserts the landowner faces limited access to capital in the absence of carbon finance that would prevent their adoption of the project activities. As an Alaska Native Corporation (ANC) Shaan Seet, Inc. has an obligation to its shareholders to generate revenues and returns to its shareholders like any other for profit corporate entity. Corporate shares are only held by individual members of Shaan Seet Inc. cannot be sold or traded and are only “transacted” by being passed down through family members. As a result, the only actual financial benefits to shareholders from the PP is based on the annual dividends from revenues generated by the Shaan Seet Inc. entity. The verifiers understand the intent of “Village”

corporations such as Shaan Seet Inc. (managed by regional ANC corporations), is to act as a for-profit entity that distributes revenues to their shareholders.

Supporting information from the President of Shaan Seet Inc., Ed Douville, indicates that much of their shareholder population lives below the poverty line and families continually face financial barriers just to get by. Programs in which the PP needs ongoing financial support are mentioned, including housing for those shareholders in need, renewal of their Forest Stewardship plan, and water quality related projects with their partner, the Southeast Watershed Coalition which also creates jobs for shareholder members. The PP asserts that these and other projects & programs require significant amounts of working capital to enable their implementation. Revenues generated from the carbon project will provide the PP with ongoing working capital needed to implement existing programs, explore new economic opportunities that will benefit the shareholders, and provide ongoing contribution to annual shareholder dividends.

Considering that timber harvesting had not occurred on the PP's forestlands over the past two decades prior to the project commencement date, the verifiers had raised questions about how the cited financial barrier is truly preventing the adoption of the project activity since it has been the prevailing management approach of the PP's lands over the past 20 years. The verifiers however consider the 20 year crediting period Net Present Value (NPV) Analysis presented by the PP as relevant to this topic. The verifiers performed a variety of checks on the 100 year baseline NPV analysis and the 20 year crediting period NPV analysis and overall found them to be accurate. The projected baseline scenario yields an NPV of approximately \$7.5 million over the 100 year modeling period as required by the applied methodology. When looking at the 20 year crediting period NPV analysis, the baseline harvest scenario results in an NPV of approximately \$6.25 million, while the project scenario considering costs and revenues related to project development & Implementation yields an NPV of only around \$957,000. It is clear that the projected baseline scenario would be the most financially viable option for the PP, and the projected revenues from baseline timber harvesting would greatly exceed that anticipated from the project. In fact, the verifiers found that the baseline harvest revenues could be decreased by 50% and the anticipated project revenues could be increased by 50% and the resulting NPV from the baseline scenario would still be higher than that of the project (~\$3.1 million vs. ~\$1.4 million) In this sense, by forgoing baseline timber harvesting by implementing the carbon project the PP faces much reduced access to capital that would otherwise be available to them. The verifiers therefore feel that the PP's pursuit of the carbon project does impose limits in their access to capital compared to the projected baseline scenario and therefore implementation of the project activity does face a financial barrier.

The assertions in the statements provided from the PP in response to verifier questions, and the PP's supporting NPV financial analysis were found to support the forest owner's limited access to capital and that this represents a financial barrier to the project activities that will not generate any revenues from timber harvesting related activities (no projected harvesting). Considering the ongoing need to raise working capital to fulfill the PP's obligations to their shareholders, the verifiers are reasonably assured the project has met the financial barrier test.

2.10 Permanence and Risk Mitigation

The project's GHG Plan outlines a risk assessment conducted in accordance with the ACR Tool for Risk Analysis and Buffer Determination. Percent contributions for each risk category have been applied based on guidance in the tool. Mostly, the default risk values have been applied consistent with the tool. Supporting justification that the project is in a low fire risk region was provided through a link to a USDA Forest Service Report with information on the fire regime found in Alaska, and Southeast Alaska. This report provides supporting evidence of the low frequency of forest fires in SE Alaska given the wet, cool coastal climate, and dominance of fire sensitive species found in the area. The project area is not considered to be of a forested wetland category. The project is also not located in a region with the presence of an epidemic disease or infestation. In total, 16% of the gross emission reductions will be deposited into the ACR polled buffer account. This deduction is made to the calculated gross ERT calculations generated by the project to determine the total tradeable balance of ERTs generated by the project over the initial reporting period.

Section 5.B of the ACR Standard requires that “Project Proponents of AFOLU projects with risk of reversal shall enter into a legally binding Reversal Risk Mitigation Agreement with ACR/Winrock that allows them to select a reversal risk mitigation mechanism and details the requirements for reporting and compensating reversals.” This Risk Mitigation Agreement must be executed upon completion of the final GHG Plan, which the verifiers understand to be the point in time when ACR approves the final GHG plan and is ready to register the validated project. Therefore, the verifiers determined that checking this executed agreement between the PP and ACR doesn’t explicitly need to take place before their final submission to ACR, but that the verifiers will need to confirm it has been executed once ACR has reviewed & approved the project just prior to registration.

2.11 Baseline

The verifiers confirm that the baseline scenario represents an aggressive industrial harvest regime, targeted to maximize net present value at a 6% discount rate typical of 2019 practices in the project region on Alaska Native Corporation lands as described in the GHG Plan. The PP asserts that this type of management regime is by far the most common silvicultural practiced in Southeast Alaska on both private and publicly owned lands. The verifiers interviewed a variety of stakeholders to gain a better understanding of common practice management and harvesting practices in the region, and conducted a coarse independent assessment on the extent to which forest carbon projects have been adopted by ANCs in Alaska. Through these interviews and analysis, overall support for the common practice baseline harvesting regime as described in the GHG Plan was communicated to the verifier. The verifiers also conducted internet searches for information pertaining to common silvicultural practices in Southeast Alaska. The verifiers are reasonably assured that the project, and associated project activities, in which there is no current or future commercial harvesting exceed common practice in the timber industry in southeast Alaska, including private lands held by Native Corporations.

The baseline (and project) on-site carbon stocks found on the project area were determined through a forest inventory implemented on the project area between March - May of 2019. The inventory design employed a sample of 93 nested, fixed area plots installed

on a systematic grid across the project area. The project area was assigned to five sampling strata which were delineated based on average height of stands as determined using a cluster algorithm on spatially explicit polygon level remote sensing data described in the Shaan Seet Stratification Methodology document. The verifiers found the project's stratification methods to be reasonable, and the inventory methodology to follow standard industry practices.

Growth and yield projections were based on the US Forest Service Forest Vegetation Simulator (FVS), Alaska variant. FVS is identified as an appropriate model in the ACR IFM methodology applied by the project. FVS was calibrated to the conditions of the project area and surrounding region. A site index for western hemlock of 80 was used for all strata and species. This is the default site index value in FVS for Southeast Alaska but was also the recommended site index value given by the project's technical consultant. Verifier coarse checks of site index for the project using "EVALIDator" reports from the USFS FIA online EVALIDator reporting tool found the application of this site index value to be reasonable.

The area (acres) to be cut in each prescription applied in the baseline model was determined using a linear programming model, which found the combination of harvest prescriptions that maximizes NPV over a 100-year period. The specific baseline harvest treatments were derived by applying the most common silvicultural prescriptions that are currently implemented in Southeast Alaska as outlined in the GHG Plan. The primary constraint incorporated into the baseline model is the required 66-foot buffer surrounding anadromous streams required under the Alaska Forest Resources and Practices Act. Within these required buffer areas surrounding anadromous streams, a "grow" prescription is applied in the baseline model, where no harvesting or silvicultural treatment is applied to these constrained acres corresponding to delineated riparian management areas (RMZs).

Baseline carbon in long-term storage in wood products was calculated based on projected harvest volume removals from the FVS model. Harvest volumes were broken out into the categories of softwood sawlog, softwood pulp, hardwood pulp and hardwood sawlog by referencing the merchantability standards in FVS. Harvest volumes were converted to biomass by applying species-specific specific gravity values references in the USFS Handbook and Miles and Smith 2009. Biomass values were then converted to units of tCO₂e using appropriate conversion factors. Carbon transferred into wood products was estimated by applying mill efficiency values sourced from the California ARB Compliance Offset Protocol, for Alaska. Carbon in wood products was then summed across the established wood categories and distributed to various end wood product classes referenced from the California ARB Compliance Offset Protocol, for Alaska. Carbon in long-term storage was then summed for in-use wood products and wood products in landfills to produce annual total tCO₂e stored in in-use and landfill by applying the appropriate 100-year storage factors taken from the ACR IFM Methodology. Emissions due to burning logging slash are conservatively assumed in the baseline to be zero. Verifier checks of the baseline carbon storage in harvested wood confirmed the accuracy of the PP's calculations in accordance with the ACR IFM methodology.

2.12 Leakage

According to the ACR IFM Methodology, 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. If the project decreases wood product production by greater than 5% relative to the baseline then the Project Proponent and all associated landowners must demonstrate there is no leakage within their operations – i.e., on other lands they manage/operate outside the bounds of the ACR carbon project.

As described in the GHG Plan, quantification of leakage is limited to market leakage. The PP does own approximately 13,566 acres of forestland outside of the project area, however the landowner asserts they do not commercially harvest timber anywhere within their ownership, including the lands outside of the project area. The PP therefore asserts there is no activity shifting leakage. The verifiers assessed the additional lands owned by Shaan Seet Inc. over recent (June 2019) ortho imagery for any evidence of recent harvesting. The verifiers found no obvious evidence of any recent harvesting giving the verifiers assurance there is no harvesting taking place on any of their landholdings and that there is no activity shifting leakage as a result of the project activities. An email communication from the President of Shaan Seet Inc. asserting there has been no harvesting on the PP's lands over the past 20 years also supported the lack of activity shifting leakage.

Quantification of leakage of the project is therefore limited to market leakage. Market leakage was determined by quantifying the merchantable carbon removal in both the baseline and with-project scenarios. Carbon in long-term storage in in-use wood products and landfills was used to assess relative amounts of total wood products produced in the baseline and project. No commercial timber harvesting is projected to occur in the implementation of the project. The decrease in wood production relative to the baseline was calculated to determine the applicable market leakage discount factor in accordance with the methodology. Since the project activities decrease total HWP produced by the project relative to the baseline by 25% or more over the crediting period, the leakage deduction is 40%. This leakage deduction was found to be correctly determined and correctly applied in the supporting ERT calculation workbook.

2.13 Monitoring Requirements

Section D of the GHG Plan outlines the project's monitoring plan. All appropriate data and parameters to be monitored over the life of the project are outlined including details on the unit of measurement for the data/parameter, a description of the parameter, the data source used, the measurement methodology, monitoring frequency, values applied, procedural and QA/QC references, the purpose of the data and the calculation method. The monitoring plan also indicates that each year, the project will sign and submit to ACR the required attestations confirming; the continuation of the project activities, that ownership of the project area remains clear and uncontested, and a disclosure of any negative environmental or community impacts and if necessary documented plans to mitigate any reported negative environmental or community impacts. A signed copy of this required Attestation was provided for the project's initial reporting period.

Project monitoring is generally focused on the project's on-site carbon stocks through updates to the project's forest inventory data. A full re-inventory of the project area will be conducted at 5 – 10 year intervals following validation & initial verification to allow for calibration of the growth model and improve the project's carbon sequestration estimates. In addition, affected portions of the project area will be updated periodically in response to natural disturbance events or significant forest management activities. If impacts from such events are significant, the affected areas will be re-inventoried and the project scenario model will be adjusted to reflect current on-site carbon stocks. For those years in-between when an updated inventory is carried out, on-site carbon stocks will be monitored through forest growth and yield modeling. Beyond forest inventory updates, the PP will continually monitor the general health and condition of the forest through the course of regular forest management activities including road maintenance, ecological studies or boundary maintenance.

QA/QC procedures have been established as part of the monitoring plan and are outlined in section D2 of the GHG Plan. Both field and desk based QA/QC procedures are established. At least 5% of the forest inventory plots will be checked by a different cruiser than the individual who measured the plot. The plot check cruise will involve a full plot measurement to identify any issues or significant discrepancies. Any consistent error will be resolved through discussion with the cruisers who carried out the original measurements or removal of the individual if deemed necessary. The desk QA/QC procedures involve a three staged review process with the intent of ensuring that all field data is appropriately managed and maintained, and that all subsequent calculations of the data that feed into the ERT issuance are correct. This three-staged review process involves independent forester review, technical review and senior management review.

The verifiers were provided with a Check Cruise summary workbook detailing the number of plots and trees checked, the number of errors identified by category (e.g. DBH, Height, Status, In/Out), and the percent error by error category. The workbook also includes all of the original plot/tree data for the check cruised plots, as well as the check cruise data. In total 5% of the forest inventory plots were check cruised. The few errors & measurement issues found during the check cruise appear to have been limited to incorrect species calls and difference in tree height measurements. There were not a significant amount of errors identified during the check cruise, nor was any systematic bias or error found with any particular cruiser. The verifiers were provided with a QA/QC Summary Report document outlining the timing of the QA/QC activities, responsible individuals, identification of the key issues identified, outputs from the automated data quality checks performed and a brief summary of the revisions and updates made as a result of the quality reviews. While the verifiers did uncover some issues during the verification that were apparently not caught during the project's QA/QC process, the requested detail on the QA/QC procedures has been provided, and the verifiers find no reason to further question the implementation or effectiveness of the established QA/QC mechanisms.

2.14 Community and Environmental Impacts

As part of the GHG Plan, ACR requires all projects to prepare and disclose an environmental and community impact assessment. ACR does not require that a particular process or tool be used for the impact assessments as long as the basic requirements are addressed (e.g. 1-5). Section F1 of the project's GHG Plan outlines the Community and Environmental Impact Assessment addressing the requirements of the ACR Standard.

The project activity is improved forest management. Shaan Seet, Inc forest management practices represent a significant improvement in carbon storage and conservation value when compared to industrial private lands in the region that emphasize higher financial return and management regimes characterized by shorter, even-aged rotations. By committing to maintain forest CO2 stocks above the regional baseline level, the project will provide significant climate benefits through carbon sequestration. The Project is located on approximately 8,951 acres of old growth hemlock-spruce forests on the West side of Prince of Wales Island in Southeastern Alaska.

Section C.1 of the GHG Plan covers the Regulatory Surplus Test and outlines the applicable laws and regulations. The laws and regulations outlined in Section C1 of the GHG plan were found to comprehensively identify the applicable laws that could affect the project. The verifiers assessment of these laws determined that none of them impact the project activities, and require the PP to implement the project activities, thereby demonstrating regulatory surplus. The description of applicable laws and regulations in the GHG Plan was found to consider all of applicable laws and regulations in both the project and baseline activities.

The project area is solely owned by Shaan Seet Inc. As a private forestland owner, the PP asserts that there are no communities or other stakeholders affected by the project activities. Updates regarding project development and monitoring are discussed and communicated by the Boards of Directors in their scheduled board meetings. Information regarding the carbon project can be requested from the Board of Directors of the Corporation. As a result of the project area being privately owned and since no communities or other stakeholders are affected by the project activities, there isn't a detailed community consultation and communications plan. Information on the project is available from the Shaan Seet Board of Directors which the verifiers deem to be sufficient in addressing this requirement. The GHG Plan indicates that the project is not a community-based project. The verifiers agree with this determination considering the project ownership and design.

The GHG Plan gives a general assessment of the project's environmental risks and impacts, covering the relevant factors outlined in the standard. Impacts have all been categorized as positive, and the verifiers agree with these determinations. As such, there is no need to describe how negative impacts will be avoided or minimized. Monitoring of the risks and impacts is covered in section D.2 of the GHG Plan which gives an outline forest inventory monitoring through on-the-ground measurements and through forest growth and yield monitoring. In addition, management staff will consistently monitor the general health and condition of the forest through the course of normal management activities. Since the project activities are projected to not include any timber harvesting, these

monitoring methods are considered to be sufficient. The Impact Assessment includes a description on how the positive impacts contribute to the SDGs as required.

