Bluesource – Shaan Seet

Improved Forest Management Project

[March 9, 2021]

ACR 534

Shaan Seet, Incorporated

Prepared by: Blue Source, LLC.

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A.PROJECT OVERVIEW

A1. PROJECT TITLE

The project title is "Bluesource – Shaan Seet Improved Forest Management Project".

A2. PROJECT TYPE

This project is to be registered under the American Carbon Registry Standard[1] (ACR, 2019) as an Improved Forest Management (IFM) project and an approved ACR Improved Forest Management Methodology.[2]

A3. PROOF OF PROJECT ELIGIBILITY

Eligibility for this Improved Forest Management project has been determined with reference to the ACR Standard Version 6.0 and Improved Forest Management for Non-Federal U.S. Forestlands Version 1.3. Bluesource – Shaan Seet Improved Forest Management Project meets all relevant eligibility requirements as described in Table A 3.1 below.

Table A3.1. Project Eligibility Requirements

Eligibility Requirements	Proof of Eligibility	Reference
Ownership Type	The project ownership is private non-federal U.S. forestland.	See section G1. PROOF OF TITLE
Project proponent has third-party certification or no commercial timber harvesting	The project proponent has no ongoing commercial timber harvests, and therefore does not require certification.	See also section A5.1. Background Information
Project area meets the definition of Forestland condition as per USFS FIA program definition	Per the ACR Forest Carbon Project Standard 6.0, the project meets the definition of forestland through a minimum of 10% forest cover (or equivalent stocking) by live trees of any size.	See also section A4. LOCATION

[1] ACR. 2019. American Carbon Registry Standard, Version 6.0. American Carbon Registry, Arlington, VA, USA.
[2] ACR. 2018. Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal Forestlands, Version 1.3, April 2018, American Carbon Registry, Arlington, VA, USA.

Project start date	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 November 1, 1997 or after.	See also section H1. START DATE.
Project term	The project proponent commits to maintain the carbon project scenario stocking levels on the project area at least for the required Project Term of 40 years.	See also section H2. PROJECT TIMELINE.
Crediting Period	In compliance with ACR Standard Version 6.0, the crediting period for the project is 20 years.	See also section H2. PROJECT TIMELINE.
Real	GHG removals are quantified based on inventory of the standing stock in the project area at the time of verification.	See also sections D. MONITORING PLAN and E. QUANITIFICATION
Land Title	For all areas included in the project, long term land titles have been issued and ownership is thus clear, unique, and uncontested.	See also appendix A. LANDOWNER AND CONTRACTS.
Direct Emissions/ Offset Title	GHG emission reductions generated by the project activity are generated from forest carbon sources and sinks over which Shaan Seet, Inc. has all management (see Appendix A, Patent of Interim Conveyances) and ownership rights. Shaan Seet, Inc. holds title to all lands in the project area (see Section G, Ownership and Title) and all rights to carbon credits/offsets produced through management of forests in the project area (see Appendix A, Patent of Interim Conveyances).	See also section G2. CHAIN OF CUSTODY
Additionality	Additionality for the project has been shown through a regulatory surplus test, a common practice test, and an implementation barrier test.	See also section C. ADDITIONALITY
Permanent	The long-term setup, risk analysis, and buffer establishment assure permanence of the project benefits.	See also section B8. PERMANENCE.

Net of Leakage	Possible leakage effects due to activity shifts are quantified and deducted from the GHG benefits.	See also section E3. LEAKAGE.
Independently Validated and Verified	In accordance with ACR methodology, the project benefits will be verified by S&A Carbon, LLC.	
Community and Environmental Impacts	Impacts on community and environment were analyzed in accordance with the ACR Standard 6.0, net positive impacts were confirmed.	See also section F. COMMUNITY & ENVIRONMENTAL IMPACTS

A4. LOCATION

A GIS shapefile of the project area, “ShaanSeet_Boundary.shp” was provided separately for verification. This shapefile gives unique identification and delineation of the specific extent of the project. Figures on the following pages provide additional details:

- Figure A-1. Vicinity map that shows project location and latitude/longitude coordinates.
- Figure A-2. Hydrological map that shows project area hydrology.
- Figure A-3. Canopy cover map that shows where project areas meet the US Forest Service definition of forestland (at least 10% tree cover). Non-forested acres were removed from the project to a minimum mapping unit of 2.5 acres.
- Figure A-4. Topographic map of the project area.
- Figure A-5. Road map that shows the public and private roads near and on the property, additional foot trails may exist that are not mapped.
- Figure A-6. Ownership map that shows parcels owned by Shaan Seet, Inc

Figure A-1. Vicinity Map with Latitude and Longitude

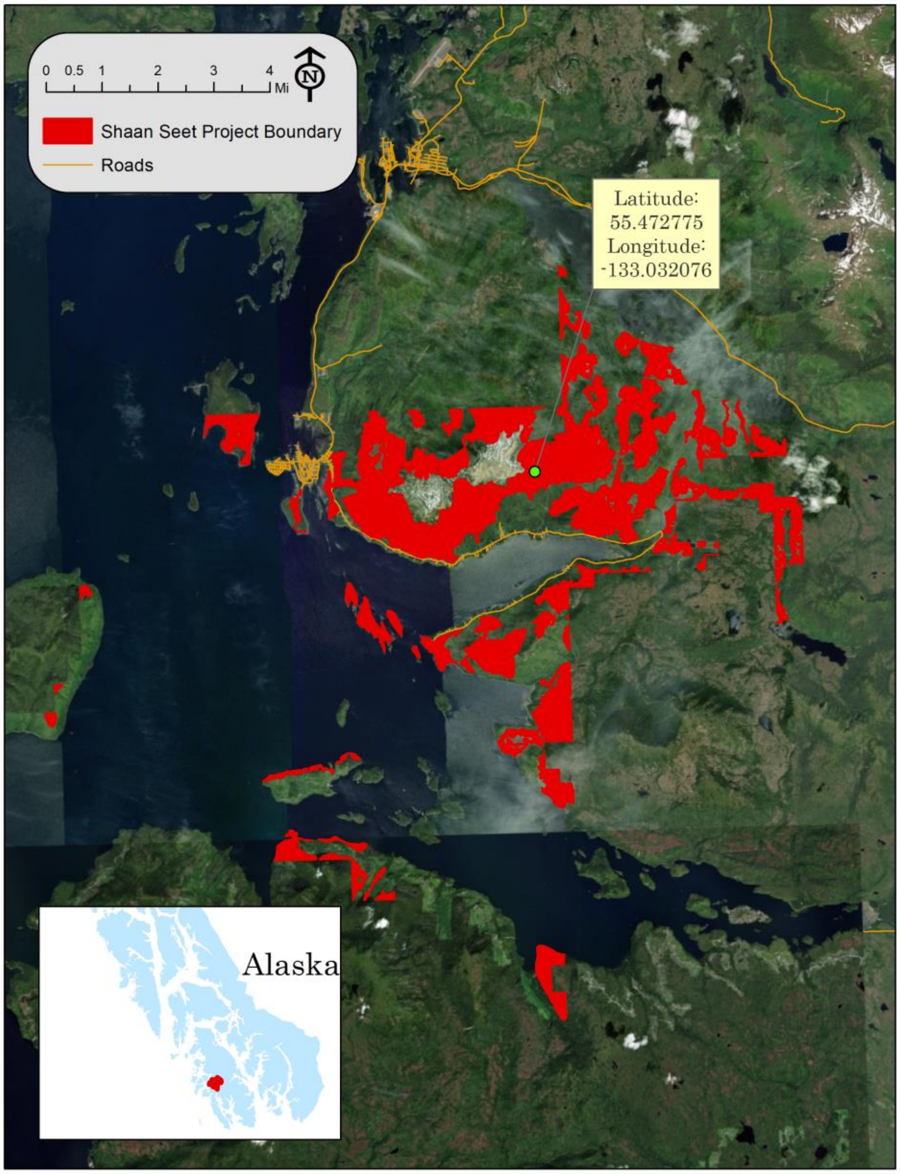


Figure A-2. Regional Hydrology Map

Figure A-3. Canopy Cover Map depicting greater than 10% canopy cover.