2.15 Stakeholder Comments

The GHG Plan asserts that Stakeholder comments are non-applicable. The Project Proponent, Shaan Seet Incorporated is a private forestland owner, and adhered to their internally agreed upon practices of project consultation and notification on associated decision making. The PP indicates that they will provide references to the publicly available documentation for the project when requested. Information regarding the carbon project can be requested from the Board of Directors of the Corporation. Information on the project is available from the Kootznوو Board of Directors which the verifiers deem to be sufficient in addressing this requirement. The GHG Plan indicates that the project is not a community-based project. The verifiers agree with this determination considering the project ownership and design.

The PP has included some detail in section F.2 of the GHG Plan in regard to stakeholder comments, and the internal decision-making process that was followed to initiate the carbon offset project (ACR 534) with the PP's shareholders and the Shaan Seet Board. In this section, it is explained how Shaan Seet Inc. is composed of Class A and Class B Stakeholder, with the Class A shareholders representing individuals of native decent who are incorporated into the decision-making process through established bylaws and through their right to vote in organizational elections each year. The decision to move forward with the project was voted on by elected board members in the fall of 2018. The verifiers consider this summary of the decision-making process to initiate the carbon offset project by the elected board members who are voted in by eligible shareholders is adequate.

2.16 Validation Conclusion

During the validation assessment the verifiers identified 10 Non-Conformances, 6 Clarification requests, and 5 New Information Requests. All audit findings were responded to and addressed to the satisfaction of the verifiers. Once all identified issues were adequately resolved, S&A Carbon drafted this final combined validation & verification report. After reviewing the final GHG Plan dated 7 December 2020 and all supporting documentation, the verifiers concluded with a reasonable level of assurance that the project is in conformance with all applicable requirements of the ACR Standards version 6.0. The findings in this report represent the final determinations of the project's conformance with the standard criteria included in the scope of this validation audit. S&A Carbon is thus able to issue a positive validation opinion of the project's design as outlined in the GHG Plan dated 7 December 2020 and the projected ex-ante GHG emission reductions of 633,735 tCO₂e over the first 20-year crediting period.

3 Verification Activities

3.1 Project Implementation Status

As previously described in this report, the project's initial verification took place concurrently with the project's validation. The verifiers determined that the project activities were implemented over the initial reporting period corresponding to the dates 1/10/2019 to 1/9/2020 in accordance with the project design established in the GHG Plan. The PP submitted a completed copy of the Monitoring Report (MR) that provides the information required in the ACR monitoring report template. The verifiers are reasonably assured there were no changes to the landowner, project area or inventory over the reporting period, and estimates of the current on-site carbon stocks based on the inventory data are provided. There was no commercial harvesting over the initial reporting period, and the carbon stock data shows no decrease in carbon stocks. No project deviations occurred during the initial reporting period.

The MR outlines the data and parameters monitored over the reporting period, which are found to be consistent with the data and parameters included in the monitoring plan of the GHG Plan. The MR also includes updated reporting on the project's GHG emission reductions including baseline emissions, project emissions, leakage emissions contributions to the buffer pool, and a summary of the net GHG emission reductions at the end of the reporting period. The verifiers confirmed the accuracy of the ERT calculations and consistency with the final values reported in the MR with the supporting ERT calculation workbook.

Project level live carbon stocks were projected from the original inventory data (March - May 2019) by deriving individual live tree diameter growth rates from the FVS model run with no management (grow only) given the lack of commercial harvesting. Inventory data was grown forward five years in FVS, and for each plot, the average CO₂ growth was calculated by dividing the difference between 2019 – 2024 by 5. These projections follow the same basic processes used to degrow live stocks from the inventory to the project start date. No burning of any biomass occurred so emissions from the burning of logging slash is considered to be zero. No commercial harvesting took place, so project harvested wood products also equals zero.

The verifiers performed checks on the ERT calculations for the initial reporting period to confirm the accuracy of the PP's calculations. Reporting period ERTs were also calculated using the verifier's internal calculations of end of reporting period on-site carbon stocks as the basis for the materiality checks as presented below.

3.2 Data-Checks & Materiality

A summary of selected data checks for project are provided below. The assigned ranking reflects both the size and uncertainty associated with these SSRs. These and other data checks performed (along with narrative details of the check and results) are included in the verifiers data check log.

SSR (rank)	Data reviewed	Reported (PP) tCO ₂ e	Calculated (VB) tCO ₂ e	Dis- crepancy tCO ₂ e	Impact on misstatement/ conformance
	Checks performed				
Rank 1 Sum of Project stocks; end of RP (CP,TREE,t, CP,DEAD,t, CP,HWP,t, GHGP,t)	Inventory, volume and biomass estimates, grown modeling results, grown tree list. Carbon calculations on inventory. Model appropriateness and use. Data systems.	1,509,682.1	1,509,762.3	(80.2)	Impact on OMM
	Model performance against independent benchmarks. Checks of accumulations and correct transfer to Monitoring Report				
Comment: Discrepancy due to slight differences in strata averages and rounding. This difference is not included in the materiality check. Materiality is based on the difference between the PP and VVB ERT calculation consistent with the ACR standard. The VB’s ERT calculation is based on their internal calculations of the sum of project stocks.					
Rank 2 Sum of Project stocks; beginning of RP (CP,TREE,t, CP,DEAD,t, CP,HWP,t, GHGP,t)	Inventory, volume and biomass equations, calculation methods	1,479,664.2	1,479,664.2	0.0	No impact on OMM
	Calculate carbon stocks from inventory.				
Comment:					
Rank 3 20 Yr Average Baseline stocks (live and dead tree CO ₂ e) CBSL,AVE (total)	Monitoring Report and supporting modeling documents, web-based review of methods. Model appropriateness and use. Data systems.	753,354.1	753,354.1	0.0	No impact on OMM

	Model calibration. Model performance against independent benchmarks. Checks of accumulations and correct transfer to Monitoring Report				
Comment: NA					
Rank 4 Total Uncertainty (UNcT)	Monitoring Report supporting worksheets	15,987.0 (13.95%)	15,987.0 (13.95%)	0.0	No impact on OMM
	Use PP data for initial stocks; checks the calculation of total uncertainty was done correctly. Recalculated from initial inventory.				
Comment: Total Uncertainty is above the 10% threshold, so uncertainty discount is applied.					
Rank 5 Emissions Reduction at t (before buffer deduction) (CACR,t)	Monitoring Report	98,604.0	98,604.0	0.0	Impact on OMM
	Checks that all PP entries are correct. Check sources. Checks that calculations within the worksheet are correct. Calculation check uses PP values.				
Comment:					
Rank 6 HWP Baseline (CBSL,HWP,t)	Monitoring Report, supporting worksheets	9,332.5	9,332.5	0.0	No impact on OMM
	Model results, HWP worksheet. Confirm model projections and sums. Correct use of appropriate mill efficiencies, product classes and long-term storage factors.				

Comment:					
Rank 7 HWP Project (CP,HWP,t)	Monitoring Report, supporting worksheets	0.0	0.0	0.0	No impact on OMM
	On-site observations, GIS review, interviews with the PP.				
	Model results, HWP worksheet Confirm model projections and sums. Correct use of appropriate mill efficiencies, product classes and long-term storage factors.				
Comment:					
Rank 8 Market Leakage Discount Factor (LK)	Monitoring Report, supporting documents.	65,737.0 (40.0%)	65,737.0 (40.0%)	0.0	No impact on OMM
	Confirm model projections and sums. Correct use of HWP worksheet				
Comment:					
Rank 9 Buffer Credits and Risk Rating (TBt)	Monitoring Report, calculation workbooks, supporting worksheets	15,777.0 (16.0%)	15,777.0 (16.0%)	0.0	No impact on OMM
	Checks that all PP entries are correct. Check risk rating and calculations have been calculated correctly.				
Comment:					

The verification team must state with reasonable assurance that the percent overstatement of the project's total reported GHG emission reductions and removal enhancements is no more than a 5.00% overstatement of the "true" GHG emission reductions and removal enhancements, as calculated by the verifier using the equation below. The analysis must consider all errors, omissions or misstatements , for the subset of data included in the data checks. Any errors, omissions or misstatements are identified separately in the table above.

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

Project ERTs – Verifier ERTs*	Verifier ERTs (after buffer deductions) CACR,t	Calculated Materiality %
(35.3)	82,862.3	-0.04%

*Note: In this column, a negative value represents *under-reporting* by the PP.

The materiality check was carried out according to ACR guidance using the equation above. The verifiers independently calculated the reporting period ERTs using their internal calculation of total project level stocks. The verifiers calculation of ERTs was 35.3 tCO₂e higher than the PP's calculation using their quantified parameter values. The Materiality Calculation shows that the project is 0.04%, under-reporting. Therefore, the project is less than the 5.0% materiality threshold.

3.3 Verification Conclusion

During the verification process, the S&A verification team gathered evidence to evaluate the project design, the project implementation, and assess the accuracy of the GHG assertion associated with the reporting period.

After review of all project information, procedures, calculations, and supporting documentation, S&A confirms that Project reporting is accurate and consistent with all aforementioned criteria and requirements of the ACR Standards. S&A confirms all verification activities, including objectives, scope and criteria, level of assurance, and project documentation adhere to the ACR Standards. S&A concludes without any qualifications or limiting conditions that the Project meets the requirements of the ACR Standards.

S&A has verified the PP's GHG assertion of 98,604 tCO₂e for the Reporting Period of 1/10/2019 to 1/9/2020.

	Total ERTs (tCO ₂ e)	Total ERTs to Buffer Pool (tCO ₂ e)	ERTs net (tCO ₂ e)
Total 2019 Vintage	96,173	15,388	80,785
Total 2020 Vintage	2,431	389	2,042
Total for RP1	98,604	15,777	82,827

Appendix A: Reference List

Project Documents

Document Description		Filename
Listing Form		ShaanSeet_ListingForm_12_13_19.pdf
Monitoring Report		ShaanSeet_RP1_MonitoringReport_V2_03_10_21.pdf
GHG Plan		ShaanSeet_GHG Plan_03_09_21.pdf
Calculation Workbooks	Monitoring	ShaanSeet_100Yr_Calcs_12_7_2020.xlsx
	ER Calcs	ShaanSeet_RP_ERT_HWP_2_18_20.xlsx
	Start	ShaanSeet_Start_RP_CO2_10_2_20.xlsx
Attestations		ACR Voluntary Offset Projec Attestation.pdf ShaanSeet_Secondary_Leakage..pdf
Ownership		50-80-0012.pdf 50-89-0693.pdf 50-90-0053.pdf 50-94-0049.pdf 50-96-0141.pdf 50-96-0563.pdf OmnibusQCD.pdf Plat.pdf SunnahaeMountainTrail_TongassNF_ancsa_14c3_tracts.pdf
Modeling	Inputs	ShaanSeet_Inventory.xlsx ShaanSeet_Inventory_Master.xlsx ShaanSeet_monthlyGrowthSchedule.xlsx ShaanSeet_SiteIndex.xlsx ShaanSeet_TimberPrices.xlsx
	R Code	ShaanSeet_Parameters.R Parameters.R processFVSoutput.R
	FVS	ShaanSeet_GROW.mdb ShaanSeet_GROW.key ShaanSeet_RHPCT12_1.mdb ShaanSeet_RHPCT12_1.key ShaanSeet_RHPCT12_2.mdb ShaanSeet_RHPCT12_2.key ShaanSeet_RHPCT12_3.mdb ShaanSeet_RHPCT12_3.key ShaanSeet_RHPCT12_4.mdb

		ShaanSeet_RHPCT12_4.key ShaanSeet_RHPCT16_1.mdb ShaanSeet_RHPCT16_1.key ShaanSeet_RHPCT16_2.mdb ShaanSeet_RHPCT16_2.key ShaanSeet_RHPCT16_3.mdb ShaanSeet_RHPCT16_3.key ShaanSeet_RHPCT16_4.mdb ShaanSeet_RHPCT16_4.key ShaanSeet_START.mdb ShaanSeet_IndTreeGrow.mdb ShaanSeet_IndTreeGrow.key ShaanSeet_INVENTORY.mdb FVS.zip
Inventory	Methodologies	ShaanSeet_Carbon_Plot_Methodology_10_2_20.pdf Shaan Seet Stratification Methodology.pdf
	QA/QC	Shaan Seet Check Cruise FINAL.xlsx ShaanSeet_Inventory_Checks.pdf ShaanSeet_Inventory_Checks.txt ShaanSeet_plotStocks.pdf ShaanSeet_plotStocksByPool.pdf ShaanSeet_projectStocks.pdf ShaanSeet_projectStocksByPool.pdf ShaanSeet_strataStocks.pdf
	Treelist	ShaanSeet_InventoryNotes_8_6_20.xlsx
Spatial	Boundary	ShaanSeet_Boundary_10_2_20.shp ShaaSeet_FullProperty_10_2_20.shp Tongass_Sunnahae_Trail_Parcel_14c3_09_25_20.shp
	Plots	ShaanSeet_Plots_7_8_20.shp
	RMZ	sea_stream.shp ShaanSeet_RMZ_7_8_20_V3.shp
	Strata	ShaanSeet_Strata_9_25_20.shp
Reference Documents	Harvest Costs	ShaanSeet_SoutheastAlaska_Cost_Value_7_20_20.xlsx
	Shaan Seet Board Mitutes	BOD Minutes 12.12.18_VoteOnCarbonProj.doc
	Common Practice	Alaska FRPA , AS 41.17.pdf

		Alaska Timber Industry History.pdf
	ACR Guidance on Non-Permanence Risk	TribalRiskRating.pdf
	Bluesource-Landowner Agreement	Shaan Seet - Bluesource Carbon Development and Market Agreement 1_22_19_Redacted.pdf
Management Plan		FINAL SSI Stewardship Plan.pdf

Verifier Documents

Document Description	Filename
Project Specific COI Form	ACR534_COI Form.docx
Validation/Verification Plan	ACR534_Validation-Verification Plan_v1.2_20201228.docx
Sampling Plan	ACR534_Sampling Plan_v1.6_20210309.docx
Data Check Log	ACR534_DataCheckLog_20210310.xlsx
Issues Log	ACR534_IssuesLog_v2.1_20201212.xlsx
Site Visit t-Test	BS_ShaanSeet_T-Test Worksheet.xlsx

APPENDIX B: FINDINGS LIST

Verifier Issue	Issue ID:	20-1	Status: Closed	Checked by: CL	Date Identified	12-Aug-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description			Comments
ACR IFM Methodology, v1.3, section C3.1.1	Start_RP CO2 calculation workbook	Clarification. May impact OMM or conformance.	The verifiers request confirmation that the “TreeData” tab in the calc workbook represents the 2019 inventory data. It is noted that subsequent issues herein assume that is indeed the case.			ShaanSeet_Start_RP_CO2_7_20_20.xlsx
			<u>3 September 2020 Findings:</u> The verifiers acknowledge this confirmation. It is noted that an updated version of the workbook was provided in response to other findings raised. This issue is however now closed.			ShaanSeet_Start_RP_CO2_8_26_20.xlsx
OPO/APD Response						
Date	PP Comment				Additional evidence submitted for review by PP	
21-Aug-20	The TreeData tab represents the inventory data.					