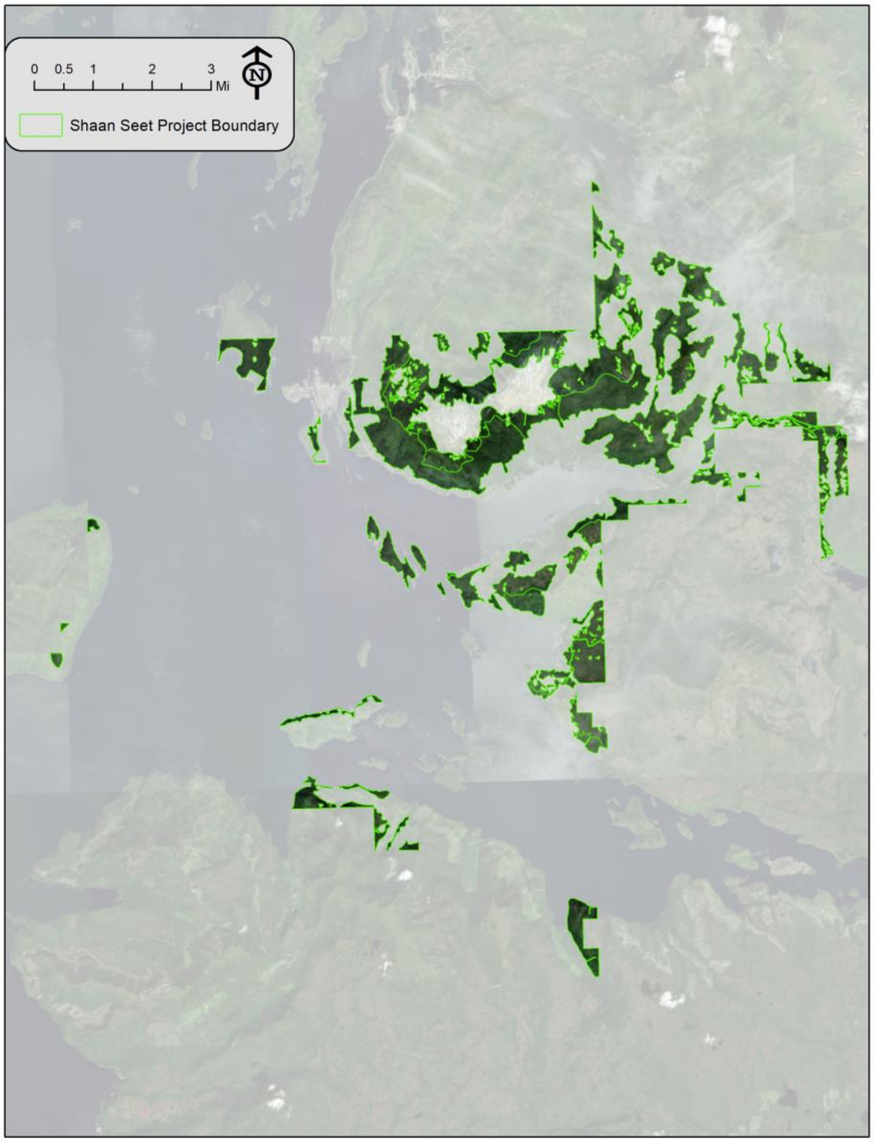


Figure A-4. Topography Map

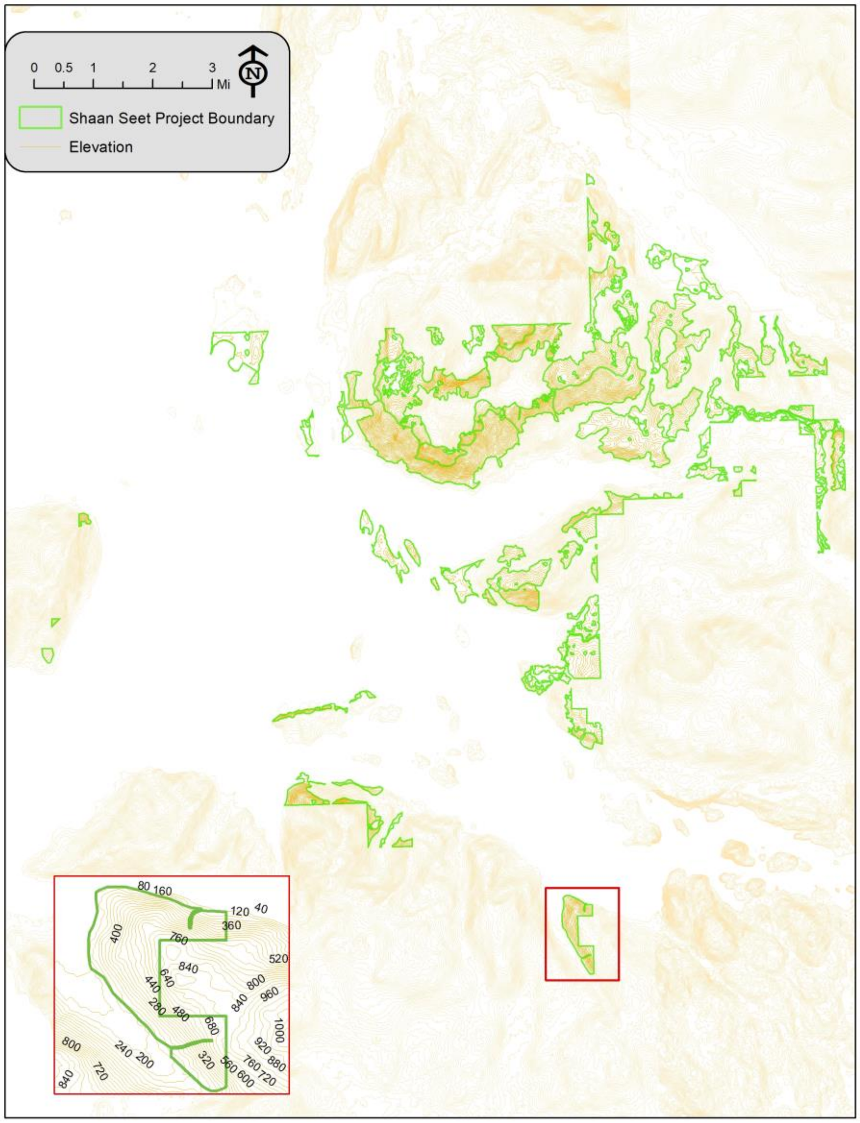


Figure A-5. Roads Map

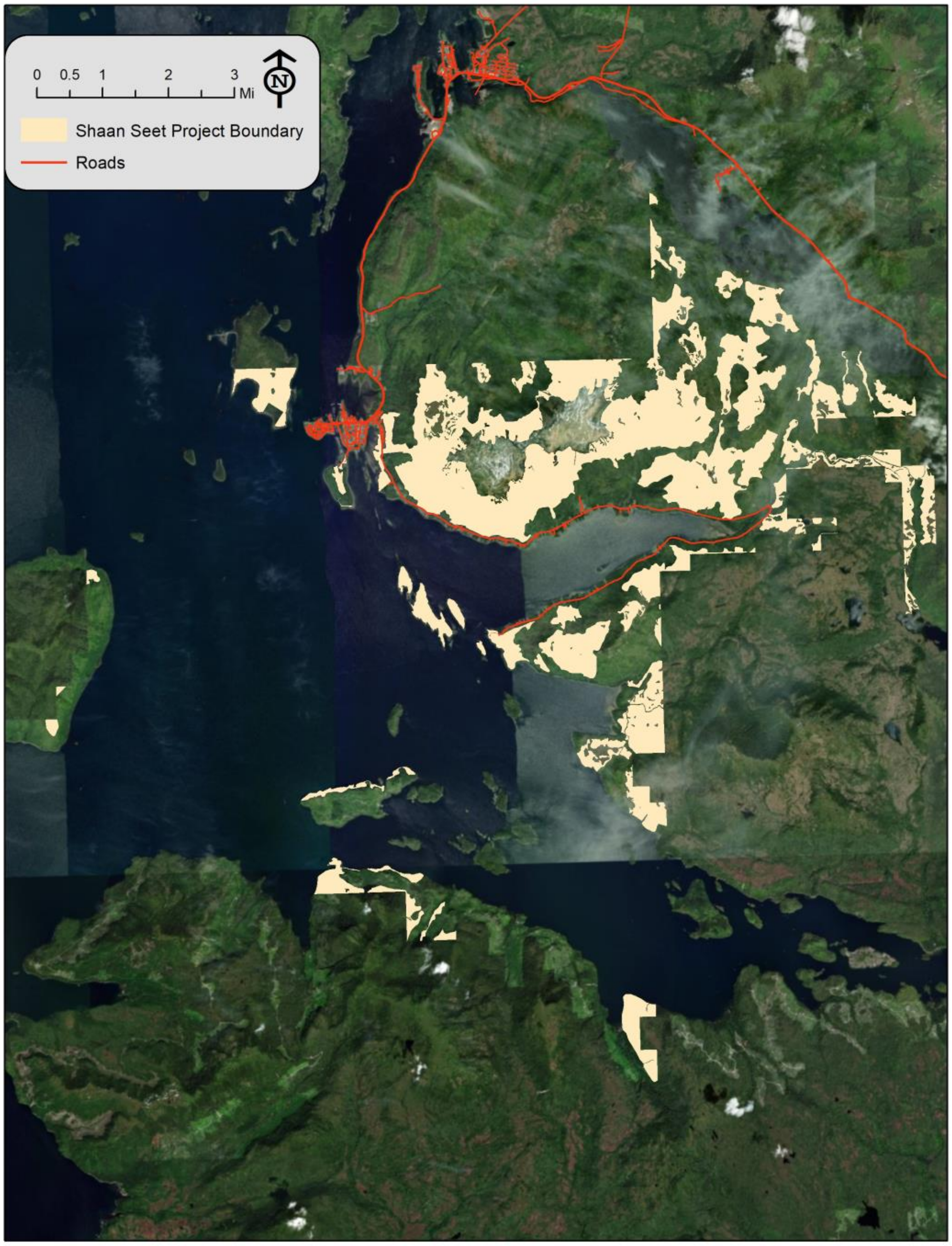
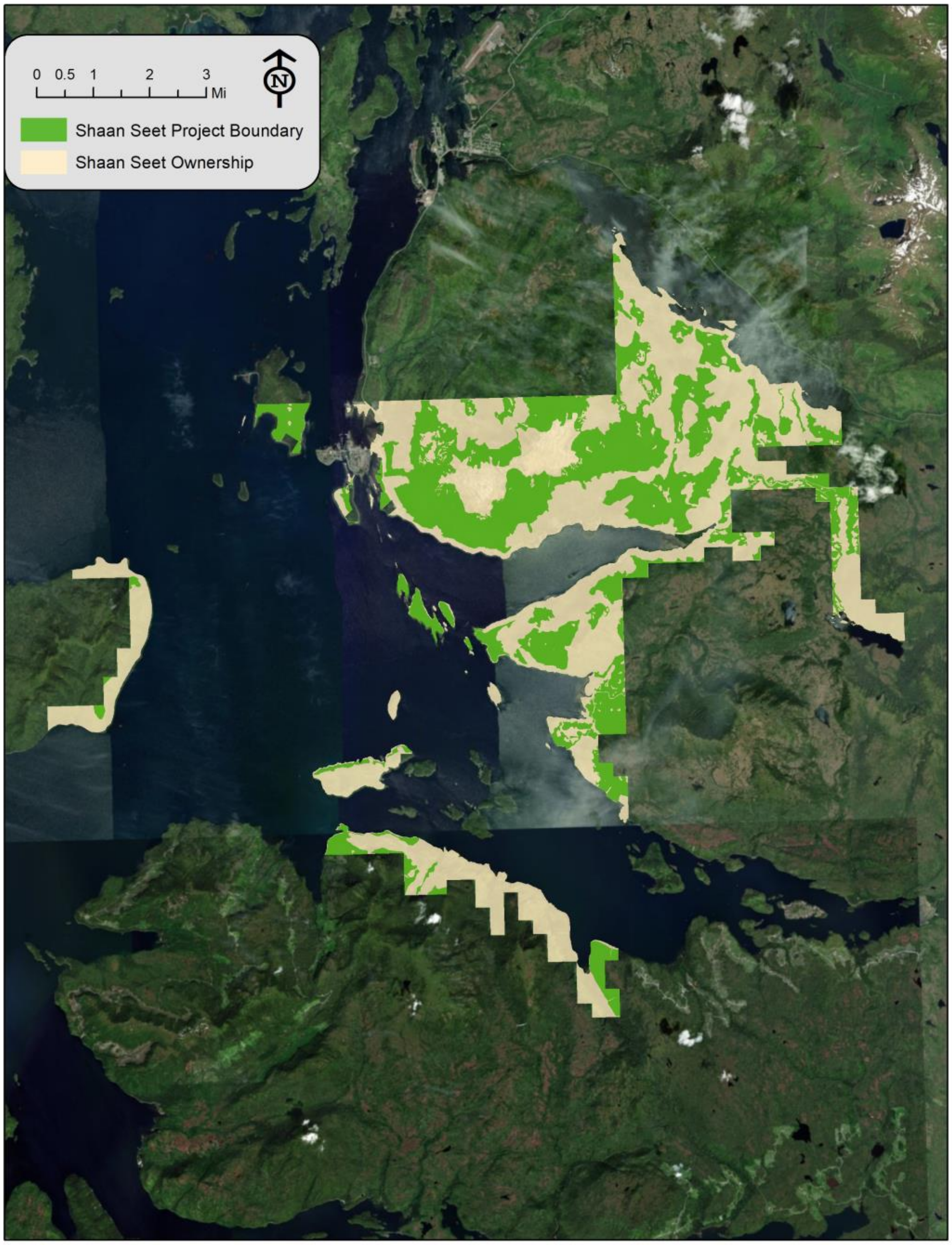


Figure A-6. Ownership Map



A5. BRIEF SUMMARY OF PROJECT

A5.1 Background Information

The Bluesource – Shaan Seet Improved Forest Management Project is located on approximately 8,892 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 Alaska-based timber company and Alaska Timber Corporation in the 1980s.

A5.2 Description of Project Activity

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.

A5.3 Project Purpose and Objectives

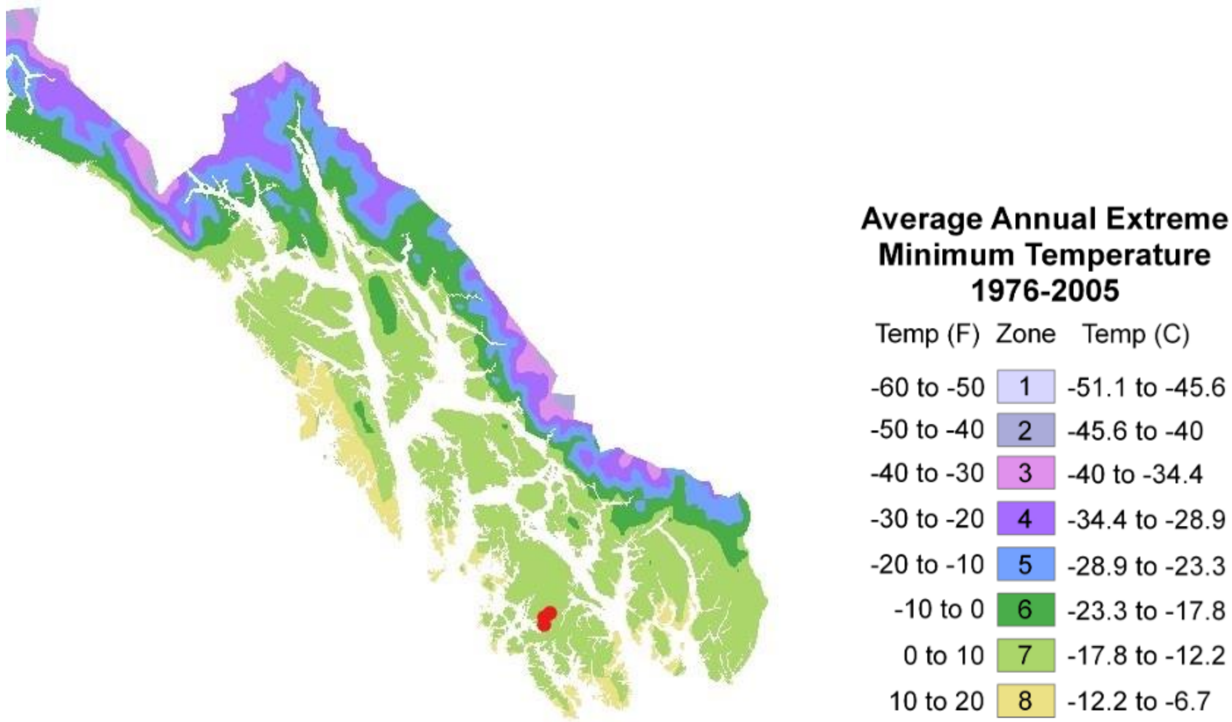
By committing to maintain forest CO2 stocks above the regional baseline level, the project will provide significant climate benefits through carbon sequestration. The aim of this project is also to ensure long-term continuance of all environmental benefits provided by the preservation of the old growth sections of forestland.

A6. PROJECT ACTION

A6.1 Prior Physical Conditions

<u>Climactic zone</u>

Prince of Wales Outer Ketchikan has a maritime climate characterized by relatively mild, wet weather. Summer temperatures average 46°-66°F, and winter temperatures average 28°-40°F. Annual average precipitation and snowfall are 150 and 40 inches, respectively. The prevailing wind out of the east-southeast typically brings cloudy and/or rainy weather. Winds from the northwest commonly result in clear skies and either warmer temperature in summer or drastically colder temperatures in winter. The project is within Zone 7b on the USDA plant hardiness zone map, with average annual extreme minimum temperatures of 5°-10°F.



*project location in red

Ecosystem

The forests of Southern Alaska are a segment of temperate rain forest extending along the Pacific Coast from Northern California to Cook Inlet in Alaska. Glacial retreat across this region has revealed new land along the emerging coastline and some island inlets. Dominant factors influencing the ecosystem include abundant moisture, cool temperatures and disturbances such as windstorms and flooding. Some of the ecosystem types found in the regions of the project area are wetlands, beach fringes and forest ecosystems, alpine environments in higher elevation regions, and recently deglaciated lands. This region has abundant moisture, high water tables, and poorly drained soils over compacted glacial till, which results in many types of wetland conditions that serve as wildlife habitat for migrating shorebirds, waterfowl, deer, bears and many other species.

Owing to regulatory influence in this region as part of Tongass National Forest prior to 1971, most of the forest is old growth. Sections of secondary growth can largely be attributed to logging, with occasional windthrow and landslides as disturbances in these regions. During the period of 1980 to 2003, Shaan Seet, Inc. harvested on approximately 14,475 acres of forestland. Tree species composition is diverse across this region and influenced by location, topography, drainage, soil type and stand history. According to the USDA Forest Service Technical Report on the forest ecosystems of Southeast Alaska[3], the species

[3] The Forest Ecosystem of Southeast Alaska, USDA Forest Service General Technical Report - https://www.fs.fed.us/pnw/pubs/pnw_gtr25/gtr025a.pdf

composition in this region is about 73% Western Hemlock, 12% Sitka Spruce, 5% Western Redcedar, 5% Alaska Cedar, 5% Mountain Hemlock and other softwoods, and 5% various hardwoods such as Black Cottonwood and Red Alder.

Vegetation

This region receives ample precipitation, which has a significant impact on establishment of diverse vegetation and natural communities on Prince of Wales Island. The major old growth forest type is mature western hemlock-Sitka spruce. Other tree species in the forest include western red cedar, Alaska or yellow cedar, mountain hemlock, red alder, Sitka alder, and lodgepole pine. Sitka spruce and Red alder are found in areas proximate to disturbance such as river deltas, landslides and roads. Western red cedar is common on saturated soil types in association with spruce and hemlock, adjacent to muskeg regions. Mountain hemlock, spruce and yellow cedar occur in higher elevation. Prominent understory species prevalent in this region include skunk cabbage, red elderberry, salal, devil's club, rustyleaf, menziesia, salmonberry, thimbleberry, blueberry, huckleberry, ferns, mosses, and lichens.

Land Use

The Alaska Panhandle is the southeast region of the State of Alaska containing coastal sections of the state along with the numerous offshore islands. This region extends 540 miles of coastline from Yakutat in the north to Dixon entrance in the south. This region is approximately 19 million acres, comprises the bulk of Alaska's timber resource, and has always been a crucial factor in the regional economy. Before being colonized, these regions primarily experienced subsistence use by the Native Tribes, Tlingit and Haida Indians with a predominant dependence on these forests for fuel and building materials for housing and transportation.

In addition to timber harvesting operations, cannery and pulp mill facilities have been established on the lands conferred to Shaan Seet, Inc. Nearly 101 miles of roads and three Log Transfer Facilities have been established at Trocadero Bay, Madre de Dios Island and San Juan Batista Island, but were subsequently closed out in compliance with the State of Alaska Forest Practices Act and Regulations at the end of the harvest operations. Apart from its timber resources, residents from the cities of Craig and Klawock utilize Shaan Seet lands for fishing, deer and bear hunting, and to a small extent, trapping as these activities are permitted by the corporation for its shareholders. Shaan Seet lands also provide recreational and tourism opportunities which has resulted in the establishment of some permanent road network on the property. Construction and maintenance for the road network and facilities such as landings and rock pits are consistent with the Bald Eagle Protection Act of 1940, as amended. Built infrastructure, may not located within 330 feet of any bald eagle nest site, whether the nest is currently active or not.

A6.2 Description of Project Technologies, Products, Services, and Expected Level of Activity

There is no ongoing or future commercial harvesting intended for the carbon project area. Management considerations for the project area will promote uneven-aged silviculture practices. The landowners will only undertake non-commercial pruning, if required, to promote understory growth as it serves as

habitat for Sitka black-tailed deer, black bear, mountain goats and moose, beaver, weasel, land otter, red fox, among other wildlife species.