Verifier Issue	Issue ID:	20-2	Status: Closed	Checked by: CL	Date Identified	12-Aug-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description			Comments
ACR IFM Methodology, v1.3, section C3.1.1	Start_RP CO2 calculation workbook	Non conformance. May impact OMM or conformance.	Tree numbers in the PP’s inventory notes workbook are inconsistent with tree numbers in the Start RP CO2 calculation workbook and inventory data. The verifier requests that these data are reconciled between these workbooks.			ShaanSeet_Start_RP_CO2_7_20_20.xlsx; ShaanSeet_InventoryNotes_8_6_20.xlsx
			<u>3 September 2020 Findings:</u> The verifiers acknowledge and accept the PP’s explanation of tree numbering. While it is still considered reasonable to expect to see the tree numbers between the Inventory Notes workbook and the Start RP CO2 Calculation workbook as being consistently numbered to help facilitate direct comparisons across the workbooks, this isn’t considered to be a material issue and doesn’t have an impact on the carbon stock calculations for the project. This finding is therefore considered closed.			ShaanSeet_InventoryNotes_8_6_20.xlsx ShaanSeet_Start_RP_CO2_8_26_20.xlsx
OPO/APD Response						

Date	PP Comment	Additional evidence submitted for review by PP
21-Aug-20	The InventoryNotes file recorded the saplings starting with 101, and the StartRP CO2 calc file simply transferred the sapling number to the next sequential tree number so that all trees/saplings had a sequential number on the plot.	

Verifier Issue	Issue ID:	20-3	Status:	Closed	Checked by:	CL	Date Identified	12-Aug-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description				Comments	
ACR IFM Methodology, v1.3, section C3.1.1	Start_RP CO2 calculation workbook	Clarification. May impact OMM or conformance.	The PP's Start RP CO2 calculation workbook contains two trees in the initial inventory data that are less than one inch; these are subsequently set to zero in the carbon calculations. The verifiers are reasonably assured that these are stand-ins for no-tally plots (as indicated in the inventory note workbook), but seek confirmation that that is indeed the case.				ShaanSeet_Start_RP_CO2_7_20_20.xlsx; ShaanSeet_InventoryNotes_8_6_20.xlsx	
			<u>3 September 2020 Findings:</u> The verifiers acknowledge the explanation that the 0.01 DBH trees are place-holders for no-tally plots. It is noted that an updated version of the workbook was provided in response to other findings raised. This issue is however now closed.				ShaanSeet_Start_RP_CO2_8_26_20.xlsx	

OPO/APD Response

Date	PP Comment	Additional evidence submitted for review by PP
21-Aug-20	That is correct – the .01 DBH data entries are meant as place holders so that FVS doesn't discard the plots, and so that the auto-establishment model can populate the plots with trees and model future tree growth.	

Verifier Issue	Issue ID:	20-4	Status:	Closed	Checked by:	CL	Date Identified	12-Aug-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description				Comments	
ACR IFM Methodology, v1.3, section C3.1.1	Start_RP CO2 calculation workbook	Clarification. May impact OMM or conformance.	The PP's Start RP CO2 calculation workbook includes degrown and grown-ahead phantom heights. The verifiers are reasonably assured that these do not factor into carbon calculations, but they seek confirmation that a) these values should be nulls and b) these values did not factor into any calculations.				ShaanSeet_Start_RP_CO2_7_20_20.xlsx;	
			<u>3 September 2020 Findings:</u> The verifiers acknowledge the explanation that the 0.01 DBH trees are place-holders for no-tally plots. It is noted that an updated version of the workbook was provided in response to other findings raised. This issue is however now closed.				ShaanSeet_Start_RP_CO2_8_26_20.xlsx	

		The verifiers acknowledge that these degrown and grown-ahead phantom heights have not factored into any calculations. They do not request further corrections to the workbooks but maintain that phantom heights ought to remain static throughout calculation workbooks. It is noted that an updated version of the workbook was provided in response to other findings raised. However, since degrown and grown-ahead phantom heights do not have any material impact on the carbon stock calculations, this issue is now considered closed.	
OPO/APD Response			
Date	PP Comment	Additional evidence submitted for review by PP	
21-Aug-20	That is correct – phantom height is only used to calculate missing tree defect on broken trees, and the grown/degrown phantom heights do not factor into the calculations elsewhere.		

Verifier Issue	Issue ID:	20-5	Status: Closed	Checked by: CL	Date Identified 12-Aug-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description		Comments
ACR IFM Methodology, v1.3, section C3.1.1	Start_RP CO2 calculation workbook	Clarification. May impact OMM or conformance.	Biometrics associated with walk-through trees diverge between the initial inventory and the grown-ahead RP values. In other words, walk-through trees that were double tallied during the inventory (i.e., DBH and height values were duplicated) have subtly different DBH and height values in the RP tree list. The verifiers are reasonably assured this is attributable to growth stochasticity in FVS, but seek further justification that this is appropriate for walk-through trees, particularly over the short time period between the initial inventory and the end of the reporting period.		ShaanSeet_Start_RP_CO2_7_20_20.xlsx;
			<u>3 September 2020 Findings:</u> The verifiers acknowledge this explanation for the subtle differences in double-tallied tree metrics. It is noted that an updated version of the workbook was provided in response to other findings raised. This issue is now closed.		ShaanSeet_Start_RP_CO2_8_26_20.xlsx

OPO/APD Response					
Date	PP Comment	Additional evidence submitted for review by PP			
21-Aug-20	That is correct – there will be extremely subtle differences in tree growth for double counted walk through trees, but such differences will result in insignificant differences in plot CO2, and any differences in actual carbon stocks over time will be reconciled during future inventory updates.				

Verifier Issue	Issue ID:	20-6	Status: Closed	Checked by: CL	Date Identified 12-Aug-20
-----------------------	------------------	-------------	------------------------------	-----------------------	----------------------------------

ACR Standard ref	GHG Plan Section	Significance	Issue Description	Comments
ACR IFM Methodology, v1.3, section C3.2.1	Start_RP CO2 calculation workbook	Clarification. <i>May impact OMM or conformance.</i>	ACR methodology for standing dead trees employs 4 decay class; the PP's inventory data include 5 decay classes, which are then re-classified into ACR's 4 classes. The verifier seeks justification for this re-classification, as the criteria for the field-recorded classes appear not to precisely align with ACR's class criteria (regarding branch presence in particular). This discrepancy suggests that dead tree decay deductions are not conservative (i.e., more biomass "remains" in the dead tree).	<i>ShaanSeet_Start_RP_CO2_7_20_20.xlsx;</i>
			<p><u>3 September 2020 Findings:</u></p> <p>The verifier understands the cross-walk between the 5-class field calls and ACR's 4 classes. The crosswalk applied to trees recorded as a decay class 5 to a decay class 4 of the ACR standard is considered acceptable. Justification for accepting the use of this cross walk is in part based on precedent from the verifier's previous experience of another ACR project that applied this same cross-walk for decay class 5 to a decay class 4. The response indicates that this only impacts decay class 5 trees recorded in the field, and it is noted there were only a total of 5 decay class 5 dead trees recorded in the project's forest inventory. While the criteria for the field-recorded decay classes do not precisely align with ACR's class criteria, the classification scheme is considered to be reasonable. The application of the cross walk is not believed to have a material impact on the project's estimates of baseline and project level carbon stocking. This issue is therefore considered closed.</p>	<i>ShaanSeet_Start_RP_CO2_8_26_20.xlsx</i>
OPO/APD Response				
Date	PP Comment			Additional evidence submitted for review by PP
21-Aug-20	Data was recorded as decay class 5 in the field are crosswalked to decay class of 4 of the ACR-IFM methodology. Please see the "DecayClass" tab for the crosswalk. Note that Decay classes 1-4 recorded in the field are not affected, only Decay class 5 recorded in the field.			

Verifier Issue	Issue ID:	20-7	Status: Closed	Checked by: CL	Date Identified	14-Aug-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description		Comments	
ACR IFM Methodology, v1.3, section C3.1.1	Start_RP CO2 calculation workbook	Non conformance. <i>May impact OMM or conformance.</i>	ACR methodology describes requisite biomass calculation methods – namely, the CRM method, which has associated adjustments for saplings. The PP does not appear to apply these methods. Verifiers request documentation from ACR or other sources that support the PP's methods for calculating biomass, particularly with regard to saplings.		<i>ShaanSeet_Start_RP_CO2_7_20_20.xlsx;</i>	

		<p><u>3 September 2020 Findings:</u></p> <p>The verifiers would have liked to see the PP elaborate on this diversion from the CRM methodology for this specific project in more detail and offer documentation confirming acceptance of this approach by ACR and any associated guidance given by ACR, considering that each project is treated as unique for the purposes of its validation & verification under the ACR program. However, as indicated in the response to this finding the verifiers acknowledge that this quantification methodology has been applied on past validated/verified projects that were accepted by ACR.</p> <p>During the ACR Validation & Verification of ACR 499, the verifiers had various email communications and phone calls on this topic attempting to explain the concern with the approach being applied, seeking ACR's perspective on the methods, and if the approach as taken was/is acceptable. During these communications, the PP explained their rationale for their methods as meeting the methodological requirements as follows.</p> <hr/> <p>Standing dead wood was modeled using the Fire and Fuels Extension of FVS (FVS FFE) to produce detailed snag lists for each model cycle. Biomass carbon of each snag was estimated using model output cubic foot volumes of hard and soft components of dead wood, multiplied by dead wood density. Dead wood densities were referenced from the US Forest Service Wood Handbook or from Miles and Smith 2009[1], and incorporated deductions for decay classes corresponding to the hard and soft dead wood components output from the FVS FFE model and summarized in the table below. Belowground biomass was estimated for hard classes of standing dead wood applying component ratios from Jenkins et al 2003. Standing dead biomass was converted to carbon applying a carbon fraction of 0.5, and carbon converted to carbon dioxide equivalent (CO₂e) applying a conversion factor of 3.664.</p> <p>We followed the approach outlined in section 3.1 of the methodology which says the following:</p> <p>3.1 Stocking Level Projections in the Baseline <i>CBSL, TREE, t</i> and <i>CBSL, DEAD, t</i> must be estimated using models of forest management across the baseline period. Modeling must be completed with a peer reviewed forestry model that has been calibrated for use in the project region. The GHG Plan must detail what model is being used and what variants have been selected. All</p>	ShaanSeet_Start_RP_CO2_8_26_20.xlsx
--	--	---	-------------------------------------

		<p>model inputs and outputs must be available for inspection by the verifier. The baseline must be modeled over a 20-year period.</p> <p>Examples of appropriate models include:</p> <ul style="list-style-type: none"> • FVS: Forest Vegetation Simulator • SPS: Stand Projection System • FIBER: USDA, Forest Service • FPS: Forest Projection System by Forest Biometrics • CRYPTOS and CACTOS: California Conifer Timber Output Simulator <p>Models must be:</p> <ul style="list-style-type: none"> • Peer reviewed in a process involving experts in modeling and biology/forestry/ecology • Used only in scenarios relevant to the scope for which the model was developed and evaluated • Parameterized for the specific conditions of the project <p>The output of the models must include either projected total aboveground and below ground carbon per acre, volume in live aboveground tree biomass, or another appropriate unit by strata in the baseline. Where model projections are output in five or ten year increments, the numbers shall be annualized to give a stock change number for each year.</p> <p>If the output for the tree is the volume, <u>then</u> this must be converted to biomass and carbon using equations in Section 3.1.1. If processing of alternative data on dead wood is necessary, equations in section 3.1.2 may be used. Where models do not predict dead wood dynamics, the baseline harvesting scenario may not decrease dead wood more than 50% through the Crediting Period.</p> <p>As such, we used the FVS AK variant, which includes projections of aboveground and belowground carbon per acre, so sections 3.1.1 and 3.1.2 were not needed to convert volume estimates too carbon.</p> <hr/> <p>ACR subsequently confirmed the acceptance of the methods as applied, indicating that the language within the ACR IFM methodology cited in the documented rationale as being in conformance with those specified in the methodology. Since FVS outputs carbon directly, the methods in Section 3.1.1 are not applicable. Section 5.1 of the ACR IFM methodology also states “The Project Proponent must use the same set of equations used in Section C3.1.1, C3.1.2, and C3.2 to calculate carbon stocks in the project scenario”. In situations where Section C3.1.1 is N/A, ACR requires that the</p>	
--	--	--	--

		<p>same set of equations used in Section C3.1 are used to calculate carbon stocks in the project scenario.</p> <p>As the Shaan Seet project (ACR 534) applies the same methods utilized by the project for which the ACR guidance above was given (ACR499), the verifiers consider ACR's previous confirmation and acceptance of these methods as applicable to the validation & verification of ACR 534. A copy of the email correspondence documenting ACR's acceptance of this approach will be included with the verifier's supporting data check files submitted to ACR. This issue is therefore considered closed.</p>	
OPO/APD Response			
Date	PP Comment	Additional evidence submitted for review by PP	
21-Aug-20	We have applied the 5 steps outlined in Methodology § 3.1.1 for all trees. These steps specify how to calculate aboveground and belowground biomass components. Based on the given instructions, saplings were not interpreted to require a separate set of calculations. This quantification methodology has been applied and approved on previous ACR-IFM projects, with lengthy conversations with ACR during the Kootznoowoo verification confirming that the approach is appropriate.		

Verifier Issue	Issue ID:	20-8	Status: Closed	Checked by: CL	Date Identified 14-Aug-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description		Comments
ACR IFM Methodology, v1.3, section C3.1.1	Start_RP CO2 calculation workbook	Non conformance. <i>May impact OMM or conformance.</i>	The verifiers request that the PP revisit defect deduction calculations based on both total height and phantom height in the Start RP CO2 calculation workbook (TreeData tab). The verifiers have observed calculation errors in both, and third-based defect are partially omitted for phantom trees. The verifiers also seek justification for assigning deductions based on which of the two (total height-based or phantom height-based) is larger. Note that any deduction revisions will have implications, even if minor, for both the de-grown ("start date") and grown-ahead ("reporting period") carbon calculations.		<i>ShaanSeet_Start_RP_CO2_7_20_20.xlsx;</i>
			<u>3 September 2020 Findings</u>		<i>ShaanSeet_Start_RP_CO2_10_02_20.xlsx</i>
			The verifiers acknowledge receipt of the revised calculation workbook but note that a calculation error remains in the defect deductions. (This calculation error is independent of the following elaboration on conservatism.)		

		<p>Additionally, the verifiers acknowledge that the cruiser-called thirds defect is intended to include both the missing volume for the third in which a break occurs as well as any additional defect in the remainder of that third. The verifiers also acknowledge that selecting the greater of two deduction calculations (total height versus phantom height) ensures that the most conservative estimate of defect is applied.</p> <p>However, even in cases in which the phantom-height-based deduction is applied, the phantom-height-based equation is such that any additional defect in the remainder of the broken third is not taken into consideration. For example, if the broken top of a 60-foot (phantom) tree occurs at 50 feet, the cruiser may have assigned 75% to the top third to account for the 10 feet missing (50%) <i>and</i> additional defect to the portion of the bole between 40 feet and 50 feet (25%). Per the PP's phantom height equation, that additional defect is not applied. (Were the cruiser to have "wrongly" assigned any value less than 50% to the top third, the PP's phantom height equation currently—and conservatively—disregards that underestimate.) The verifiers recognize that disentangling the missing volume and any additional defect in the remainder of the broken third from that cruiser-called percentage and applying that additional defect will likely result in minor changes to the overall deduction. As such, the verifiers will not pursue this sub-issue further. However, the calculation error noted above (1st paragraph) requires attention."</p>	
		<p><u>17 October 2020 Findings:</u></p> <p>The verifiers acknowledge receipt of the revised calculation workbook in which the phantom defect formula has been corrected. The associated defect assigned to several tree records was accordingly updated. All verifier carbon stock related data checks were subsequently revised, and the verifier's independent carbon stock calculations are very close to that of the PP. This issue is now closed.</p>	<i>ShaanSeet_Start_RP_CO2_10_2_20.xlsx</i>
OPO/APD Response			
Date	PP Comment	Additional evidence submitted for review by PP	
21-Aug-20	The TreeData tab of the CO2 calcs file has been updated with the appropriate defect calcs. The cruiser-called thirds defect, as well as the height-based is intended to ensure that the cruiser estimates the total missing defect. If the cruiser did not take out enough defect based on the total missing, the broken height equation will automatically take out that defect. However, if the cruiser took out the missing defect as well as other defect (more than just the broken top defect) then taking the higher value ensures that the most conservative estimate of defect is always applied.		
9-14-20	Column W of the "TreeData" tab has been updated to calculate phantom defect. The formula in column W no longer has 2 terms that divide by 100, which marginally increased computed defect (column X) for a few tree records.		

Verifier Issue	Issue ID:	20-9	Status: Closed	Checked by: CL	Date Identified	14-Aug-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description			Comments
ACR IFM Methodology, v1.3, section C3.1	Start_RP CO2 calculation workbook	Non conformance. May impact OMM or conformance.	Plot-level carbon stock summaries (static) given in the Stats_RP tab of the Start RP CO2 calculation workbook differ from the component carbon stocks (in pivot table) in the same tab. Furthermore, when the verifiers refreshed the pivot table upon initial receipt, the component values changed. The verifiers request that these two issues be remedied and an updated/corrected version of the calculation workbook be provided.			ShaanSeet_Start_RP_CO2_7_20_20.xlsx;
			<u>3 September 2020 Findings:</u> The verifiers confirm that the pivot table provided in the Stats_RP tab of the revised Start RP CO2 calculation workbook now refreshes with no change to values therein. The discrepancies between the component carbon stocks (within pivot table; columns C, D, E, F) and summaries (static; columns G, H, I) have been much reduced. However, minor discrepancies still exist, and the magnitude of these discrepancies (>1 ton/are) suggest they are not attributable to simple rounding variability. The verifiers request that this be remedied as they would not expect any discrepancies, even minor, to persist. Additionally, the summary values (static) in the revised workbook match the summary values (static) in the prior workbook. The verifiers request confirmation that the summary values in the revised workbook have indeed been updated to reflect the updated defect values (described in 21-Aug-20 response to 20-8). Updated defect value likely had a minor effect on plot-level values, but a precise match in values between the prior and revised workbook seems implausible.			ShaanSeet_Start_RP_CO2_8_26_20.xlsx
			<u>17 October 2020 Findings:</u> The verifiers acknowledge receipt of the revised workbook and the PP’s explanation as to why summary values in different workbook versions had (erroneously) matched. The verifiers confirm there is no longer a discrepancy between the component carbon stocks, when summed, and the summaries. All verifier carbon stock related data checks were subsequently revised, and the verifier’s independent carbon stock calculations are very close to that of the PP. This issue is now closed.			ShaanSeet_Start_RP_CO2_10_2_20.xlsx
OPO/APD Response						
Date	PP Comment			Additional evidence submitted for review by PP		

21-Aug-20	These issues have been fixed in the latest version of the CO2 calcs file.	
14-Sep-20	Columns G, H, and I were updated from static columns to equations that transparently ensure that the columns match exactly. The discrepancy appears to be due to changes in defect that were not updated. The summary values in the revised workbook are unchanged, because previously, column G, H, I columns (which were statically produced) were calculated and produced directly from R calculations (the R calculations did not have a defect calculation error, so had the accurate output). The current calculations in columns G, H, and I now directly reference columns C, D, E, F. Since the defect calculation was just updated (Issue ID 20-8), the summary output in Excel now matches R calculations, so the summary values for live and dead CO2 values are the same as the summary values from ShaanSeet_Start_RP_CO2_7_20_20.xlsx. Since the AG Live carbon summary was dependent on column C, the AG Live carbon does change in this version.	

Verifier Issue	Issue ID:	20-10	Status:	Closed	Checked by:	LH	Date Identified	10-Sep-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description				Comments	
ACR Standard, Section 8.A, 4	F.1, F.2	New information request. <i>Impacts OMM.</i>	<p>Section F.1, 4 of the GHG Plan states, that the project is owned by the Shaan Seet, Incorporated, which is a private forestland owner. All land included in the Shaan Seet project area is under the ownership of the Shaan Seet, Inc., and updates regarding the project development and monitoring will be discussed and communicated by the Boards of Directors in their scheduled board meetings. Information regarding the carbon project can be requested from the Board of Directors of the Corporation. Section F.2, is identified as N/A, and also states in regard to stakeholder consultation activities that, the PP, Shaan Seet Inc. is a private forestland owner, and adhered to their internally agreed upon practices of project consultation and notification on associated decision making.</p> <p>This information in the GHG Plan generally seems sufficient and indicates as a private landowner under Shaan Seet Inc., there are no communities or other stakeholders affected by the project. As a result there isn't a community consultation and communications plan. Information on the project is said to be available from the Shaan Seet Board of Directors.</p> <p>It is the verifier's understanding that while the PP is a private legal entity in practice, the intent behind the establishment of Alaska Native corporations is in part to provide benefit distribution to its shareholders, which are made up of members of the local native communities. Therefore it is reasonable to assume that initiation of</p>				<i>ShaanSeet_GHG Plan_07_20_2020.pdf</i>	

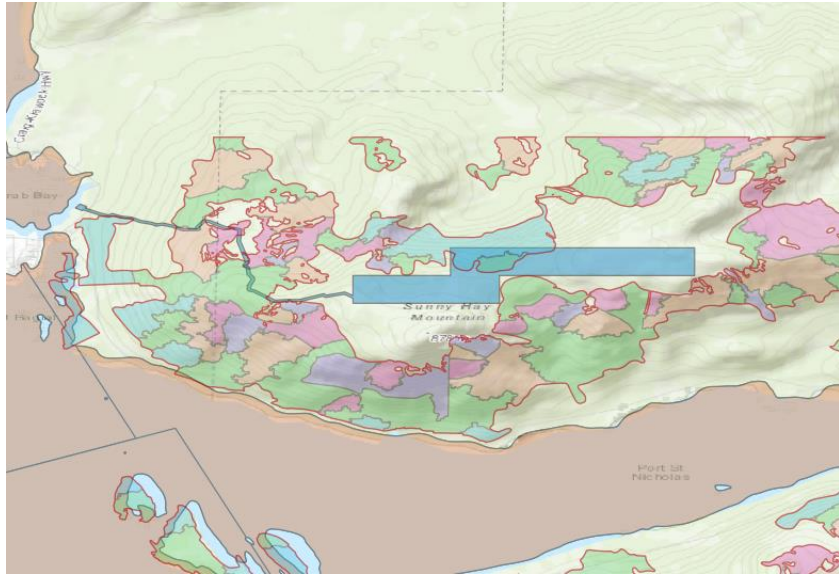
		<p>the project (ACR 534) involved internal consultations and decision making with Shaan Seet shareholders to proceed with development and implementation of the project.</p> <p>The verifiers feel it is appropriate for this process to be summarized in the GHG Plan, and request supporting documentation in the form of meeting minutes, attendance records, and formal approval by shareholders and/or the Shaan Seet Board of Directors to develop and implement the project as evidence to fulfill the community/stakeholder consultation aspects of the ACRT standard.</p>	
		<p><u>Findings from Review on 9 October 2020:</u></p> <p>The PP has provided some additional detail in section F.2 of the GHG Plan in regard to stakeholder comments, and the internal decision making process that was followed to initiate the carbon offset project (ACR 534) with the PP's shareholders and the Shaan Seet Board. In this section, it is now explained how Shaan Seet Inc. is composed of Class A and Class B Stakeholder, with the Class A shareholders representing individuals of native decent who are incorporated into the decision making process through established bylaws and through their right to vote in organizational elections each year. The decision to move forward with the project was voted on by elected board members in the fall of 2018. The verifiers considers this summary of the decision making process to initiate the carbon offset project by the elected board members who are voted in by eligible shareholders is adequate.</p> <p>In addition, the verifiers were provided with Meeting Minutes from the PP's Regular Board of Directors Meeting held on 12 December 2018. This document details the attendees of the meeting and offers a summary of the topics covered and decisions made by the voting Board Members. Among the items voted on included the decision to enter into an MOU with Bluesource, for the initiation and development of the carbon offset project, which was approved by a Board Member vote.</p> <p>Between the detail added into the GHG Plan, and the supporting Meeting Minutes from the December 2018 Board of Directors Meeting ,the verifiers were given assurance that relevant community shareholders were engaged in the decision making process to proceed with the development of the carbon offset project which was ultimately decided upon by the elected Shaan Seet Board. This finding is therefore considered closed.</p>	<p><i>BOD Minutes</i> <i>12.12.18_VoteOnCarbonProj.doc</i> <i>ShaanSeet_GHG Plan_10_2_20.pdf</i></p>
OPO/APD Response			
Date	PP Comment	Additional evidence submitted for review by PP	
14-Sep-20	The process of internal consultations and decision making with the Shaan Seet shareholders to proceed with the development and implementation of the project has been summarized in section F2 of the most		

updated GHG plan. Ed Douville, the Shaan Seet Incorporated President, has provided meeting minutes documenting the board resolution approving the carbon project, please see these meeting minutes in the shared folder.

Verifier Issue	Issue ID:	20-11	Status: Closed	Checked by: LH	Date Identified	10-Sep-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description			Comments
ACR Standard, v6.0, section 8.B	D.2	New information request. <i>No impact on OMM.</i>	<p>In section D.2 of the GHG Plan it states that:</p> <p>Each year, the Project Proponent shall submit a signed Attestation that:</p> <ul style="list-style-type: none"> • Confirms the continuance of project activities; • Confirms that ownership remains clear and uncontested; • Discloses any negative environmental or community impacts or claims of negative environmental and community impacts, and documents plans to mitigate any reported negative environmental or community impacts; • Addresses any significant change in external conditions that would affect the quality or environmental integrity of the project. <p>Such an attestation applicable to the project's initial monitoring period has not been provided.</p>			<i>ShaanSeet_GHG Plan_07_20_2020.pdf</i>
			<p><u>Findings from Review on 9 October 2020:</u></p> <p>The signed copies of the project attestations described in response to this issue were reviewed by the verifiers. The Attestation of Regulatory Compliance referenced in the project Monitoring Report certifies that the project has remained in full regulatory compliance and has had no violations or other instances of noncompliance with laws and regulations, or other legally binding mandates related to the project activities was signed by Edward Douville on 21 July 2020.</p> <p>An Attestation of Offsets Title signed by Edward Douville on 21 July 2020 asserts that Kootz Inc. holds, free of any lien, charge, security interest or other encumbrance, legal title to and all ownership rights to any removal, limitation, reduction, avoidance, sequestration or mitigation of any greenhouse gas associated with the project. This document confirms that ownership and use rights to the carbon claims remain clear and uncontested for the reporting period.</p> <p>In addition, the verifiers were provided with a copy of the project's Voluntary Offset Project Attestation signed by Edward Douville on 21 July 2020. Verifier review of this attestation gives them the understanding that it is intended to satisfy the annual</p>			<i>ACR Voluntary Offset Project Attestation.pdf</i>

		<p>attestation statement requirements of the ACR standards and serves as a statement from the project proponent related to the continuance, ownership, and community and environmental impacts of the project.</p> <p>The request for the executed attestations described in the GHG Plan and Monitoring Report as required by the ACR standards have been provided, and this finding is therefore considered closed.</p>	
OPO/APD Response			
Date	PP Comment	Additional evidence submitted for review by PP	
14-Sep-20	Signed attentions have been provided for each of this items in the shared folder in the form of the ACR Annual Attestation, Regulatory Compliance Attestation, and the Offsets Title Attestation. Please note all of these documents where submitted within in one file, "ACR Voluntary Offset Project Attestation.pdf".		

Verifier Issue	Issue ID:	20-12	Status:	Closed	Checked by:	LH	Date Identified	10-Sep-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description				Comments	
ACR IFM Methodology, Section B.2	Section A.3	Non conformance. <i>May impact OMM or conformance.</i>	<p>The verifiers checked the project's geospatial spatial data provided against a variety of publicly available datasets to assess the accuracy of the asserted spatial boundaries of the project. Among the spatial datasets checked included the Federal, State, Tribal, etc. Protected Areas Land Ownership areas available through the USDA GeoSpatial Data Gateway resource. Generally, good alignment was found with corresponding federal, state and tribal (e.g. native corporations) boundaries.</p> <p>However, review in GIS revealed some overlap with an area identified under the "Loc_Own" "USDA Forest Service", Loc_Mang" "Forest Service Region 10 – Alaska Region", "Unit Nam" "Tongass National Forest" and "IUCN_Cat" "Other Conservation Area". A screen shot of the area of overlap observed between the provided project boundary and this publicly available dataset is included below. The overlap area of concern is the blue polygon with the attribute data cited above.</p> <p>The verifiers ask the PP to review this area of overlap identified and to provide background information on this the ownership of this polygon and supporting evidence that this area is owned by the PP and not by the US Forest Service. They also request summary information of the standardized processes followed for delineation of the project area boundary, outlining the data sources used in the process, as well as QA/QC procedures to ensure quality and accuracy of the final boundary.</p>				<p><i>ShaanSeet_Boundary_7_7_20.shp</i> <i>ShaanSeet_Strata_7_8_20.shp</i></p>	

			
	<p><u>Findings from Review on 15 October 2020:</u></p> <p>Prior to receiving the PP’s formal written response to this finding with the updated project documentation submitted on 2 October 2020, the verifiers were informed of the revisions to be made to the project area during a phone call with the project developer on 25 September 2020. The verifiers were informed that the area of concern with the observed boundary overlap was determined to be a legitimate issue and that the area/polygon in question was indeed not owned by the PP. This area is associated with the Sunny Hay Mountain (Sunnahae) Trail that is owned by the US Forest Service, Tongass National Forest.</p> <p>As background information on the polygon associated with the Sunny Hay Mountain trail, and the transaction of its ownership over time, the PP explained that there was a transaction between Shaan Seet, Inc. and The City of Craig that included several parcels within the Shaan Seet ownership that were transferred to the City of Craig. This included the Sunny Hay/Sunnahae Mountain Trail ROW and the parcel on the rectangular parcel on top of the mountain, by way of the 14I(3) clause of The Alaska Native Claims Settlement Act. The City of Craig later sold the Sunnahae Mountain Trail ROW and Parcel on top of Sunnahae Mountain to the Tongass National Forest. All of these parcels were originally owned by Shaan Seet by way of The Alaska Native</p>	<p><i>ShaanSeet_RMZ_7_8_20_V3.shp</i> <i>ShaanSeet_Plots_7_8_20.shp</i> <i>ShaanSeet_Strata_9_25_20.shp</i> <i>ShaanSeet_Boundary_10_2_20.shp</i> <i>ShaanSeet_FullProperty_10_2_20.shp</i> <i>Tongass_Sunnahae_Trail_Parcel_14c3_09_25_20.shp</i></p> <p><i>SunnahaeMountainTrail_TongassNF_ancsa_14c3_tracts.pdf</i></p> <p><i>ShaanSeet_Start_RP_CO2_10_2_20.xlsx</i> <i>ShaanSeet_RP_ERT_HWP_10_2_20.xlsx</i> <i>ShaanSeet_100Yr_Calcs_10_2_2020.xlsx</i></p> <p><i>ShaanSeet_GHG_Plan_10_2_20.pdf</i> <i>ShaanSeet_RP1_MonitoringReport_10_2_20.pdf</i></p>	