A6.3 Project Action

By committing to maintain forest CO2 stocks above the baseline level, the project will provide significant climate benefits through carbon sequestration. The project action will allow the forest to progress naturally with no commercial harvesting. Bluesource – Shaan Seet Improved Forest Management Project will achieve GHG removals by sequestering more atmospheric CO_2 than a baseline scenario in live aboveground biomass, belowground biomass, and dead wood.

A7. *EX ANTE* OFFSET PROJECTION

Total projected GHG removal is 654,347 mtCO_2e (without risk buffer deduction) over the first crediting period of 20 years (including GHG removal from long-term wood products). Table A7.1 lists the estimates of GHG emissions reductions per year:

Table A7.1. Estimate of Net ERTs by Year.

Project Year	*Year*	*Estimates of GHG emission reductions (mtCO_2e)*
0	2019	Start Date
1	2020	98,604
2	2021	93,263
3	2022	93,166
4	2023	93,166
5	2024	48,333
6	2025	15,647
7	2026	15,644
8	2027	15,641
9	2028	15,639
10	2029	15,636
11	2030	15,378
12	2031	15,375
13	2032	15,373
14	2033	15,370
15	2034	15,367
16	2035	14,553
17	2036	14,551
18	2037	14,549
19	2038	14,547
20	2039	14,545

A8. PARTIES

The project was implemented by Shaan Seet, Inc., the landowner, and Blue Source, LLC, a carbon offsets project developer. Project verification was completed S&A Carbon, LLC. and the forest carbon inventory was conducted by Terra Verde, Inc. Technical modeling was conducted by Blue Source, LLC.

Table A-3. Project Partners & Responsibilities

Project Parties	Personnel/Point of Contact	Roles and Responsibilities	Contact Information
Shaan Seet, Incorporated	Ed Douville, President	Project Proponent – financing and implementation of long-term project management	Shaan Seet, Inc. 501, Main Street Craig, AK 99921 Phone: 907-826-3251
Blue Source, LLC	Liz Lott, Director	Offset Developer – coordination of project implementation, modeling,	Blue Source LLC 2825 E. Cottonwood Parkway, Ste 400, Cottonwood Heights, UT 84121 Phone: 949-233-1501
S&A Carbon, LLC	Kyle Silon, Managing Director	Verifier	S&A Carbon, LLC 7831 SE Stark St., Suite 202 Portland, OR 97215
Terra Verde Inc.	Brian Kleinhenz, Vice President	Contractor- Forest Inventory	Terra Verde Inc. 1200 E. Ennis Ct. La Center, WA 98629-5460

B. METHODOLOGY

B1. APPROVED METHODOLOGY

The methodology used for the Bluesource – Shaan Seet Improved Forest Management Project is the American Carbon Registry Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, Version 1.3. (April 2018)

(hereinafter called the "methodology")

B2. METHODOLOGY JUSTIFICATION.

All applicability criteria of the selected methodology are fulfilled by the Bluesource – Shaan Seet Improved Forest Management Project:

1. The land under Shaan Seet, Inc.'s management has been conveyed to them through the Alaska Native Claims Settlement Act of 1971 and is non-federally owned private forestland.

2. Shaan Seet, Inc. controls the timber rights on the forestland and can legally harvest (appendix A. Patents of Interim Conveyances).

3. There is no commercial timber harvesting occurring on or after the project Start Date.

4. N/A. The managing legal entity for the carbon project is Shaan Seet, Incorporated, which is a private forestland owner.

5. N/A. Bluesource – Shaan Seet Improved Forest Management Project is not on public non-federal lands.

6. There is no use of non-native species where adequately stocked native stands were converted for forestry or other land uses after 1997.

7. There is no draining or flooding of wetlands on or after the project Start Date.

8. See attached Deeds (Appendix A. Patents of Interim Conveyances).

9. Stocking levels increase well above the baseline conditions for the duration of the project and by the end of the Crediting Period (see section E1. Baseline).

B3. PROJECT BOUNDARIES

The physical project boundaries include 8,891 acres of forestland, shown in the maps in section A4. Location and in the shapefile "ShaanSeet_Boundary.shp".

See H2. Project Timeline for the temporal boundaries of the project.

B4. IDENTIFICATION OF GHG SOURCES AND SINKS

Carbon pools	Included / Optional / Excluded	Justification / Explanation of Choice
Above-ground biomass carbon	Included	Major carbon pool subjected to the project activity.
Below-ground biomass carbon	Included	Major carbon pool subjected to the project activity.
Standing dead wood	Included/Optional	Major carbon pool in unmanaged stands subjected to the project activity. Project Proponents may also elect to include the pool in managed stands. Where included, the pool must be estimated in both the baseline and with project cases. *For Bluesource – Shaan Seet Improved Forest Management Project, standing dead wood will be included in all stands.*
Lying dead wood	Optional	Project proponents may elect to include the pool. Where included, the pool must be estimate in both the baseline and with project cases. *For Bluesource – Shaan Seet Improved Forest Management Project, lying dead wood will **not** be included.*
Harvested wood products	Included	Major carbon pool subjected to the project activity,
Litter/Forest Floor	Excluded	Changes in the litter pool are considered *de minimis* as a result of project implementation.
Soil organic carbon	Excluded	Changes in the litter pool are considered *de minimis* as a result of project implementation.

Gas	Source	Included / Excluded	Justification / Explanation of choice
CO_2	Burning of biomass	Excluded	However, carbon stock decreases due to burning are accounted as a carbon stock change.
CH_4	Burning of biomass	Included	Non-CO_2 gas emitted from biomass burning.
N_2O	Burning of biomass	Excluded	Potential emissions are negligible.

Leakage Source		Included / Optional / Excluded	Justification/ Explanation of Choice
Activity-Shifting	Timber Harvesting	Excluded	Project Proponent must demonstrate no activity-shifting leakage beyond the *de minimis* threshold will occur as a result of project implementation

	Crops	Excluded	Forestland eligible for this methodology do not produce agricultural crops that could cause activity shifting
	Livestock	Excluded	Grazing activities, if occurring in the baseline scenario, are assumed to continue at the same levels under the project scenario and thus there are no leakage impacts
Market Effects	Timber	Included	Reductions in project outputs due to project activity may be compensated by other entities in the marketplace. Those emissions must be included in the quantification of project benefits.

B5. BASELINE

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. Derivation and justification for the baseline is detailed in Section E. Quantification

B6. PROJECT SCENARIO

The project scenario consists of managing the forestland for natural growth with no current or future commercial harvesting, and only non-commercial pruning for forest health and wildlife habitat promotion, as described in Section A6. Project Action.

B7. REDUCTIONS AND ENHANCED REMOVALS

The project will achieve greenhouse gas reductions through natural growth of forestland on lands that otherwise could be heavily cut in the baseline scenario. The existing carbon stocks will be preserved as there is no current or future commercial harvesting and the stocks will increase as a result of the growth occurring in the absence of commercial harvesting.

B8. PERMANENCE

Forestry projects claim one value from each:

- D Conservation Easement (if applicable)
- E Fire
- F Disease/pest
- G Levee failure/water table changes (required only if forested wetlands comprise more than 60% of project area)
- H Other natural disaster risk scores.

Calculated Risk Score

Section 1 (3 + 3 + 2 + 0) + Section 2 (2* + 4** + 0 + 2) = 16%

*Southeast Alaska is characterized by its cool and wet climate which has supported old-growth conifer forest ecosystems, prevalence of wetlands and small disturbance gaps. The dominance of late-successional, fire sensitive species like Western Hemlock and Sitka Spruce, along with multi-aged stand structures that large fires are rare in these coastal rainforests.

LANDFIRE's data on Biophysical Settings indicates the Alaska Pacific Maritime Ecosystem, which includes the Alaskan Panhandle, has the lowest risk out of all fire regime groups[4]. There have been no recorded natural forest fires in this region and only several, small, human-made fires have been recorded in this region since logging operations began in this region. Project area is in low risk fire region based on this data.

**The 2017 report of forest health conditions in Alaska[5] indicates the occurrence of Alaska Yellow Cedar decline, which is a non-infectious disorder, across the Alaska panhandle. This is exclusive to young growth stands. Spruce-aphid activity has been the only recent pest occurrence in the region and has severely declined after the cold winter of 2016/17, with affected trees appearing to recover. There were no epidemic forest diseases or pests as per the report.

Buffer Pool Contribution

Total Risk score % * Total ERTs generated for reporting period = Buffer pool contribution in ERTs at time of issuance.

*16% * 98,604 = 15,777 credits of buffer pool contribution*

[4] Fire Regimes in Alaskan Pacific maritime ecosystems, USDA Forest Service Report - https://www.fs.fed.us/database/feis/fire_regimes/AK_Pacific_maritime/all.html#FireFrequency

[5] Forest Health Conditions in Alaska – 2017, USDA Forest Service Report - https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd572286.pdf

For Reporting Period 1, ERT's and Buffer credits for each vintage are broken down as follows:

Reporting Period	ERTs (without buffer)			ERTs (with buffer)			Buffer Credits		
	Vintage 1	Vintage 2	Total	Vintage 1	Vintage 2	Total	Vintage 1	Vintage 2	Total
1	96,173	2,431	98,604	80,785	2,042	82,827	15,388	389	15,777

C. ADDITIONALITY

C1. REGULTORY SURPLUS TEST

Relevant laws, regulations, statues, legal rulings, and other regulatory frameworks that affect the project and baseline activities:

National laws, regulations and policies.

- Clean Water Act
- Endangered Species Act: There are no Endangered Species Act species in southeast Alaska.
- Bald and Golden Eagle Protection Act: There are no buffer requirements around bald eagle nesting sites; however, there cannot be any harvesting within 330 feet of the nest while hatchlings are present. Loggers may not harvest any tree with an active nest. Additional requirement mandates that built infrastructure may not be located within 330 ft of all active and inactive nests.
- Alaska National Interest Lands Conservation Act (ANILCA), 1980
- The Logger's Guide to the New OSHA Logging Safety Standards, 1995

State & Local laws.