		<p>Claims Settlement Act, and then later transferred by way of the same act to the current owner, the Tongass National Forest.</p> <p>To address this boundary overlap issue the PP revised the project area and strata boundaries to exclude the area owned by the Tongass National Forest associated with this polygon. The right-of-way (ROW) associated with the trail as mapped in the public spatial dataset was however not removed from the final project area boundary. The reasoning for this decision is said to be that the ROW was surveyed upon its “sale” and that its actual path is located in a different location than what is shown in the public dataset. A supporting survey document of the Sunny Hay Mountain Trail was provided and corresponds with the location of the trail ROW area that was removed from the project area boundary.</p> <p>The verifiers believe this assertion to be correct. Online searches for the Sunny Hay Mountain trail found another survey document (plat) of the Sunnahae Mountain Trail, which shows the “original” BLM mapped location of the ROW which corresponds to the public spatial data reviewed, and the “defined” ROW based on the constructed trail location. The actual constructed trail location and resulting final ROW is said to supersede the original BLM trail location as shown in the survey.</p> <p>The verifiers georeferenced these supporting survey files for review in GIS and found that the “original” BLM location of the ROW aligns with the location found in the public spatial dataset and that the “defined” location corresponds to the survey document provided by the PP and the ROW removed from the project area.</p> <p>All applicable verifier data checks were updated based on the revised project area spatial boundaries. Independent checks of the project area and strata acreages were consistent with the values reported by the PP, and the correct acreage values are applied in all subsequent carbon stock quantification calculations. The verifiers also georeferenced the survey of the Sunny Hay Mountain Trail survey provided by the PP as well as the survey they obtained online in GIS. Close alignment with the public spatial dataset, the PP’s GIS data and on-the-ground physical features from ortho imagery was found.</p> <p>The verifiers are reasonably assured that the area associated with the Sunny Hay Mountain Trail owned by the Tongass National Forest was appropriately removed from the project area boundary. Further verifier checks of the projects spatial boundaries gave them confidence that the entire project area is owned by the PP, and that the project area boundaries are accurate. This issue is therefore considered closed.</p>	
OPO/APD Response			
Date	PP Comment	Additional evidence submitted for review by PP	

14-Sep-20	<p>The overlap area specified in the diagram above has been removed from the project area with the exception of the right of way extending westward from the large parcel. This right of way was surveyed upon its sale and follows a different path than is shown in the diagram above. The survey and associated shapefile have been provided in the shared folder, please see “Tongass_Sunnahae_Trail_Parcel_14c3_09_25_20.shp” and “SunnahaeMountainTrail_TongassNF_ancsa_14c3_tracts”. Please note, this removal of project area has prompted the removal of plots 53 and 78. All calculation workbooks and documents have been updated to reflect the new acreage and removal of plots.</p> <p>As a part of our standardized delineation of the project area boundary we ask that the landowner provide their most up to date ownership boundaries, as well as downloading, among other layers, the <i>Federal, State, Tribal, etc. Protected Area Land Ownership</i> dataset from the USDA:NRCS Geospatial Gateway. We use these and other layers in conjunction to remove overlaps between the landowner provided data and the public parcels that appear in the public datasets. Unfortunately, in this instance, we were provided with an incomplete dataset from the landowner that did not include parcels in the diagram above, and these parcels were not detected through our review of the public dataset mentioned above.</p>	
------------------	--	--

<u>Verifier Issue</u>	<u>Issue ID:</u>	<u>20-13</u>	<u>Status:</u> Closed	<u>Checked by:</u>	LH	<u>Date Identified</u>	10-Sep-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description			Comments	
ACR IFM Methodology, Section B.3	GHG Plan, Section A.3	Non conformance. <i>May impact OMM or conformance.</i>	<p>Section A.3 of the GHG Plan states in regards to the project start date that; “The project start date of January 10, 2019 coincides with the signing of the Carbon Development and Marketing Agreement between Shaan Seet, Incorporated and Bluesource, provided separately for verification purposes. This complies with Start Date requirements of the ACR protocol, that the project must have a validated/verified Start Date of January 1, 2000 or after.”</p> <p>The project start date is after 1 November 1997, and is therefore eligible. The start date of 10 January 2019 is within one year of the date in which the initial GHG plan was submitted to ACR (13 December 2019). The minimum project term stated in the GHG Plan is 40 years as required by the methodology. The Crediting period is 20 years, consistent with the methodology.</p> <p>The verifiers are unclear on the reference to January 1, 2000 in this section of the GHG Plan. This date, appears to be relevant for projects transferring into the ACR program from another GHG Program, but doesn’t appear to be applicable to this project. Also, the verifiers request a copy of the referenced Carbon Development and Marketing Agreement executed between Shaan Seet, Incorporated and Bluesource as supporting evidence of the project’s start date.</p>			<i>ShaanSeet_GHG Plan_10_2_2020.pdf</i>	

			<p><u>Findings from Review on 16 October 2020:</u></p> <p>Section A.3 of the updated GHG Plan provided dated October 2, 2020 does not appear to have been updated to reflect the November 1, 1997 date as indicated in the PP's response and still refers to January 1, 2000. As previously stated, this date appears to be relevant for projects transferring into the ACR program from another GHG Program but doesn't appear to be applicable to this project.</p> <p>The requested copy of the referenced Carbon Development and Marketing Agreement executed between Shaan Seet, Incorporated and Bluesource as supporting evidence of the project's start date was not provided. The verifiers request a copy of this document, even if redacted, as supporting evidence to confirm the identified project start date corresponds to the stated start date action.</p>	<p><i>ShaanSeet_GHG Plan_10_2_20.pdf</i></p>
			<p><u>Findings from Review on 7 December 2020:</u></p> <p>The verifiers have now received a redacted copy of the Carbon Development and Marketing Agreement (CDMA) executed between the Project Developer, Blue Source, LLC and the Project Proponent, Shaan Seet, Inc. The document confirms the agreement has an effective date of 10 January 2019. The verifier's request has been satisfied, and the provided copy of the CDMA adequately confirms the identified project start date corresponds to the date the CDMA was executed.</p> <p>Section A.3 of the updated GHG Plan dated 2 December 2020 now correctly makes reference to the date November 1, 1997 when describing the eligibility of the project start date (10 January 2019). All aspects of this finding that remain open have now been addressed and the issue is considered closed.</p>	<p><i>Shaan Seet - Bluesource Carbon Development and Market Agreement 1_22_19_Redacted.pdf</i> <i>ShaanSeet_GHG Plan_12_7_20.pdf</i></p>
OPO/APD Response				
Date	PP Comment			Additional evidence submitted for review by PP
2-Dec-20	<p>A redacted version of the CDMA has been uploaded to the SupportingDocs verification folder.</p> <p>The GHG plan has been updated to reflect the November 1st, 1997 date. Please see the updated GHG plan which has been added to the shared folder.</p>			

Verifier Issue	Issue ID:	20-14	Status: Closed	Checked by: LH	Date Identified 10-Sep-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description		Comments

<p>ACR Standard, v6.0, Section 4.A.2</p>	<p>Section C.2</p>	<p>Non conformance. <i>May impact OMM or conformance.</i></p>	<p>The text in section C2 regarding common practice, do'sn't really define what is considered the common practice forest management in the region in which the project area is located. However, the defined common practice baseline scenario is more clearly spelled out in section B.5 as follows:</p> <p>“The baseline scenario represents an aggressive industrial harvest regime, targeted to maximize net present value at a 6% discount rate (for private industrial forestlands) typical of ca. 2019 practices in the project region on Alaska Native Corporation lands. Baseline practices involve pre-commercial thinning on overstocked second growth stands while simultaneously harvesting merchantable timber on old growth stands. Final clearcut harvest for the baseline was modeled for when the stand reached 12,000 BF, with an intermediate round of pre-commercial thinning at 15 years. Both clearcut harvest and precommercial thinnings are common silvicultural treatments applied in Southeast Alaska by the US Forest Service, regional Native Corporations, and local private landowners.”</p> <p>Section C.2 reiterates that there are no regulations that would prohibit the baseline harvest regime from being implemented, but these points are really more related to the Regulatory Surplus Test. A description is given on historic management practices in the region but does not describe current practices or trends. Based on discussions during the Validation/Verification KO Call, the verifiers were given the impression that there has been no harvesting on the Shaan Seet ownership over the last two decades.</p> <p>Therefore, the verifiers request supporting justification as to how the baseline harvest regime was determined to be considered common practice, when no harvesting has taken place on the ownership for the past 20 years?</p> <p>Sufficient evidence that the proposed project activities that do not include any harvesting plans is not common practice management is currently lacking. Rather, the GHG Plan appears to justify adherence to the Common Practice Test by indicating that since the project area is located on private timberlands that aren't encumbered by any federal or state regulations, if the Project was not implemented, the forest management could feasibly resemble that of an industrial forestland ownership in the region. While the verifiers do not question this statement, it does not appear to explicitly address the intent of the Common Practice Test as part of demonstrating Additionality.</p> <p>Are there any current examples of what is considered to be common practice management taking place in the region that can be provided? What information and data is being used as the bases to determine the common practice management in the region? It is not clear if the PP has actually evaluated the predominate practices</p>	<p><i>ShaanSeet_GHG Plan_07_20_2020.pdf</i></p>
---	--------------------	---	---	---

		<p>in the region/sector to determine the degree in which the practices have penetrated the market to demonstrate the project activities a'en't common practice. Rather, they are basically just saying could feasibly implement the baseline harvest regime but have not supported that the baseline is indeed common practice, and that the project activities are not common practice.</p> <p>Can it be shown that implementation of the project activities and related forest management is not common practice in the region? There are several other forest carbon projects being developed/implemented in the region, so there is some evidence that the project activities could actually be becoming more of a common practice in the region.</p>	
		<p><u>Findings from Review on 20 October 2020:</u></p> <p>The verifiers were provided with an explanation of common practice silviculture in the region, cited from Brian Kleinhenz VP of Operations with Terra Verde. Brian has over 15 years of forestry experience in Alaska, including working with Native Corporations and their forest management operations. The cited text given, supports the common practice baseline harvesting defined in the GHG Plan, and asserts that Even-aged (clear-cut) harvest, natural regeneration and Pre-commercial thinning in that order and combination is by far the most common silvicultural practiced in Southeast Alaska. Brian also indicates that this type of harvesting regime is commonly used by the USFS on most of the young growth timber they manage, and that this management approach is also used by other Native Corporations in the region, including the largest private landowner in the region, Sealaska. The verifiers are familiar with Brian, have worked with him on other projects throughout Southeast Alaska, and consider his opinions on this matter as well informed.</p> <p>The cited explanation of common practice harvesting in the region suggests the defined baseline harvest scenario is indeed common practice in the region, and that this type of management is being applied by both public landowners (e.g. USFS) and private landowners including other Native Corporations. Contact information for individuals with the USFS were provided and the verifier subsequently interviewed these individuals to seek confirmation on the asserted definition of common practice defined in the baseline. The verifiers have also visually observed this type of harvesting on other native corporation lands throughout their working experience in Southeast Alaska.</p> <p>The verifiers interviewed a variety of stakeholders to gain a better understanding of common practice management and harvesting practices in the region. Through these interviews, overall support for the common practice baseline harvesting regime as described in the GHG Plan was communicated to the verifier and was consistent with the explanation given by Brian Kleinhenz. The verifiers also</p>	<p><i>ShaanSeet_GHG Plan_10_2_20.pdf</i></p>

		<p>conducted internet searches for information pertaining to common silvicultural practices in Southeast Alaska. Through these investigations the verifiers were able to find some research articles that gave general support for the defined baseline scenario as representing common practice harvesting methods in the region. Refer to the “Common Practice Test” tab of the verifiers Data Check Log.</p> <p>While the PP’s response to this finding does not offer any information to address the verifiers questions on what was done to evaluate the predominate practices in the region/sector to determine the degree in which the practices have penetrated the market to demonstrate the project activities a’ren’t common practice, the verifiers carried out some of their own investigations into this matter.</p> <p>Of the 13 Alaska Native Corporations (ANCs), 4 (31%) have developed/implemented forest carbon offset projects. While not all ANCs appear to have extensive forestlands on their ownership, 8 appear to, so the percent of ANCs with at least some forested acreage that have forest carbon projects is 50%. The verifiers found a total of 16 forest carbon projects in the state of Alaska, owned by various Alaska Village Native Corporations. The total number of ANCs where these projects are located was found to be 5, making the total number of ANCs where forest carbon offset projects are located as 31%.</p> <p>Of the verifiers estimated total ANC acreage of approximately 35 million acres, and the total acreage under a forest carbon project in Alaska (about 1 million acres), the proportion of the estimated total ANC land covered by a forest carbon project was only around 3%. Considering the verifiers estimate of only the ANCs with at least some forested acreage (around 21 million acres) the total forest carbon project acreage in AK would only be about 5% of this area. Based on the estimated commercial forest acreage in southeast Alaska (4.8 million acres), and the total area under a forest carbon project in the region which was found to be around 210,000 acres, only approximately 4% of the commercial forest in southeast Alaska is under a forest carbon project. From the verifiers estimate of the total ANC owned forestland in southeast Alaska (around 390,000 acres), only about 55% of this area is under a forest carbon project. Based on these rough estimates, it does not imply the project activities are common practice, considering the degree to which forest carbon projects have been adopted in the region and by the ANC landowner group.</p> <p>The verifiers are reasonably assured that the project, and associated project activities, in which there is no current or future commercial harvesting exceed common practice in the timber industry in southeast Alaska, including private lands held by Native Corporations. Although no harvesting has been implemented on the PP’s ownership over the past two decades, there are no legal encumbrances restricting them from harvesting, and it is expected that any harvesting implemented</p>	
--	--	--	--

		by the PP would be aligned with the harvest regime modeled in the project's baseline scenario. While the verifiers feel that the PP did not respond directly to some of the questions raised in this issue, through their additional investigations, the verifiers are reasonably assured that the defined baseline scenario represents common practice silviculture practiced in the region. Therefore this issue is considered closed.	
OPO/APD Response			
Date	PP Comment	Additional evidence submitted for review by PP	
14-Sep-20	<p>In order to determine our common practice silviculture that was implemented in the baseline modeling scenario, we consulted Brian Kleinhenz from TerrVerde. Brian is an active forester in the SE Alaska region and has many years of experience with the silviculture and harvest planning of private landowners in the region. He provided the following explanation of the common practices in the area:</p> <p>“Regarding common practice: Even-age (clear-cut) harvest, natural regeneration and Pre-commercial thinning in that order and combination is by far most common silviculture practiced in Southeast Alaska. The USFS has used this regime on most of the young growth it manages. The verifier could reach out to the Tongass Young Growth Coordinator, Mike Sheets, for confirmation of common management. I have provided his contact below. Clear cuts and pre-commercial thinning is also commonly practiced on private lands owned and managed by native corporations. The largest private landowner in the region, Sealaska, clear cuts and PCT treats over 1,000 acres per year. They have Forest Management plans in place that show the plan and schedule. [A nearby ANC has] an active PCT program that they are conducting with the assistance of the NRCS EQIP program. The verifier can reach out to the NRCS file office in Juneau (Samia Savell) for confirmation that PCT is a common practice that they help Native Corporations implement. There is also precedent for very large PCT programs on Native Corporation land. Individual PCT project over 1,000 acres are fairly common.”</p> <p>Robert “Mike” Sheet (Tongass Young Growth Coordinator) 49obertert.sheets@usda.gov Samia Savell (NRCS Conservationist) samia.savell@ak.usda.gov</p>		

Verifier Issue	Issue ID:	20-15	Status: Closed	Checked by: LH	Date Identified 10-Sep-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description		Comments
ACR Standard, v6.0, Section 4.A.3	Section C.3	Non conformance. May impact OMM or conformance.	With regard to the Implementation Barrier Test, the PP has opted to demonstrate financial barriers in the form of “limited access to capital” that would prevent the adoption of the proposed project activity, which as described in the GHG Plan is essentially conservation of the PP’s forest resource with no anticipated timber harvesting. It is, however, the verifier’s understanding that the PP has not		<i>ShaanSeet_GHG Plan_07_20_2020.pdf</i>

		<p>implemented any harvesting on the project area or their ownership for the past 20 years. Therefore, it is not clear how the cited financial barrier is truly preventing the adoption of the project activity since it has been the prevailing management approach of the PP's lands for the past 2 decades. This concern leads the verifiers to question the reality of the financial barriers faced by the PP in adopting the project activities.</p> <p>Section C.3 of the GHG Plan describes how because of the projected carbon project scenario revenues, Shaan Seet can focus on maintaining the ecosystem services generated from their forestland, and don't have to be tempted into harvesting to generate timber revenues. While the 100 Year Calculation workbook includes a NPV financial analysis to demonstrate the baseline harvest scenario represents a regime that maximizes NPV in accordance with the methodology, the verifiers question if an NPV financial analysis considering all relevant costs and revenues for the with-project scenario was carried out.</p> <p>In the baseline NPV analysis, the verifiers request supporting justification and substantiation for the cost and revenue assumptions that are applied. While various annual management costs are outlined, the source of these figures has not been identified, and it isn't clear if the list of expenditure items is comprehensive. For example, road construction and maintenance fees are not referenced. The verifiers also request clarification on what the PCT and variable harvest expense figures are based on, and what types of expenses are accounted for in these assumptions. The "Financials" tab of the 100 Year Calculation workbook also referenced a file "SoutheastAlaska_Cost_Value workbook. The verifiers request a copy of this file to support the cost assumptions applied. No cited reference or supporting justification for the revenue assumptions included in the "StumpagePrices" tab of the 100 Year Calculation workbook have been provided.</p>	
		<p><u>Findings from Review on 21 October 2020:</u></p> <p>The response to this issue asserts that as an Alaska Native Corporation (ANC) Shaan Seet, Inc. has an obligation to its shareholders to generate revenues and returns to its shareholders like any other for profit corporate entity. Corporate shares are only held by individual members of Shaan Seet Inc. cannot be sold or traded and are only "transacted" by being passed down through family members. As a result, the only actual financial benefits to shareholders from the PP is based on the annual dividends from revenues generated by the Shaan Seet Inc. entity. The verifiers understand the intent of "Village" corporations such as Shaan Seet Inc. (managed by regional ANC corporations), is to act as a for-profit entity that distributes revenues to their shareholders.</p>	<p><i>ShaanSeet_SoutheastAlaska_Cost_Value_7_20_20.xlsx</i> <i>ShaanSeet_100Yr_Calcs_10_2_2020.xlsx</i> <i>ShaanSeet_RP_ERT_HWP_10_2_20.xlsx</i> <i>ShaanSeet_GHG Plan_10_2_20.pdf</i></p>

		<p>Supporting information said to have come from the President of Shaan Seet Inc., Ed Douville, indicates that much of their shareholder population lives below the poverty line and families continually face financial barriers just to get by. Programs in which the PP needs ongoing financial support are mentioned, including housing for those shareholders in need, renewal of their Forest Stewardship plan, and water quality related projects with their partner, the Southeast Watershed Coalition which also creates jobs for shareholder members. The PP asserts that these and other projects & programs require significant amounts of working capital to enable their implementation. Revenues generated from the carbon project will provide the PP with ongoing working capital needed to implement existing programs, explore new economic opportunities that will benefit the shareholders, and provide ongoing contribution to annual shareholder dividends.</p> <p>While the PP's response to this finding doesn't directly address the verifiers questions and concerns about how the cited financial barrier is truly preventing the adoption of the project activity since it has been the prevailing management approach of the PP's lands for the past 2 decades, the verifiers do consider the 20 year crediting period Net Present Value (NPV) Analysis as relevant to this topic. The verifiers performed a variety of checks on the 100 year baseline NPV analysis and the 20 year crediting period NPV analysis and overall found them to be accurate. Looking at the 20 year crediting period NPV analysis, the projected baseline scenario yields an NPV of approximately \$9.5 million over the initial crediting period, while the with project scenario considering costs and revenues related to project development & Implementation yields an NPV of only around \$960,000. It is clear that the projected baseline scenario would be the most financially viable option for the PP, and the projected revenues from baseline timber harvesting would greatly exceed that anticipated from the project. In fact, the verifiers found that the baseline harvest revenues could be decreased by 75% and the anticipated project revenues could be increased by 75% and the resulting NPV from the baseline scenario would still be higher than that of the project (\$2.4 million vs. \$1.6 million). In this sense, by forgoing baseline timber harvesting and implementing the carbon project, the PP faces much reduced access to capital that would otherwise be available to them. The verifiers therefore feel that the PP's pursuit of the carbon project does impose limits in their access to capital compared to the projected baseline scenario and therefore implementation of the project activity does face a financial barrier.</p> <p>The assertions in the statements given in response to this finding, and the PP's supporting NPV financial analysis were found to support the forest owner's limited access to capital and that this represents a financial barrier to the project activities that will not generate any revenues from timber harvesting related activities (no projected harvesting). Considering the ongoing need to raise working capital to fulfill the PP's obligations to their shareholders, the verifiers are reasonably assured the</p>	
--	--	--	--

		<p>project has met the financial barrier test. This aspect of the finding is therefore considered closed.</p> <hr/> <p>The verifiers now acknowledge the source of the cost and revenue assumptions mentioned in the PP's response. The verifiers found the pricing data from the USFS through the link under Table E1.f of the GHG Plan. The verifiers believe the link brings them to pricing data that is from a different date than that used by the PP. However, overall, the verifiers found the price comparisons between the source data they independently obtained and that used by the PP as reasonable, and that the source itself is credible. The costs were consolidated from the USDA Forest Service Region 10 valuation program.</p> <p>The verifiers performed a variety of checks on the 100 year baseline NPV analysis and the 20 year crediting period NPV analysis and overall found them to be accurate. However, the verifiers request clarification on the following aspects of the analysis before this issue is fully closed out.</p> <p>1) It is not clear where or how the stumpage values from the "StumpagePrices" tab of the 100 Year Calculation workbook are actually being applied in the baseline NPV analysis. When they try to trace the cells dependent on the values given in this table no subsequent formulas appear to refer to the cells containing the pricing data implying that they aren't actually being used. The verifiers cannot confirm where the pricing parameters are actually being applied in the calculations of timber revenues on the "Basel"ne" tab which subsequently feed into the "HarvestRevenue" tab and then ultimately into the NPV calculations.</p> <p>2) In the ShaanSeet Southeast Alaska Cost Value Workbook, "ShaanSeet_Costs" tab, there are references to Hobart (Long hauls at Hobart, Load ship in Hobart). The verifiers request clarification on these references. Clarity is also requested on the underlying assumptions about the hauling destination being considered for HWP and subsequent export that contribute to the equipment mobilization and hauling related expenses.</p> <p>3) With regard to equipment mobilization, the verifiers independent estimates based on their broad assumptions found a cost that was over twice as high as that applied by the PP (\$1,300 vs. \$3,057). No barge was included in the PP's cost estimates, but it appears that some portions of the project area would require barge transport of harvested wood. An explanation of the parameters applied in the equipment mobilization estimates is requested. The verifiers also request clarification as to why</p>	
--	--	---	--

		<p>no barging for moving wood from the project area is being considered in the analysis when it appears that this may be required for at least some portions of the project area.</p> <p>4) In regard to the road expenses, the PP's analysis assumes reconstruction/maintenance is 50% of new road building cost. While the verifiers are aware that there are some existing roads within the Project Area, the assumptions applied for this expense appear to imply that no new roads would be needed to enable the baseline harvest scenario to be implemented. For road building cost, the verifiers request clarification on the basis for only assuming road reconstruction, and question if it is realistic that no new roads will be needed in the baseline scenario.</p>	
		<p><u>Findings from Review on 7 December 2020:</u></p> <p>1) The response confirms that the stumpage prices are not applied in the 100 Year Calculation workbook, and that they are rather directly applied in the revenue calculations performed in "R" software. The resulting revenue outputs from "R" are then entered into the 100 Year Calculation workbook.</p> <p>2-3) The response confirms the references to Hobart in the Cost Value Assumptions workbook was an error, and not applicable to the Shaan Seet project. These references have been removed from the updated version of the workbook provided. The response also confirms that correct final hauling destination being considered is the town of Klawock, on the western side of Prince of Whales Island, AK. The verifiers consider this assumption and this final hauling destination to be appropriate considering the location of the project area. The response also explains how the project developer has now applied conservative assumptions in regard to equipment mobilization costs, hauling destination, and barge costs by assuming that the harvest volumes would need to be barged to Klawock, and equipment would need to be mobilized via barge. The verifiers concur that these assumptions are conservative when it comes to the 20 year NPV analysis, and that these assumptions would overestimate the actual cost expectations, thereby underestimating the 20 year baseline NPV.</p> <p>The verifiers have reviewed the updated 20 year crediting period NPV analysis and found the updates to be appropriate. The assumptions related to the equipment mobilization costs, hauling destination, and barge costs were found to be conservative, and the verifiers are reasonably assured that this financial analysis for demonstrating the project's financial barrier(s) is accurate. All verifier data checks on the 20 year NPV analysis have been updated based on the revised cost assumptions made by the PP. Similar sensitivity analysis were performed the verifiers found that</p>	<p><i>ShaanSeet_100Yr_Calcs_12_7_20.xlsx</i> <i>ShaanSeet_RP_ERT_HWP_12_7_20.xlsx</i> <i>ShaanSeet_SoutheastAlaska_Cost_Value_12_2_20.xlsx</i></p> <p><i>ShaanSeet_GHG Plan_12_7_20.xlsx</i></p>

		<p>the baseline harvest revenues could be decreased by 75% and the anticipated project revenues could be increased by 75% and the resulting NPV from the baseline scenario would still be higher than that of the project (~\$1.5 million vs. ~\$113,000).</p> <p>4) The response offers supporting rationale for the road related expenses (reconstruction/maintenance is 50% of new road building cost) with input provided by Brian Kleinhenz of Terra Verde. Road related expenses assume that all harvest volumes include a road cost on a per MBF basis. Some baseline volume will have no road cost, while some will incur the cost of new roads and some will incur cost of road reconstruction. By using a rate of half the new road building price (per MBF) it is assumed that all volume will have some level of road expenditures. Considering the extensive road network that exists within the project area, the verifiers feel this assumptions to be reasonable and they accept the justification provided.</p> <p>The verifiers are satisfied with the responses, clarifications, and revisions to the 20 year NPV analysis provided to address the remaining aspects of this finding that remained open. Supporting justification for the underlying assumptions in the financial analysis were found by the verifiers to be reasonable. The verifiers updated their financial barrier data checks, including the 20 year NPV analysis that supports the financial barriers faced by the project to demonstrate additionality, and found it to reasonably consider all relevant costs and revenues and the resulting NPV values (e.g. baseline and project scenarios) to be accurate. This finding is therefore considered closed.</p>	
OPO/APD Response			
Date	PP Comment	Additional evidence submitted for review by PP	
14-Sep-20	<p>Concerning financial barriers, Shaan Seet Incorporated is an Alaskan Native Corporation (ANCs) under the Sealaska Regional Corporation. As an ANC, Shaan Seet, Inc. has an obligation to its shareholders to generate revenue and returns to it's shareholders like all other for profit corporations. Shares held by individual members of Shaan Seet Inc. cannot be sold or traded, they can only be passed down to family members, so the only real financial benefit Shareholders gain is their annual dividends as a result of revenue generated by the Corporation.</p> <p>In speaking with Ed Douville, president of Shaan Seet, he indicated the following regarding the need for working capital. In addition to its obligations to each Shareholders to generate returns, much of the Shaan Seet Shareholder population lives below the poverty line and are constantly facing financial barriers. For this reason, Shaan Seet, Inc. provides housing for all Shareholders in need. Shaan Seet developed a Forest Stewardship plan in 2010 that has reached its preset decennial deadline for revisions of goals, objectives, and economic opportunities, that Shaan Seet is currently seeking outside consulting to assist with. Shaan Seet is also a member of the Southeast Watershed Coalition that partners with other ANCs in the region to ensure water quality and create jobs for Shareholders. Shaan Seet Incorporated has many programs, including but not limited to those mentioned above, that require a significant amount of working capital to expand on, revise, and implement. Carbon revenues provide the</p>		

	<p>working capital needed to develop and maintain all of these existing programs, as well as capital to explore new economic opportunities that will provide real benefits to their shareholders, as they are obligated to do so as an Alaskan Native Corporation. Carbon revenues also contribute to the much needed dividends received by shareholders on an annual basis.</p> <p>The file “ShaanSeet_SoutheastAlaska_Cost_Value_7_20_20.xlsx” workbook has been previously provided, which shows the assumptions used to show the cost assumptions that were used. The file is in the folder: RegionalForestryDocs/Harvest_Costs/. The reference/justification for revenues are included in Table E1.f in the GHG plan, and the source for that data is available in the link immediately following the table.</p>	
12/2/20	<p>Additional Responses on NPV Analysis:</p> <ol style="list-style-type: none"> 1. The Stumpage Prices are not directly applied in the 100 year calcs file; rather, they are applied in the revenue calculations in R, which ultimately result in the Revenue values starting in Column LA of the FVS_Pivot tab in the 100 year calcs. We can <ol style="list-style-type: none"> 1. 2. The references to Hobart are not applicable to this project and have been removed. Please see the updated SoutheatAlaska Cost Value workbook that includes updated costs related to reflect the correct equipment mobilization costs, hauling destination, and barge costs. The ultimate hauling destination for this project is the town of Klawock. Please note that we applied the more conservative harvest cost assumptions assuming that the harvest volumes would need to be barged to Klawock, and equipment would need to be mobilized via barge. <ol style="list-style-type: none"> 2. 3. Please see the updated SoutheatAlaska Cost Value workbook that includes updated costs related to reflect the correct equipment mobilization costs, hauling destination, and barge costs. We are now assuming conservative equipment mobilization and barge costs for all harvest volumes. <ol style="list-style-type: none"> 3. 4. We asked Brian Kleinhenz to provide additional details on the road building costs, and he said the following : We are assuming all the harvest volumes include a road cost on a per MBF basis. We did not do a conceptual logging plan to identify specific road needs. Some volume will have no road cost, some will carry the cost of new road and some will carry cost of road reconstruction. Using a rate of half the price (per MBF) of new road we assume that all volume will have some level of road spend. This seems reasonable given the extensive, in-place, road system. 	ShaanSeet_SoutheastAlaska_Cost_Value_12_2_20