- Alaska Forest Resources and Practices Act. AS 41.17: This requires a 66 ft buffer surrounding anadromous streams.
    - Please note that all other Alaska BMPs are seasonal restrictions regarding the timing of road building and other harvest activities, but do not impact the project or baseline modeling.

Binding International Agreements.

- Paris Agreement, 2016
- Kyoto Protocol (signed, not ratified)
- United Nations Framework Convention on Climate Change, 1992

- United Nations Convention on Biological Diversity, 1992 (signed, not ratified)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973
- UNESCO World Heritage Convention, 197

The oversight institutions associated with the enforcement of the applicable laws and regulations are the U.S. Forest Service, U.S. Environmental Protection Agency, and the Alaska Department of Natural Resources–Division of Forestry. None of the above or any other existing law, regulation, statute, legal ruling, or other regulatory framework in effect, as of January 10, 2019, effectively require the forest carbon project activity and its associated GHG emissions reductions/removal enhancements. Consequently, the project passes the Regulatory Surplus test.

All applicable laws and regulations have been incorporated into the baseline modeling, the main one being a 66 ft buffer surrounding anadromous streams, which has been applied and constrained to the baseline model. All other BMPs are seasonal restrictions that do not impact the project or baseline modeling.

Under the Bald and Golden Eagle Protection Act, private landowners are not able to harvest a tree with an active nest, but there is no mandatory buffer requirement. There is a 330' radius special management zone around each nest in which harvest activities are restricted to minimize disturbance when hatchlings are present. Certain private landowners in SE Alaska voluntarily interpret this to mean no timber harvest, road construction or other activities may occur within this 330' zone if prudently avoidable. Other landowners harvest timber within the 330' radius zone by implementing practices that will not disturb the nest tree itself. Since it is possible to harvest within this zone without disturbing the nest while hatchlings are present, no harvesting constraints for Bald Eagles have been modeled into the baseline.

Please see Section E1. Baseline for detail on the baseline mode

C2. COMMON PRACTICE TEST

The Bluesource – Shaan Seet Improved Forest Management Project located on lands owned by Shaan Seet, Incorporated on Prince of Wales Island, in Southeast Alaska. Under the Alaska Native Claims Settlement Act of 1971, these lands have been conveyed to Native Village and Regional Corporations and are not obligated to adhere to any regional forestry laws. The Alaska Forest Resources and Practices Act. AS 41.17 serves only as a guideline.

This region predominantly has Western Hemlock-Sitka Spruce and Western Redcedar-Hemlock forest systems, and some regions of the property are Mixed Conifer stands. Prior to the land getting conveyed under ANCSA, common harvesting and silvicultural practices in this region included clear cuts to encourage deer browse, and balanced regeneration of both spruce and hemlock. With the opening and expansion of mill operations in the region from the 1940s to the 1970s, the Forest Service adopted a 100-acre cutting unit limit for the long-term timber sales. With the enactment of ANCSA in 1971, and Alaska National Interest Lands Conservation (ANILCA) in 1980, significant sections of high-volume timber stands of Tongass National Forest was withdrawn for Native settlements and wilderness protection. After 1980, Native corporations began harvest operations on their private timberlands, and most of the timber was exported overseas. This timber boom coincided with the setup of a pulp mill in the region (in Ketchikan)

and Native Corporations managed their land to optimize production of sawtimber and pulpwood. More recently, Canadian mill demand for pulpwood from Southeast Alaska has driven up the price for pulp logs, which increases the potential for aggressive forest management practices and shorter rotations in the region. To meet regional and international demand for wood products, sections of Shaan Seet, Inc. lands which were actively managed for timber were clear cut using helicopter or cable logging. Since these are private timberlands that aren't encumbered by any federal or state regulations, if the Bluesource – Shaan Seet Improved Forest Management Project was not implemented, the forest management could feasibly resemble that of an industrial forestland ownership in the region. Instead, the project will exceed the common practice as described in Section A6. Project Action.

C3. IMPLEMENTATION BARRIERS TEST

Shaan Seet, Inc (Shaan Seet) relies on limited funds to implement projects, and any additional revenue sources are always welcome. If Shaan Seet officials chose, they could cut the forests to generate timber revenue to fund other projects, which is what many other tribal corporations end up doing in the face of budget shortfalls. However, the officials tasked with managing the Shaan Seet forestland would like to avoid aggressive forest management and would rather focus on maintaining or enhancing the ecosystem service benefits of the forestland. Implementing the carbon project will ease pressure to harvest more aggressively for timber revenues, as maintaining and enhancing the carbon stocks will be rewarded with the crediting and sale of carbon credits, thereby creating a financial incentive to maintain and enhance the stocking in the forests during the duration of the carbon project.

Please see the Shaan Seet ERT calculation worksheet for details on the potential revenue that could be made from potential timber harvesting that could legally and feasibly occur on the property in the lifetime of the carbon project. The baseline harvests could generate an NPV of ~$7.4 million in timber revenues for Shaan Seet, which could be funneled into projects that have nothing to do with maintaining the ecosystem services provided by the forests. However, 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. Overall, this financial incentive meets the requirement to demonstrate that carbon revenue will address "limited access to capital" constraints as outlined in both the ACR protocol and standard.

C4. PERFORMANCE STANDARD TEST

The Bluesource – Shaan Seet Improved Forest Management project uses the three-pronged approach; therefore, this step is not required.

D.MONITORING PLAN

D1. MONITORED DATA AND PARAMETERS

Data or Parameter Monitored	A_1
Unit of Measurement	Acres
Description	Area of IFM Project
Data Source	GIS shape file derived from GPS coordinates
Measurement Methodology	Strata area figures adjusted based on stocking levels and species distribution projected in modeling and verified through inventory updates
Monitoring Frequency	Every 5 years, following with inventory update
Value applied:	8,891
Reporting Procedure	Hand held GPS unit, GIS software
QA/QC Procedure	Meta data is kept current and uncorrupted
Purpose of Data	Calculation of project emissions
Calculation method:	Calculated in Arc GIS
Notes	

Data or Parameter Monitored	T
Unit of Measurement	Year
Description	Number of years between monitoring time t and t1 (T = t2 – t1)
Data Source	Monitoring reports
Measurement Methodology	
Monitoring Frequency	Yearly
Value applied:	Calendar
Reporting Procedure	
QA/QC Procedure	All calculations double checked for accuracy prior to submission for verification
Purpose of Data	Calculation of project emissions
Calculation method:	Subtraction
Notes	

Data or Parameter Monitored	Diameter at breast height of tree
Unit of Measurement	Inches (to 1/10th an inch)
Description	Tree diameter measure 4.5 feet above ground
Data Source	Field measurement
Measurement Methodology	Measured with Loggers Tape or calipers
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	

Reporting Procedure	Hand held GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. Breast height marked with permanent paint on all record trees > 5 inches in diameter
Purpose of Data	Calculations of project emissions
Calculation method:	N/A
Notes	

Data or Parameter Monitored	H
Unit of Measurement	Feet
Description	Height of tree
Data Source	Field measurement
Measurement Methodology	Measured with clinometer or hypsometer
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	Hand held GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. All heights will be double checked for reasonableness prior to submission for verification
Purpose of Data	Calculations of project emissions
Calculation method:	N/A
Notes	

Data or Parameter Monitored	Decay Class
Unit of Measurement	
Description	Qualitative degree of decomposition
Data Source	Forest Inventory
Measurement Methodology	Qualitative assessment of dead tree into 1 of 4 decay classes based on class descriptions
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	Handheld GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. All decay classes will be double checked for reasonableness prior to submission for verification
Purpose of Data	
Calculation method:	
Notes	

Data or Parameter Monitored	Tree Live/Dead Status
Unit of Measurement	

Description	Live or Dead
Data Source	Forest Inventory
Measurement Methodology	Consistent with 'ShaanSeet_Carbon_Plot_Methodology.pdf'
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	Handheld GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. All tree statuses will be double checked for reasonableness prior to submission for verification
Purpose of Data	
Calculation method:	
Notes	

Data or Parameter Monitored	Defect
Unit of Measurement	%
Description	Qualitative percent of missing biomass
Data Source	Forest Inventory
Measurement Methodology	Tree defect is qualitatively assessed for missing biomass in the bole from 1ft stump to total height. The exception is for broken tops below 4" DOB when the percent biomass missing is calculated from 1ft stump to broken top. Tree defect is assessed by dividing the tree into thirds, estimating percentage of missing carbon volume in each third, and assigned a deduction value. Top height and phantom height are measured and missing biomass in the broken portion is calculated post-inventory.
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	Tree-specific
Reporting Procedure	Handheld GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. All tree defects will be double checked for reasonableness prior to submission for verification.
Purpose of Data	
Calculation method:	
Notes	

Data or Parameter Monitored	Species Composition

Unit of Measurement	%
Description	Spp. composition as a percentage of basal area
Data Source	Forest Inventory
Measurement Methodology	Derived from basal area calculations from inventory data.
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	
QA/QC Procedure	Species identification is confirmed at verification.
Purpose of Data	Calculation of project emissions
Calculation method:	Basal Area = 0.005454 * DBH^2
Notes	

Data or Parameter Monitored	Harvested Wood Products
Unit of Measurement	Metric tons CO_2
Description	Carbon remaining in stores wood products 40 years after harvest for the project in year t.
Data Source	NA
Measurement Methodology	NA
Data Uncertainty	None
Monitoring Frequency	Annual data summed for the monitoring period, applied as average annual for the monitoring period
Value applied:	
Reporting Procedure	
QA/QC Procedure	NA
Purpose of Data	
Calculation method:	
Notes	

Data or Parameter Monitored	Forest Carbon
Unit of Measurement	Metric tons of CO_2
Description	Carbon stores in above and below ground live trees at the beginning of the year t
Data Source	Forest Inventory
Measurement Methodology	Consistent with 'ShaanSeet_Carbon_Plot_Methodology.pdf'
Data Uncertainty	To be calculated as the mean +/- 90% confidence interval
Monitoring Frequency	Every 5 years or less, or at request for ERT issuance
Value applied:	
Reporting Procedure	

QA/QC Procedure	''ShaanSeet_Carbon_Plot_Methodology.pdf'- The inventory will use a random sample design and re-measure the same permanent plots established in 2019, which targeted a precision level of +/- 10% of the mean live tree biomass with 90% confidence.
Purpose of Data	
Calculation method:	
Notes	

D2. MONITORING PLAN

Each year, the Project Proponent shall submit a signed Attestation that:

- 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.