Verifier Issue	Issue ID:	20-16	Status: Closed	Checked by:	LH	Date Identified	10-Sep-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description				Comments

ACR Standard, v6.0, Section 2.B.6	Section D.2	New information request. <i>May impact OMM or conformance.</i>	<p>The field QA/QC process claims at least 5% of plots were visited in an audit of the inventory crews. The verifiers request a list of the inventory plots that were visited, dates of the visit, the individuals performing the audit, and the results of the check audit including any corrective actions taken.</p> <p>While the GHG plan outlines a detailed QA/QC desk review process, the verifiers request supporting documentation demonstrating the implementation of the QA/QC system, including the dates of review, individuals responsible for reviews, issues identified during reviews, and a summary of revisions/updates made as a result of the QA/QC reviews.</p>	ShaanSeet_GHG Plan_07_20_2020.pdf
			<p><u>Findings from Review on 16 October 2020:</u></p> <p>The requested information on the check cruise and results was made available to the verifiers. In total, 5 inventory plots underwent a check cruise, which represented 5% of the original total of 100 plots. The verifiers note that the final number of inventory plots used for the quantification of carbon stocks in the project area was reduced to 93. The few errors & measurement issues found during the check cruise appears to have been limited to incorrect species calls and difference in tree height measurements. The issues found also appear to have only occurred on the small tree subplot. Of the 53 trees check in the check cruise, only 2 points of error were identified with the final check cruise results showing an overall percent error of 4% or a percent quality of 96%. Based on these results, and the fact only a few minor errors & measurement issues were identified, no corrective actions appear to have been warranted. The check cruise data and results provided was considered to offer sufficient evidence that the field based aspect of the PP's QA/QC process was implemented according to the Inventory Methodology document.</p> <p>Related, the verifiers also note that no significant discrepancies with the inventory data or measurements on the plots sampled during the verification site visit were found. Independent measurements and inventory data collected by the verifiers on the sampled plots was very close to the PP's inventory data. As a result, the t-test for statistical comparison and verification of the project's inventory passed with the minimum number of plots (5) required according to ACR guidance.</p> <p>The previous versions of the Start RP workbook showed a total of 95 plots. This was reduced to 93 following the adjustments to the project area boundary which removed 2 plots. The verifiers request clarification as to why the check cruise document shows a total of 100 plots, and why the total appears to have been reduced to 95 plots. If some plots were removed from the inventory, what was the reasoning for this? Also, how did the PP go about deciding which plots to remove while ensuring it didn't introduce any bias?</p>	<p>Shaan Seet Check Cruise FINAL.xlsx ShaanSeet_Start_RP_CO2_8_26_20.xlsx ShaanSeet_Start_RP_CO2_10_2_20.xlsx</p>

		<p>While it is now acknowledged that the second aspect of this finding did not explicitly refer to the desk based QA/QC procedures. However, the verifiers still request supporting documentation demonstrating the implementation of the <u>desk based</u> QA/QC system, including the dates of review, individuals responsible for reviews, issues identified during reviews, and a summary of revisions/updates made as a result of the QA/QC reviews.</p>	
		<p><u>Findings from Review on 7 December 2020:</u></p> <p>The response to this finding offers reasonable justification for the removal of 5 plots from the original 100 plots noted by the verifiers in the Check Cruise documentation to the total of 95 plots at the time of the PP's initial document submission to the verifiers. Again, the final total number of inventory plots in the project is 93, following the project area boundary correction made in response to finding 20-12. All but one of the original plots removed were due to mapping errors where the plots mapped location fell outside of the project area/ownership boundary. In addition, one plot (plot #72) was removed due to a safety hazard at its original mapped location. The PP also asserts that this plot could also not be relocated to a safe area within 1 chain of the original location in accordance with the project's inventory specifications, and it was therefore not included in the inventory. While it is difficult to ascertain the specific safety hazard when reviewing the location of plot #72 over aerial imagery in GIS, verifier review of this plot's location over ESRI World Topo maps found its location to clearly be on a steep gradient and it is therefore reasonable to assume a safety hazard at this removed plots location was indeed present.</p> <p>The verifiers were provided with a shapefile containing the point locations of the plots removed from the final forest inventory due to the reasons described above. The removed plots were reviewed by the verifiers in GIS, and their mapped locations were confirmed to be outside of the project area. Reasonable justification for the removal of these plots, and clarification on the original and final plot totals to address the differences noted by the verifiers has been provided. This aspect of the finding is considered to be addressed.</p> <p>The response to this finding has also offered a summary describing the desk based QA/QC procedures as implemented. This process began with high level checks of the data by Ben Parkhurst when the inventory data was first received, to ensure data for all plots was accounted for. Initial automated quality checks were then performed by Josh Clark in July 2019. Outputs from these automated checks were provided to the verifiers. Basic details on the types of checks carried out in this phase of the desk based QA/QC process has been provided and the types of issues identified are outlined in the supporting QA/QC documentation provided. The project developer also indicates that prior to each document submission to the verifiers a member of</p>	<p>ShaanSeet_RemovedPlots_12_2_20.shp ShaanSeet_Inventory_Checks.pdf ShaanSeet_Inventory_Checks.txt ShaanSeet_plotStocks.pdf ShaanSeet_plotStocksByPool.pdf ShaanSeet_projectStocks.pdf ShaanSeet_projectStocksByPool.pdf ShaanSeet_strataStocks.pdf</p> <p>ShaanSeet_RP_ERT_HWP_12_7_20.xlsx</p> <p>ShaanSeet_GHG Plan_12_7_20.pdf ShaanSeet_RP1_MonitoringReport_12_3_20.pdf</p>

		<p>their modeling team assessed the final output files, and a member of their implementation team reviewed the final reporting forms.</p> <p>The summary description of the desk based implemented QA/QC procedures along with the supporting outputs from the automated checks performed gives the verifiers reasonable assurance that the QA/QC processes as described in the GHG Plan and Inventory Specifications were implemented during the development and implementation of the project. This finding is therefore considered closed.</p>	
--	--	---	--

OPO/APD Response

Date	PP Comment	Additional evidence submitted for review by PP
14-Sep-20	Please see "Shaan Seet Check Cruise FINAL.xlsx", which has been added to the shared folder	Shaan Seet Check Cruise FINAL.xlsx
2-Dec-20	<p>All plots besides one were removed due to mapping errors that caused the plots to be outside of the project area. Please see the shapefile of removed plots (in the plots folder) that fell outside of the project area after the mapping errors were fixed. Only plot 72 was removed due to a safety hazard that could not be relocated to a safe area within 1 chain. This followed the language of the inventory methodology, which notes th"t "If a plot falls in an area that is unsafe or impossible to measure where it falls, it should be moved one chain in a cardinal direction (starting with north and moving clockwise) towards an area that is safe and within the project boundaries, and the new plot location should be recorded in the GPS unit. If one chain in each cardinal direction is still unsafe, make a note and do not measure the plot. Make a no"e."</p> <p>The desk-based QAQC procedures are a combination of automated and Bluesource personnel checks. The initial high-level checks were conducted by Ben Parkhurst when Bluesource received the data in June of 2019. The preliminary checks were mostly to confirm that all of the plots were accounted for. The initial automated checks were run on 7/10/2020, and the outputs of those checks can be found in the Data/Checks folder. These checks confirmed which plots were missing from the original shapefile (5 plots at the time of the check) and identified the null plots which were replaced with .01 DBH trees (so that the plots would not be thrown out by FVS). These checks also confirmed that no dead trees had missing decay classes, that no live trees contained decay classes, that no trees were missing, that there we'en't any erroneous species codes, etc. These automated checks were run by Josh Clark. Finally, upon each submission of the calculations to the verifiers, a member of the Bluesource modeling team Q'QC'd the final output files, and a member of the implementation team Q'QC'd the reporting forms.</p>	ShaanSeet_RemovedPlots_12_2_20; ShaanSeet_Inventory_Checks; ShaanSeet Figures

Verifier Issue	Issue ID:	20-17	Status: Closed	Checked by: LH	Date Identified	10-Sep-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description	Comments		
		Clarification.	Clarification is needed on the Inventory walk through (WT) procedures. Bullet 8, under the Plot Location & Methodology heading states th"t "If a plot falls near a	ShaanSeet_Carbon_Plot_Methodology_5_14_19.pdf		

		<p><i>May impact OMM; not a conformance issues</i></p> <p>property line, but there is no visible evidence of the property line, measure the plot as is and do not use the walkthrough method. However, the final bullet point states "For plots located near the project boundary as depicted on the maps and shapefile, use the walkthrough procedure..." The intent on this guidance is not entirely clear. Some portions of the project area boundary are coincident with the property boundary. There appear to be some places where the walk through method was implemented when a plot fell near a property boundary, but there was likely no visible evidence of the property line. Clarification is requested on when the walkthrough method was to be used when a plot falls near a property vs. project area boundary, and if the boundary has or does not have visible evidence of the boundary line. The verifiers also question the treatment of internal boundaries as it relates to the use of the WT method, as well as situations where other hard edges, such as mapped roads or non forest areas are encountered. Clarification on the intended WT procedures for such situations is also sought.</p>	
		<p><u>Findings from Review on 16 October 2020:</u></p> <p>The PP revised their Inventory Methodology document and description of the walk through procedures in response to this finding. Bullet 8, under the Plot Location & Methodology now states: "If a plot falls near a project boundary, but there is no visible evidence of a feature on the ground marking this boundary (i.e. blazed/flagged property line, road, non-forest area larger than minimum mapping unit, interior marked boundary), measure the plot as is and do not use the walkthrough method." The final bullet point in this section was also revised and now appears to be consistent with the instructional guidance given in the eighth point. Here it states: "For plots located near a project boundary where the boundary is identifiable by a feature on the ground (i.e. blazed/flagged property line, road, non-forest area larger than minimum mapping unit, interior marked boundary) as depicted on the maps and shapefile, use the walkthrough procedure..."</p> <p>The verifiers consider the revisions made to the instructional guidance on use of the walkthrough method to provide sufficient clarification on the intent of where & when this procedure is to be used. When there is no visible evidence of a boundary or edge feature on the ground, the walkthrough method is not to be used. When there is visible evidence of a boundary or edge feature on the ground the walkthrough method is to be used. The updated text now also addresses both property & project area boundaries, as well as internal boundaries as it relates to using the walkthrough method. The walkthrough procedures in the updated Inventory Methodology document also was found to be consistent with what was discussed and/or observed with the PP's inventory crews during the verification site visit. This finding is therefore considered closed.</p>	<p><i>ShaanSeet_Carbon_Plot_Methodology_10_2_20.pdf</i></p>
OPO/APD Response			
Date	PP Comment	Additional evidence submitted for review by PP	

14-Sep-20	The methodology has been updated to clarify the two statements mentioned in the finding above, and to clarify when and how to apply the walkthrough method as it was applied on the ground during the inventory. Please see "ShaanSeet_Carbon_Plot_Methodology_10_02_20.pdf" which has been added to the shared folder.	ShaanSeet_Carbon_Plot_Methodology_10_02_20.pdf
-----------	---	--

Verifier Issue	Issue ID:	20-18	Status: Closed	Checked by: LH	Date Identified	10-Sep-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description			Comments
ACR IFM Methodology, v6.0, Section D.7	Section E.3	New information request. <i>May impact OMM or conformance.</i>	<p>In regard to quantifying leakage, Section E.3 of the GHG Plan states; " Quantification of leakage is limited to market leakage, as no activity-shifting leakage is allowed by the methodology beyond <i>de minimis</i> levels. Shaan Seet owns ~13,897 acres of land outside of the project area (please see Figure A6); however, as they do not commercially harvest timber anywhere on Shaan Seet owned lands, including those outside of the Project Area, as attested to by Shaan Seet, there is no activity-shifting leakage."</p> <p>The verifiers seek additional supporting evidence there is no harvesting on 'he PP's lands outside of the project area boundary, to demonstrate there is no activity shifting leakage. The verifiers request spatial data for the overall Shaan Seet ownership that encompasses both the project area and non-project lands to further assess the potential for timber harvesting outside of the project area boundaries and within the PP's ownership. The verifiers also seek clarification on if the referenced attestation is made formally in a supporting attestation document. If so, a copy of the documented attestation is requested.</p>			<p><i>ShaanSeet_FullProperty_10_2_20.shp</i> <i>ShaanSeet_Secondary_Leakage.pdf</i></p>
			<p><u>Findings from Review on 16 October 2020:</u></p> <p>The requested spatial data for the PP's full ownership has been provided. Updated spatial data for the project area in response to finding 20-12 was also provided. In total the full ownership shapefile shows that Shaan Seet Inc. owns a total of 22,847.5 acres. The 8,891.6 acre project area is located within the larger ownership boundary. Verifier review of the project area and PP full ownership boundary over recent aerial imagery (ESRISatellite 2017, Google Earth 2019) in GIS did not reveal any obvious recent harvesting. While evidence of historic harvesting is certainly visible (forest roads, forest cover composed of younger age classes) no recent or active harvesting was observed.</p> <p>In addition, an email communication between the PP and the project technical developer was provided in which the PP attests that there has been no active harvesting on Shaan Seet forestlands over the past 21 years. This assertion was given</p>			<p><i>ShaanSeet_Strata_9_25_20.shp</i> <i>ShaanSeet_Boundary_10_2_20.shp</i> <i>ShaanSeet_FullProperty_10_2_20.shp</i> <i>ShaanSeet_Secondary_Leakage.pdf</i></p>

		by Edward Douville, President/General Manager on 24 September 2020. Between on-site observations made during the verification field audit, review of the project area over recent aerial imagery in GIS, and the assertions of no harvesting by the PP in the email communications provided, the verifiers are reasonably assured there indeed has been no recent harvesting on the PP's ownership, and that therefore this is no activity shifting leakage as prohibited by the methodology. This finding is therefore considered closed.	
OPO/APD Response			
Date	PP Comment	Additional evidence submitted for review by PP	
14-Sep-20	Spatial data for the overall Shaan Seet Ownership has been added to the shared folder, Please see "ShaanSeet_FullProperty_10_2_20.shp". Please see the attestation "ShaanSeet_Secondary_Leakage.pdf", which has been added to the shared folder, for confirmation of no harvesting on the PP's lands outside of the PAB.		