The following material outlines the monitoring plan to be followed during the decade following the initial project validation and verification.

The following material outlines the monitoring plan to be followed during the decade following the initial project validation and verification.

General Monitoring Method

In the year prior to validation/initial verification, a representative sample of 93 fixed radius permanent inventory plots were established across the project area. The plot network provided enough data to keep total project uncertainty below 10% of the net anthropogenic greenhouse gas removals by sinks across the project, thereby avoiding any uncertainty deductions in the quantification process. All permanent plots will be re-inventoried at least twice over the following decade to calibrate forest growth models and improve carbon sequestration projections.

The heavily monumented and well-maintained plot design gives forest managers the opportunity to consistently track the growth and development of specific trees over an extended timeline and allows for improved ease of plot location during field work and site verifications. All plots will be re-measured in a manner consistent with the Inventory Methodology, provided separately for verification. [6]

6 The details of the carbon inventory methodology are considered commercially sensitive material as the methodology is the result of considerable investment of Blue Source LLC's resources.

In addition to the full inventory update of the entire property that will be conducted on all plots every 5 years, inventories of select portions of the Project Area will be updated periodically in response to natural disturbance or significant forest management activities. Following natural disturbance events, affected project stands will be assessed for damage. If damage is significant, the affected areas will be re-inventoried and project scenario models will be adjusted to reflect onsite carbon stocks.

In years in which forest plots are not re-inventoried carbon stocks will be monitored through forest growth and yield modeling.

In addition to inventory sampling, management staff will consistently monitor the general health and condition of the forest throughout the course of normal forest management activities (e.g. road maintenance, ecological studies, boundary marking, etc.), reducing the risk of reversal by disease, pest invasion, and unauthorized timber removal.

Blue Source LLC (Blue Source) will oversee the execution and reporting of all project reporting, modeling, and monitoring activities on behalf of the landowner. The landowner will be responsible for "on the ground" forest management activities on the project area, and Terra Verde, Inc. will conduct inventory measurements and data collection. After forest inventory data collection, Terra Verde will report results to Blue Source for processing and updating of modeling projections. After processing is complete Blue Source will house all data and submit the necessary documentation for compliance with ACR standards. Bluesource will ultimately store project data for at least ten years after the conclusion of the project.

Data Processing and Storage

Manually and electronically filed data are stored and archived. Backup copies of all electronically stored data are maintained in a separate data center with scheduled archiving to assure data protection. Future revisions to project documents after initial verification and registration will be clearly identified by saving them as separate files and including the date of revision in any modified documents. All data will be stored on Dropbox or similar online cloud storage service as well as on an external hard drive and kept by Bluesource for a minimum of 15 years.

QA/QC Field Procedures

Field Procedures

At the end of each field day, individual foresters will email their plots from the data recorders (or paper) to the senior forester. The senior forester will then look for irregularities in the data and ask the field crew to confirm the data or remeasure any plots that cannot be reconciled. The senior forester will then add all the data to a master spread sheet.

At least 5% of the plots will be checked by a different forester than cruised the plot, preferably by someone senior to the field crew. This will involve full plot measurement to identify any problems with determining in/out trees, species calls, defect measurements, DBH measurements, and height measurements. Any errors noted during the check cruise will be used to update the master spread sheet file. Any consistent height, species, DBH, or defect errors will be resolved by talking with the foresters and removing crew members if need be.

Desk Procedures

The following QA/QC approach is designed to ensure that field data, once input, is appropriately managed and maintained, and that subsequent calculations using that data to determine onsite carbon stocks and associated ERT issuance are correctly implemented.

A three-stage QA/QC process with a defined review group for the project will be established, engaging both personnel intimately familiar with all project files and documentation, as well as independent reviewers who are able to bring "fresh eyes" to key outputs.

Independent Forester Review: The project implementation team (Bluesource) has a team of foresters with intimate knowledge of the files, models and documents. The development of quantitative components, such as Access databases, FVS model runs and Excel workbooks, are led by one of these foresters. Prior to finalization, a second forester who did not lead development of that component is tasked with a QA/QC review including random examinations and data checks to identify and fix any errors.

Technical Review: Once quantitative outputs are finalized, exported from Access/FVS to Excel, and are ready to be transferred into the GHG Plan and other project documents, an independent manager reviews these outputs. This individual performs data checks by tracing key outputs back from final ERT calculations though the chain of Excel documents to the underlying Access/FVS database.

Senior Management Review: Once outputs have been transferred from Excel to the GHG Plan and other project documents, a senior manager reviews these documents and checks that all quantitative elements have been correctly exported from the underlying workbook. At this stage, the senior manager (or other individual not involved in document preparation) also reviews text, grammar and formatting for presentation and accuracy.

E.QUANTIFICATION

E1. BASELINE

The carbon inventory of the project area was conducted in March-May 2019. The inventory employed a sample of 93 nested, fixed-radius circular plots installed in a systematic grid across the project area. The nested plots consist of a 1/25th acre plot recording trees >= 5" and a 1/150th acre plot recording trees >1" and <5" DBH. The entire project area (8,891.6 acres) was assigned to five sampling strata regarding average height of stands (see Baseline Stratification section below for details).

Table E1--a. Project acreage.

Stratum	n	acres
H	9	1,066
L	13	714
LM	11	1,523
M	27	3,133
MH	33	2,455
Total	93	8,891

GROWTH MODEL OVERVIEW

Field measurement protocols are documented in ShaanSeet_Carbon_Plot_Methodology.pdf." Strata were delineated based on height measurements of the project area using LiDAR and ifSAR available for the project area.

Total aboveground biomass carbon was estimated from inventory data applying species group-specific allometric equations sourced from Jenkins et al 2003[7]. Root biomass was then estimated from total aboveground biomass using component ratios from Jenkins et al 2003, to produce total live tree biomass. Total live tree biomass was converted from pounds to metric tons, multiplied by 0.5 to estimate carbon fraction, then multiplied by 3.664 to calculate CO2 equivalent.

Carbon in standing dead wood was estimated in the same way as live trees, with deductions for decay class recorded in the field. Decay classes were recorded according to the ACR standard using the methodology-defined class (see table E-1b).

[7] Jenkins, J.C., Chojnacky, D.C., Heath, L.S. and R.A. Birdsey. 2003. National-scale biomass estimators for United States tree species. Forest Science 49:12-35

Table E-1b. ACR Decay classes

Decay Class	Description
Decay Class 1	Tree with branches and twigs that resembles a live tree (except for leaves)
Decay Class 2	Tree with no twigs but with persistent small and large branches.
Decay Class 3	Tree with large branches only.
Decay Class 4	Bole only, no branches.

Growth and Yield Simulation

For growth and yield projections, we used the US Forest Service Forest Vegetation Simulator (FVS) Alaska (AK) variant. FVS-AK was calibrated to the project area. For hemlock and spruce species, an SDIMAX of 619 was used, based on results from a recent a regional study[8], instead of the default value for the FVS-AK variant. A site index for western hemlock of 80 was used for all strata and species.

Table E-1c. Site index for project area.

Stratum/stand	Site index of reference species	Reference species
All Strata	80	Western Hemlock

The FVS "NoTriple" command was entered to avoid excessive tree records and speed processing.

Initial carbon stock estimates for the project start date were back-modeled via FVS-AK with the approach outlined below.

1. Inventory Start Date -End Date data were entered into FVS-AK and grown for 10 years with no management (with "NoTriple" keyworded to track individual trees and permit cross-referencing to raw inventory dataset).
2. For each live tree (ascribed a unique identifier), annual diameter growth was derived assuming linear growth during the 10-year projection interval (i.e. for DBH, annual growth calculated as DBH at end of 10-year interval *minus* DBH at beginning of 10-year interval, reported in the FVS Treelist output, *divided by* 10).
3. For each live tree, diameter data from the Inventory Start Date - End Date inventory were degrown referencing the annual rates derived in step 2 above, subtracting one year annual growth (i.e. one growing season) from the Inventory Start Date - End Date measurement value.
4. Initial carbon stocks were recalculated using the degrown data. No harvests or significant disturbances took place during the intervening period. Diameter of standing dead trees were assumed to be constant through the period.

[8] Poage, Nathan J., David D. Marshall, and Michael H. McClellan. "Maximum stand-density index of 40 western hemlock–Sitka spruce stands in southeast Alaska." Western Journal of Applied Forestry 22.2 (2007): 99-104.

5. The baseline scenarios were subsequently modeled entering the degrown inventory data into FVS-AK.

Table E1-d. De-grown Start Date results for above and belowground (live and dead) tree biomass.

Live CO2 Stats

Strata	Average of Live CO2e	StdDev of Live CO2e	Plots
MH	160.06	139.06	33
H	318.90	305.11	9
LM	97.49	60.78	11
M	114.98	116.69	27
L	144.70	126.77	13

Dead CO2 Stats

Strata	Average of Dead CO2e	StdDev of Dead CO2e	Plots
MH	17.88	39.22	33
H	38.20	64.04	9
LM	10.76	15.77	11
M	8.34	14.70	27
L	10.54	13.87	13

Estimated total stock in live and dead trees in Start Date, de-grown from the inventory data, is 1,479,664 t CO2 (= 166.41 t CO2/ac * 8,891 acres). These calculations are detailed in the 'InvDate', 'IndTreeGrow', and 'TreeList' tabs in ShaanSeet_Start_RP_CO2.xlsx.

BASELINE STRATIFICATION

Because the project area was not homogenous, stratification was used to improve the precision of the carbon stock estimates. For this project, ifSAR data was used to estimate the height of the tree canopy across the project area. A clumping algorithm to identify stands of similar heights for the IfSAR data. For each stand delineated by the IfSAR data, the following attributes were calculated for the entire project area:

- RA_Veg20: % of LiDAR/ifSAR returns for a polygon with height at least 20 meters.
- RA_Veg10: % of LiDAR/ifSAR returns for a polygon with height at least 10 meters but less than 20 meters.
- RA_Veg5: % of LiDAR/ifSAR returns for a polygon with height at least 5 meters but less than 10 meters.
- RA_Veg2: % of LiDAR/ifSAR returns for a polygon with height at least 2 meters but less than 5 meters.
- RA_Veg05: % of LiDAR/ifSAR returns for a polygon with height at least 0.5 meters but less than 2 meters.

This information was used to classify the stands into 5 strata, based on grouping these 5 categories into 5 height groups.

BASELINE HARVEST SCHEDULE SCENARIO OVERVIEW

The Baseline Scenario represents an industrial harvest regime designed to maximize the 100-year Net Present Value (NPV) at a 6% discount rate, subject to operational considerations in the region. Only volume from merchantable species count toward costs and revenue for regeneration harvest (i.e., hardwood species are not included). The acres to cut for each prescription by plot was determined using a linear programming model, which found the combination of prescriptions that maximizes the NPV over 100 years.

These treatments were derived by applying the most common silvicultural prescriptions that are currently implemented in Southeast Alaska (typically, even-aged (clearcut) harvest, natural regeneration, and pre-commercial thinning. These practices are commonly implemented the US Forest Service on most young growth managed timber, as well as Native Corporations and private landowners in the region.

Given the most commonly use prescriptions in the region, stands have a few different silvicultural treatment options available, which are all combinations of the most common treatments available in the region:

1) Regeneration harvest only (no precommercial thinning)
2) Precommercial thin, followed by a regeneration harvest, then additional precommercial thin and regeneration harvest.
3) Regeneration harvest followed by precommercial thinning.
4) No harvest only in stream buffers.

Specifically, there are 9 silvicultural prescriptions in the linear programming model, shown in Table E1-e.

Table E1-e. Silvicultural prescriptions used for the baseline harvest schedule.

Prescription	Description
GROW	Grow stand through end of baseline projection, with no silvicultural treatment. This prescription applies to all constrained acres (i.e., RMZ areas).
RHPCT12_1	1. Stand is harvested when it reaches a merchantable volume (12 MBF/acre), followed by natural regeneration using default FVS settings. 2. Precommercial thinning in the third time after harvest (15 years) at a spacing of 12 ft (302 trees per acre). All hardwoods are removed in the precommercial thin. Hemlock is prioritized for removal to promote species diversity and commercial value. 3. Stand is regrown until it reaches merchantable volume (12 MBF/acre), at which time a clearcut is implemented again. 4. If a stand is not regen harvested by the first time period in the projection (year 0): a precommercial thin will be implemented in the first time period at a 12 ft spacing (302 trees per acre). All hardwoods are removed in the precommercial

	thin, and hemlock is prioritized for removal to promote species diversity and commercial value. If a stand is regen harvested by the first time period in the projection (year 0): the only precommercial thins are after a regen harvest, as described in step 2. 5. Repeat steps 1, 2, and 3 until end of baseline projection.
RHPCT12_2	1. 1. Stand is harvested when it reaches a merchantable volume (12 MBF/acre), followed by natural regeneration using default FVS settings. 2. 2. Precommercial thinning in the third time after harvest (15 years) at a spacing of 12 ft (302 trees per acre). All hardwoods are removed in the precommercial thin. Hemlock is prioritized for removal to promote species diversity and commercial value. 3. Stand is regrown until it reaches merchantable volume (12 MBF/acre), at which time a clearcut is implemented again. 4. If a stand is not regen harvested by the second time period in the projection (year 5): a precommercial thin will be implemented in the second time period at a 12 ft spacing (302 trees per acre). All hardwoods are removed in the precommercial thin, and hemlock is prioritized for removal to promote species diversity and commercial value. If a stand is regen harvested by the second time period in the projection (year 5): the only precommercial thins are after a regen harvest, as described in step 2. 5. Repeat steps 1, 2, and 3 until end of baseline projection.
RHPCT12_3	1. Stand is harvested when it reaches a merchantable volume (12 MBF/acre), followed by natural regeneration using default FVS settings. 2. Precommercial thinning in the third time after harvest (15 years) at a spacing of 12 ft (302 trees per acre). All hardwoods are removed in the precommercial thin. Hemlock is prioritized for removal to promote species diversity and commercial value. 3. Stand is regrown until it reaches merchantable volume (12 MBF/acre), at which time a clearcut is implemented again. 4. If a stand is not regen harvested by the third time period in the projection (year 10): a precommercial thin will be implemented in the third time period at a 12 ft spacing (302 trees per acre). All hardwoods are removed in the precommercial thin, and hemlock is prioritized for removal to promote species diversity and commercial value. If a stand is regen harvested by the third time period in the projection: the only precommercial thins are after a regen harvest, as described in step 2. 5. Repeat steps 1, 2, and 3 until end of baseline projection.
RHPCT12_4	1. Stand is harvested when it reaches a merchantable volume (12 MBF/acre), followed by natural regeneration using default FVS settings. 2. Precommercial thinning in the third time after harvest (15 years) at a spacing of 12 ft (302 trees per acre). All hardwoods are removed in the precommercial thin. Hemlock is prioritized for removal to promote species diversity and commercial value. 3. Stand is regrown until it reaches merchantable volume (12 MBF/acre), at which time a clearcut is implemented again.

	4. If a stand is not regen harvested by the fourth time period in the projection (year 15): a precommercial thin will be implemented in the fourth time period at a 12 ft spacing (302 trees per acre). All hardwoods are removed in the precommercial thin, and hemlock is prioritized for removal to promote species diversity and commercial value. If a stand is regen harvested by the fourth time period in the projection: the only precommercial thins are after a regen harvest, as described in step 2. 5. Repeat steps 1, 2, and 3 until end of baseline projection.
RHPCT16_1	1. Stand is harvested when it reaches a merchantable volume (12 MBF/acre), followed by natural regeneration using default FVS settings. 2. Precommercial thinning in the third time after harvest (15 years) at a spacing of 16 ft (170 trees per acre). All hardwoods are removed in the precommercial thin. Hemlock is prioritized for removal to promote species diversity and commercial value. 3. Stand is regrown until it reaches merchantable volume (12 MBF/acre), at which time a clearcut is implemented again. 4. If a stand is not regen harvested by the first time period in the projection (year 0): a precommercial thin will be implemented in the first time period at a 16 ft (170 trees per acre). All hardwoods are removed in the precommercial thin, and hemlock is prioritized for removal to promote species diversity and commercial value. If a stand is regen harvested by the first time period in the projection (year 0): the only precommercial thins are after a regen harvest, as described in step 2. 5. Repeat steps 1, 2, and 3 until end of baseline projection.
RHPCT16_2	1. Stand is harvested when it reaches a merchantable volume (12 MBF/acre), followed by natural regeneration using default FVS settings. 2. Precommercial thinning in the third time after harvest (15 years) at a spacing of 16 ft (170 trees per acre). All hardwoods are removed in the precommercial thin. Hemlock is prioritized for removal to promote species diversity and commercial value. 3. Stand is regrown until it reaches merchantable volume (12 MBF/acre), at which time a clearcut is implemented again. 4. If a stand is not regen harvested by the second time period in the projection (year 5): a precommercial thin will be implemented in the second time period at a 16 ft (170 trees per acre). All hardwoods are removed in the precommercial thin, and hemlock is prioritized for removal to promote species diversity and commercial value. If a stand is regen harvested by the second time period in the projection (year 5): the only precommercial thins are after a regen harvest, as described in step 2. 5. Repeat steps 1, 2, and 3 until end of baseline projection.
RHPCT16_3	1. Stand is harvested when it reaches a merchantable volume (12 MBF/acre), followed by natural regeneration using default FVS settings. 2. Precommercial thinning in the third time after harvest (15 years) at a spacing of 16 ft (170 trees per acre). All hardwoods are removed in the precommercial thin. Hemlock is prioritized for removal to promote species diversity and commercial value.

	3. Stand is regrown until it reaches merchantable volume (12 MBF/acre), at which time a clearcut is implemented again. 4. If a stand is not regen harvested by the third time period in the projection (year 10): a precommercial thin will be implemented in the third time period at a 16 ft (170 trees per acre). All hardwoods are removed in the precommercial thin, and hemlock is prioritized for removal to promote species diversity and commercial value. If a stand is regen harvested by the third time period in the projection: the only precommercial thins are after a regen harvest, as described in step 2. 5. Repeat steps 1, 2, and 3 until end of baseline projection.
RHPCT16_4	1. Stand is harvested when it reaches a merchantable volume (12 MBF/acre), followed by natural regeneration using default FVS settings. 2. Precommercial thinning in the third time after harvest (15 years) at a spacing of 16 ft (170 trees per acre). All hardwoods are removed in the precommercial thin. Hemlock is prioritized for removal to promote species diversity and commercial value. 3. Stand is regrown until it reaches merchantable volume (12 MBF/acre), at which time a clearcut is implemented again. 4. If a stand is not regen harvested by the fourth time period in the projection (year 15): a precommercial thin will be implemented in the fourth time period at a 16 ft (170 trees per acre). All hardwoods are removed in the precommercial thin, and hemlock is prioritized for removal to promote species diversity and commercial value. If a stand is regen harvested by the fourth time period in the projection: the only precommercial thins are after a regen harvest, as described in step 2. 5. Repeat steps 1, 2, and 3 until end of baseline projection.

Table E1.f Timber prices.

Commercially viable species in the project area include cedar, hemlock, and spruce.