Verifier Issue	Issue ID:	20-19	Status:	Closed	Checked by:	LH	Date Identified	10-Sep-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description				Comments	
ACR Standardv6.0, Section 6.B & 6.E	GHG Plan & Monitoring Report documents	Non conformance. <i>May impact OMM or conformance.</i>	<p>The verifiers note that the GHG Plan, Monitoring Report, and relevant supporting documents will need to be updated to reflect any modified calculations and final carbon stock reporting figures as of the date of this issues log and subsequently, as well as for any other changes that result from the findings raised in the verifier's assessment.</p> <p>In the current version of the GHG Plan, the following specific items were raised as requiring attention.</p> <ul style="list-style-type: none"> Final buffer pool contribution figure at the bottom of section B8 needs to be updated. Reference to August 20 in the baseline HWP section of E.1 appears to be incorrect. Final ex-ante estimates and figures in the GHG Plan will need to be updated as appropriate. <p>In the current version of the Monitoring Report, the following g specific items were raised as requiring attention.</p> <ul style="list-style-type: none"> Final emissions and emission reduction figures in the MR will need to be updated as appropriate. 				<p><i>ShaanSeet_GHG Plan_07_20_2020.pdf</i> <i>ShaanSeet_RP1_MonitoringReport_07_20_20.pdf</i></p>	
			Findings from Review on 16 October 2020:				<i>ShaanSeet_100Yr_Calcs_10_2_2020.xlsx</i>	

		<p>The verifiers have reviewed the updated versions of the GHG Plan, Monitoring Report, carbon stock quantification workbooks, and other supporting project documentation for consistency with the final reporting figures and values. The verifiers found the following with the specific discrepancies identified in this finding.</p> <p>GHG Plan:</p> <ul style="list-style-type: none"> • The final buffer contribution figure (t CO₂e) in section B8 of the GHG Plan is now consistent with the ERT Calculation Workbook. • The reference to August 20 in the Baseline HWP section of E.1 has been removed and now shows January 10 as the date for reporting annual intervals of baseline HWP, consistent with the project start date of 10 January 2019. • The ex-ante estimates and figures throughout the GHG Plan appear to be consistent with the figures in the supporting ERT calculation workbook. <p>MR:</p> <ul style="list-style-type: none"> • The final emissions and emission reduction figures in the updated MR appear to be consistent with the supporting quantification workbooks. <p>The verifiers updated all of their data checks based on the revisions and updates made to the project accordingly. This included tracing all final reporting figures and values in the GHG Plan and Monitoring Report back to their source data in the supporting workbooks. The only remaining inconsistencies found were as follows:</p> <ul style="list-style-type: none"> • Tables E1-d & E4-a appear to have some inconsistent values when checked against the Start RP Calculation workbook. • The baseline long term average stocks under Table E1-l appears to be incorrect. 	<p><i>ShaanSeet_RP_ERT_HWP_10_2_20.xlsx</i> <i>ShaanSeet_Start_RP_CO2_10_2_20.xlsx</i> <i>ShaanSeet_GHG Plan_10_2_20.pdf</i> <i>ShaanSeet_RP1_MonitoringReport_10_2_20.pdf</i></p>
		<p><u>Findings from Review on 8 December 2020:</u></p> <p>The verifiers have reviewed the updated versions of the GHG Plan, Monitoring Report, carbon stock quantification workbooks, and other supporting project documentation for consistency with the final reporting figures and values. All previously noted discrepancies with the final reporting figures and values were found to be addressed. The verifiers updated all of their data checks based on the revisions and updates made to the final project documents accordingly. This included tracing all final reporting figures and values in the GHG Plan and Monitoring Report back to their source data in the supporting workbooks. This finding is therefore considered closed.</p>	<p><i>ShaanSeet_RP1_MonitoringReport_12_3_20.pdf</i> <i>ShaanSeet_GHG Plan_12_7_20.pdf</i></p> <p><i>ShaanSeet_100Yr_Calcs_12_7_20.xlsx</i> <i>ShaanSeet_RP_ERT_HWP_12_7_20.xlsx</i> <i>ShaanSeet_Start_RP_CO2_10_2_20.xlsx</i></p>

OPO/APD Response		
Date	PP Comment	Additional evidence submitted for review by PP
14-Sep-20	All listed areas of the GHG plan and Monitoring report have been updated.	
2-Dec-20	The remaining inconsistencies have been corrected, and all other relevant portions of the GHG plan have been updated to reflect the updated calculations.	

Verifier Issue	Issue ID:	20-20	Status: Closed	Checked by: EM	Date Identified	12-Sep-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description		Comments	
ACR IFM Methodology, v1.3, section C3.1	Baseline	Possible non conformance. May impact OMM or conformance.	Verifiers note that the baseline calculations appear to have several issues with their calculations. Verifiers have listed the issues noted below based on the data checks that have been able to be performed: 1) The "FVS_Pivot" tab has duplicates for several column names (e.g. there are no data given for the year 2034 and 2039 – these are examples but more duplicates/omissions exist). 2) The difference between the data starting at column "A" versus the data starting at "IJ" in the "FVS_Pivots" tab is not evident. Please clarify the difference.		ShaanSeet_100Yr_Calcs_8_26_20.xlsx;	
			Findings from Review on 16 October 2020: Verifiers are satisfied that the labelling issues have been dealt with. Any further questions regarding the FVS_Pivots tab are included in issue 20-21. This issue is considered closed.		ShaanSeet_100Yr_Calcs_10_2_2020.xlsx	

OPO/APD Response		
Date	PP Comment	Additional evidence submitted for review by PP
14-Sep-20	<p>The data from FVS_Pivot is taken directly from FVS tree level data and aggregated to the plot/RX level using an R script that combines tree-level data into plot/RX-level 2034/2039 incorrectly labelled as 2044/2049. 2084/2089 incorrectly labelled as 2094/2099.</p> <p>Note that in the FVS_Pivot tab, the first pivot output table includes 4 columns for each 5 year period (CO2_AG, CO2_LIVE, CO2_DEAD, and VOLCFSND). There were multiple columns labelled as "CO2_AG 2044", but only column Y is labelled correctly. Column Q should have been labelled "CO2_AG_2034". Note that column Q is referenced in column AY of the "Project" tab, where the "Project" tab is aggregating CO2_AG for time period 2034.</p> <p>(1) There are 5 distinct pivot tables produced in the FVS_Pivot tab, which may not be readily apparent. Using "Trace Dependents" in Formula Auditing show where the FVS data tie into the Baseline/Project tabs. Titles have been added to each of the 5 pivot tables:</p>	

	<ul style="list-style-type: none"> (a) Carbon projections by plot/ RX for Project scenario (columns A:CJ) (b) Timber harvest projects by plot/RX for both Baseline scenario (columns CM- IG) (c) Carbon projections by plot/RX for Baseline scenario (columns IJ - KX) (d) Revenue (sawtimber/pulp) by plot/RX for Baseline scenario (columns LA – MT) (e) Harvest data for volume (total/pulp cubic ft, bd ft), and CO2 (columns MW – QF) 	
--	---	--

Verifier Issue	Issue ID:	20-21	Status: Closed	Checked by: EM	Date Identified	12-Sep-20
ACR Standard ref	GHG Plan Section	Significance	Issue Description		Comments	
ACR IFM Methodology, v1.3, section C3.1	Baseline	New information request. <i>May impact OMM or conformance.</i>	Verifiers have not been provided the “FVS_Data” tab or whatever source was used to calculate the “FVS_Pivots” tab in the 100 year calculation workbook.		ShaanSeet_100Yr_Calcs_8_26_20.xlsx;	
			<p><u>Findings from Review on 16 October 2020:</u></p> <p>Verifiers are requesting the database or the output where the aggregation takes place. Verifiers have looked through the R code provided and while it appears that the data is imported from the FVSOOut database from the “FVSCarbon” and “FVS_SnagDet” tables, the column names in the FVSOOut databases do not line up with those used in the R code. (e.g. on line 258 the name “C_AG_LIVE” is used but does not appear in the FVSCarbon table. The values in the “Aboveground_Total_Live” table in the FVSCarbon table in the FVSOOut databases provided do not match those in the “CO2_AG” columns on the “FVS_Pivot” tab. 100 year calculation workbook. Verifiers are left with three questions:</p> <ol style="list-style-type: none"> 1. What is the source that is loaded into the R code as the table “carbon” 2. How do the column names align between the FVSOOut, R code and FVS_Pivot tab? 3. Why is there a discrepancy between what is reported in the FVSOOut databases and what eventually ends up in the FVS_Pivot tab in the 100 year workbook (the difference is not only due to the application of defect as in many cases the values in the 100 year workbook are higher than in the FVSOOut databases once both are converted to the same units)? <p>If responding to these remaining questions would be easier facilitated by arranging a phone call to discuss these items together, this can be arranged.</p>		ShaanSeet_100Yr_Calcs_10_2_2020.xlsx	
			<u>Verifier Response 09 December 2020</u>		ShaanSeet_100Yr_Calcs_12_7_2020.xlsx	

		After a call on December 9 th , 2020 to clarify the three questions remaining in this issue verifiers have successfully closed this issue. The verifiers confirmed that the FVS_Carbon table is the source for live carbon and is processed through R to produce the “FVS_Pivot” table in the 100yr calculation workbook. The source of the column names was confirmed as were the discrepancies previously noted. The discrepancies occurred in the initial 2019 year as FVS output is overridden in favour of the actual inventory calculations. Further discrepancies were due to a difference in the way verifiers had applied the plot-level defect when checking the baseline values. Once these two discrepancies were clarified, verifiers were able to successfully align their internal calculations with those provided by the PP and the issue was considered closed.	
OPO/APD Response			
Date	PP Comment	Additional evidence submitted for review by PP	
14-Sep-20	The source for the “FVS_Pivot” tab is the Access database for each prescription, which was provided separately. The “FVS_Pivot” tab aggregates this large amount of data into something more manageable that is used in the Excel calculations.		
2-Dec-20	We will schedule a follow up call to go over the Findings from Review on 16 October 2020 upon submission of these Issues Log responses.		

Appendix C: Project Team

Verification Team	Qualifications
Lawson Henderson	Lawson joined S&A Carbon as a Senior Associate in 2016, and expands the existing capacity of the forest carbon offset verification team. He is acts as an ARB Verifier on forest carbon offset projects, and is qualified as a Lead Offset Verifier under the ARB regulation. Lawson currently supports the S&A team with reviews of verification documents, field verifications of ARB forest carbon offset projects, and S&A’s actions to become accredited under the American National Standards Institute – ANSI). Lawson brings nearly a decade of experience in forest certification through his prior employment with Rainforest Alliance, where he acted as a project manager and lead auditor of forest carbon offset projects against the major voluntary GHG programs, and FSC Forest Management

Verification Team	Qualifications
	<p>& Chain of Custody Certifications. Lawson is qualified as a Lead Verifier under the Climate Action Reserve (CAR), and is also qualified as a AFOLU IFM Expert under the Verified Carbon Standard (VCS) program. He has led the validation and verification of IFM, AR & REDD forest carbon offset projects against the major voluntary GHG programs globally. He is a member of both the Gold Standard Foundation (GSF) Land Use and Forestry (LUF) and Oversight and Assurance (OA) Technical Advisory Committees (TAC). Lawson holds a B.S.F in forest management from the University of New Hampshire (2005).</p>
Pablo Reed	<p>Pablo Reed holds a B.S. in Forest and Ecological Engineering as well as a minor in Latin American Studies from the University of Washington in Seattle. He has also recently completed a Masters of Environmental Management degree at the Yale School of Forestry & Environmental Studies. Prior to his return to grad school, he spent the preceding six years of his life working with conservation and development projects in various countries in Latin America. He served as country director for a joint USAID/Idaho State University community conservation project in the Alta Verapaz region of Guatemala and also spent time in Panama working as an environmental and GIS consultant. His most recently worked for the Peace Corps in Ecuador, where he served as program manager for the posts' natural resource conservation program. While at Yale, his program of studies centered on social and political ecology as well as natural resource management policy. His research and subsequent thesis centered on the development of REDD (Reducing Emissions from Deforestation and Degradation) policy frameworks, especially as they pertain to the inclusion of communal Indigenous territories and lands (Ecuador, summer 2010). Pablo is an ARB Forestry project specialist, and an ARB Lead Verifier.</p>
Elizabeth McGarrigle	<p>Elizabeth McGarrigle holds three forestry degrees (BScF, MScF, PhD). Her work has focused on forest inventory, growth and yield, and forest management planning. Her research focused on examining the impact of uncertainties in the inputs to long term forest management plans when optimization models are employed during the Master's program.</p>

Verification Team	Qualifications
	While completing her PhD, she was part of the team developing a regional growth and yield model for the Acadian forest in the Northeastern United States and Canada. She developed a stand level model that is used to predict survivor growth, ingrowth, and mortality in the region. As part of her dissertation, she focused on several variants of the Forest Vegetation Simulator and several regional growth and yield models from across Canada and the United States. Dr. McGarrigle is currently working with the provincial government in Nova Scotia Canada as a Forest Inventory Data Analyst where she is responsible for the design and analyses of permanent sample plots. In addition to her work as a biometrician on several ARB forest projects, she has also been involved in research at Natural Resources Canada using a fine scale forestry model to assess the impact of climate change on species composition in forest types across Canada.
Caitlin Littlefield	Caitlin Littlefield is a broadly trained forest ecologist and holds a PhD at the School of Environmental and Forest Sciences at the University of Washington. Her research focuses on climate adaptations in fire-prone forests and modeling connectivity across western forested landscapes. Prior research and consulting work entailed assessing bioenergy harvesting impacts in northern New England, modelling carbon storage under various management scenarios on former industrial timberlands in Vermont (using FVS), and developing relational databases and tools for state natural resource agencies. She has extensive field experience throughout New England and the Pacific Northwest and has participated in four field verifications of forest carbon projects.
Alexa Kandarīs	Alexa has 4 years' experience in carbon auditing and climate change mitigation policy and is accredited by ARB as a verifier under their US Forests protocol. In this time, she has participated in over 60 verifications of carbon offset projects and corporate inventories under a variety of GHG programs, including the Air Resources Board, Climate Action Reserve, American Carbon Registry, and Carbon Disclosure Project. Alexa developed tracking systems for a program registered under the Clean Development Mechanism as a Program of Activities and has been

Verification Team	Qualifications
	involved in registering this program of activities with the Gold Standard. Prior to this, Alexa conducted extensive research on emissions leakage in addition to authoring work pertaining to the structure of California Assembly Bill 32. Alexa is currently responsible for implementation of S&A's corporate management system to ensure ongoing improvement and compliance with ISO requirements. In addition to this, she has field experience with Forestry, Ozone Depleting Substances, and Livestock verification projects and is qualified as a lead verifier for GHG inventory verifications. She holds a Bachelor of Arts in Economics with a minor in Business Administration, and a focus on natural resource and environmental Economics.
Kyle Silon	Kyle Silon holds an M.S. in Energy and Environmental Economics and is an ABR accredited Lead Verifier. He has ten years' experience in climate change mitigation strategies and carbon reduction projects. Prior to founding S&A, he worked for a leading international certification company, specializing in validation and verification of small-scale household energy demand projects (such as cook stove and water filter projects), primarily located in South America, Asia, and Africa. He has participated in numerous verifications of forestry, landfill, and livestock projects, and has worked across all major GHG programs, including the Air Resources Board, Verified Carbon Standard, Climate Action Reserve, American Carbon Registry, Gold Standard, and Clean Development Mechanism (CDM).
Beth Daut	Beth Daut has over 30 years of experience working with private, investment and industrial landowners in Maine, New Hampshire, Vermont, and the Adirondack region of New York. Beth has an A.A.S. degree in Forest Technology from the SUNY College of Environmental Science and Forestry Ranger School and a Bachelor's degree in Environmental Science from SUNY Plattsburgh. She is licensed in the states of Vermont and New Hampshire, and a member of Society of American Foresters. Civically, she is a member of the Berlin Conservation Commission and Tree Warden for the town of Berlin.

APPENDIX C: VERSION TRACKING

Version	Date	Developed By	Version Notes
1.0	11/5/2020	Lawson Henderson	Initial Document
1.1	12/10/2020	Lawson Henderson	Updated document following the closure off all findings.
1.2	12/28/2020	Lawson Henderson	Updated document prior to submission for Technical Review
1.3	1/21/2021	Pablo Reed/Lawson Henderson	Final Version Approved by the Technical Reviewer
1.4	3/10/2021	Lawson Henderson	Updated in response to ACR review comments, and revisions made to the final ERT calculations.
1.5	3/15/2021	Lawson Henderson/Pablo Reed	Updated Final Version Approved by the Technical Reviewer

S&A Carbon Lead Verifier Name and Signature:	Lawson Henderson 
S&A Carbon Technical Reviewer Name and Signature:	Pablo Reed 
Date:	15 March 2021