Species	Market	2017 Value ($)	2019 Value ($)	Average Value ($)
Spruce	Old Growth Foreign Market Log Sales	$592.24	$688.13	$640.19
Hemlock	Old Growth Foreign Market Log Sales	$569.16	$638.88	$604.02
Cedar	Old Growth Foreign Market Log Sales	$678.92	$787.34	$733.13

*Average of 2017 prices, as well as the most recent quarter for the Tongass National Forest

Source: "RV Update Bulletin" worksheet, "OFFICIAL BY16 RV Appraisal Update Bulletin111318" website link

Harvest management cost were estimated to be $514 per MBF removed. These costs include equipment mobilization, logging (High lead, long span cable yarding), hauling, barging, camping, roadwork (layout/ construction/ maintenance), travel to and from the job site, boundary delineation (property/sale/unit), timber marking/paint. In addition, it was assumed that the administrative costs on the property were $10 per acre. These costs were determined based on conversations with local foresters familiar with logging

costs in the area and include references to logging cost reports conducted by the US Forest Service in Alaska. Please see the Southeast ShaanSeet_SoutheastAlaska_Cost_Value workbook, provided separately, for additional details on the logging cost assumptions.

Precommercial thinning costs are estimated to be $375/acre. To conservatively estimate thinning costs, it is assumed that all acres are precommercially thinned in the first decade, and all acres are precommercially thinned in the 6th decade. Based on the range of rotation ages for stands in the project area, no stand receives more than two precommercial thins in the 100-year baseline projection.

Ultimately, the financial analysis shows that the baseline harvest activities would be financially viable over a 100-year term using the cost and pricing estimates cited above.

PROJECT HARVEST SCHEDULE SCENARIO OVERVIEW

The Project Scenario is a constrained conservation management regime anticipated to maximize carbon sequestration and other co-benefits (e.g., water quality protection, wildlife habitat). As a result, it is assumed that there is no commercial timber harvesting.

CARBON CALCULATION OVERVIEW

The harvest schedule reports the two CO_2 pools used in the uncertainty calculations:

1) Live Stocks: includes above and below ground live stocks
2) Dead Stocks: includes only above ground dead stocks

ERT CALCULATION OVERVIEW

The ERTs were computed based on the equations and coefficients provided in the ACR Document Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non‐Federal U.S. Forestlands; April 2018.

The mill efficiencies are from the Regional Mill Efficiency Database and are broken down by species group (hardwood vs. softwood) and wood product (pulp vs. sawlog). However, since FVS provides no estimates of carbon by species or wood product, we determined species and product estimates from the ACR wood product classes for the project's Assessment Area (Alaska).

Table E1-g shows the ACR harvested wood product estimates.

Table E1-g. Wood Product Category Percentages

Supersections	Softwood Lumber	Hardwood Lumber	Plywood	Oriented Strand Board	Non-structural Panels	Misc.	Paper	Alaskan Exports
Kodiak Island and Alexander Archipelago	7.60%	0.00%	0.00%	0.00%	0.00%	0.00%	2.20%	90.20%

Table E1.h. Calculation of Start Date Live CO2 Stocks

Strata	Total CO2/Acre	St. Dev	Plots	Acres	%	Std Error	Total CO2
MH	160.06	139.06	33	2,455.36	28%	24.21	393,016
H	318.90	305.11	9	1,065.93	12%	101.70	339,929
LM	97.49	60.78	11	1,523.93	17%	18.33	148,571
M	114.98	116.69	27	3,132.59	35%	22.46	360,193
L	144.70	126.77	13	713.75	8%	35.16	103,280
Total			**93**	**8,891.56**	**100%**		**1,344,988**

Table E1.i. Baseline CO2e stocks.

Year	Total Live CO2e (tons per acre)	Standing dead CO2e (tons per acre)	Total HWP CO2e (tons per acre)
2019	151.3	15.2	1.0
2020	132.7	14.5	1.0
2021	114.2	13.9	1.0
2022	95.7	13.3	1.0
2023	77.2	12.6	1.0
2024	58.6	12.0	1.0
2025	60.9	11.7	1.0
2026	63.2	11.4	1.0
2027	65.5	11.1	1.0
2028	67.8	10.8	1.0
2029	70.1	10.4	1.0
2030	68.6	10.2	1.0
2031	67.2	9.9	1.0
2032	65.7	9.6	1.0
2033	64.3	9.3	1.0
2034	62.9	9.0	1.0
2035	63.8	8.7	1.0
2036	64.8	8.5	1.0
2037	65.7	8.2	1.0
2038	66.7	7.9	1.0
2039	67.6	7.6	1.0

The 20-year long-term average baseline value(live + dead CO2) is 84.7 t CO2/acre or 753,354 tonnes CO2.

The scenarios were projected in FVS-AK for the 100-year scenario. Projections were annualized using linear interpolation. Direct biomass carbon estimates for live trees were output via FVS FFE carbon reports, using Jenkins et al 2003 biomass predictions in metric tons of carbon per acre, matching the calculations applied to the forest inventory measurements.

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[9], 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.

Table E1-j. Snag description for project area

Fire Fuel Extension (FFE) snag class	Biomass deduction	FVS description
Soft	0.80	Per FVS FFE: "Soft snags are more decayed and are assumed to have 80% of the wood density of hard snags." Corresponds to ACR IFM methodology decay class 1.
Hard	0.97	Per FVS FFE: "No branches remain." Corresponds to ACR IFM methodology decay class 4.

Source: Rebain et al. (2012). *FVS Fire and Fuels Extension*.

Harvested wood products

Step 1:
Long-term storage in wood products was calculated from FVS projections of removals. Projected harvested volumes were broken out into the following categories: softwood sawlog, softwood pulp, hardwood pulp and hardwood sawlog. Pulp/saw breakdowns referenced merchantability standards in the FVS-AK variant (Dixon et al 2008[10]).

Volumes were converted to biomass by applying species-specific specific gravities referenced from the USFS Wood Handbook 2010 Table 5-3a or from Miles and Smith 2009. Biomass was converted to carbon applying a carbon fraction of 0.5, and then converting to CO2 equivalent by multiplying by 3.664. Harvest tCO2/acre (before delivery to mill) for each modeled group (i.e. baseline stratum) were summed for two categories: hardwood sawtimber and softwood sawtimber.

[9] P. Miles and W. B. Smith. 2009. Specific Gravity and Other Properties of Wood and Bark for 156 Tree Species Found in North America. USFS Research Note NRS-38

[10] Dixon, Gary E.; Keyser, Chad E., comps. 2008 (revised March 16, 2012). Northeast (NE) Variant Overview – Forest Vegetation Simulator. Internal Rep. Fort Collins, CO: U. S. Department of Agriculture, Forest Service, Forest Management Service Center. 40p.

Step 2:

Carbon transformed to wood products was estimated applying mill efficiency values referenced from the ARB 2015 forest protocol "Regional Mill Efficiency Data.xls" database[11], for the Alaska (AK) region specified in Table E1-k.

Table E1k. Mill efficiency values.

State	Hardwood saw log	Hardwood pulp	Softwood saw log	Softwood pulp
Alaska	0	0	62.8%	58.2%

Steps 3 and 4:

Transformed carbon was summed across the hardwood/softwood/pulp/sawtimber categories and then distributed among a range of end wood product classes. Distributions of end wood product classes reference ARB 2015 forest protocol values derived from the supersection (Table E.1.l).

Table E1.l. Wood product carbon distribution

Supersections	Softwood Lumber	Hardwood Lumber	Plywood	Oriented Strand Board	Non-structural Panels	Misc.	Paper	Alaskan Exports
Southeast and South Central Alaska	7.60%	0.00%	0.00%	0.00%	0.00%	0.00%	2.20%	90.20%

Wood product amounts retained in storage for 100 years in in-use wood products and landfills were then calculated referencing end wood product class-specific 100-year average storage factors provided in the methodology[12].

Table E1.m. 100 Year Storage Factors

Wood Product Class	In-Use	Landfills
Softwood Lumber	0.234	0.405
Hardwood Lumber	0.064	0.49
Softwood Plywood	0.245	0.40
Oriented Strandboard	0.349	0.347
Non-Structural Panels	0.138	0.454
Miscellaneous Products	0.003	0.518

[11] Sourced at: https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/usforestprojects_2015.htm

[12] Sourced from Smith JE, Heath LS, Skog KE, Birdsey RA (2006) Methods for calculating forest ecosystem and harvested carbon with standard estimates for forest types of the United States. In: General Technical Report NE-343 (eds USDAFSUSDAFS), PP. 218. USDA Forest Service, Washington, DC, USA.

Paper	0.000	0.151
Alaskan Exports	0.391	0.284

Step 5:

Carbon in long-term storage was then summed across in-use wood products and landfills and across modeled groups/baseline strata to produce annual total t CO2 stored in in-use wood products and landfills after 100 years from wood harvested in a given year.

Emissions due to burning logging slash are conservatively assumed in the baseline to be zero. Thus, parameter BSBSL equals zero and the outcome of equation 4 of the methodology, parameter GHGBSL, equals zero.

Baseline Harvest Mix

Table E1.n presents the baseline mix of harvest practices that maximizes the net present value of 100-year cash flows. Maximum NPV under the baseline is ~$7.4 million.

Table E1.n Baseline and project prescription acreages.

Baseline Prescription Acreages

Prescription	Description	H	L	LM	M	MH	Total
GROW	No Harvest	7.0	0.2	148.2	143.8	340.0	639.2
RHPCT12_1	PCT 12’ Period 1	-	-	137.6	459.8	145.9	743.3
RHPCT12_2	PCT 12’ Period 2	353.0	164.7	412.7	344.9	145.9	1,421.1
RHPCT12_3	PCT 12’ Period 3	-	-	137.6	-	218.8	356.4
RHPCT12_4	PCT 12’ Period 4	117.7	54.9	137.6	344.9	-	655.0
RHPCT16_1	PCT 16’ Period 1	-	54.9	-	459.8	291.8	806.5
RHPCT16_2	PCT 16’ Period 2	470.6	329.3	412.7	919.6	948.3	3,080.6
RHPCT16_3	PCT 16’ Period 3	-	-	-	-	72.9	72.9
RHPCT16_4	PCT 16’ Period 4	117.7	109.8	137.6	459.8	291.8	1,116.6
Total		1,065.9	713.7	1,523.9	3,132.6	2,455.4	8,891.6

Project Prescription Acreages

Prescription	Description	H	L	LM	M	MH	Total
GROW	No Harvest	2,455.4	1,523.9	3,132.6	713.7	1,065.9	8,891.6

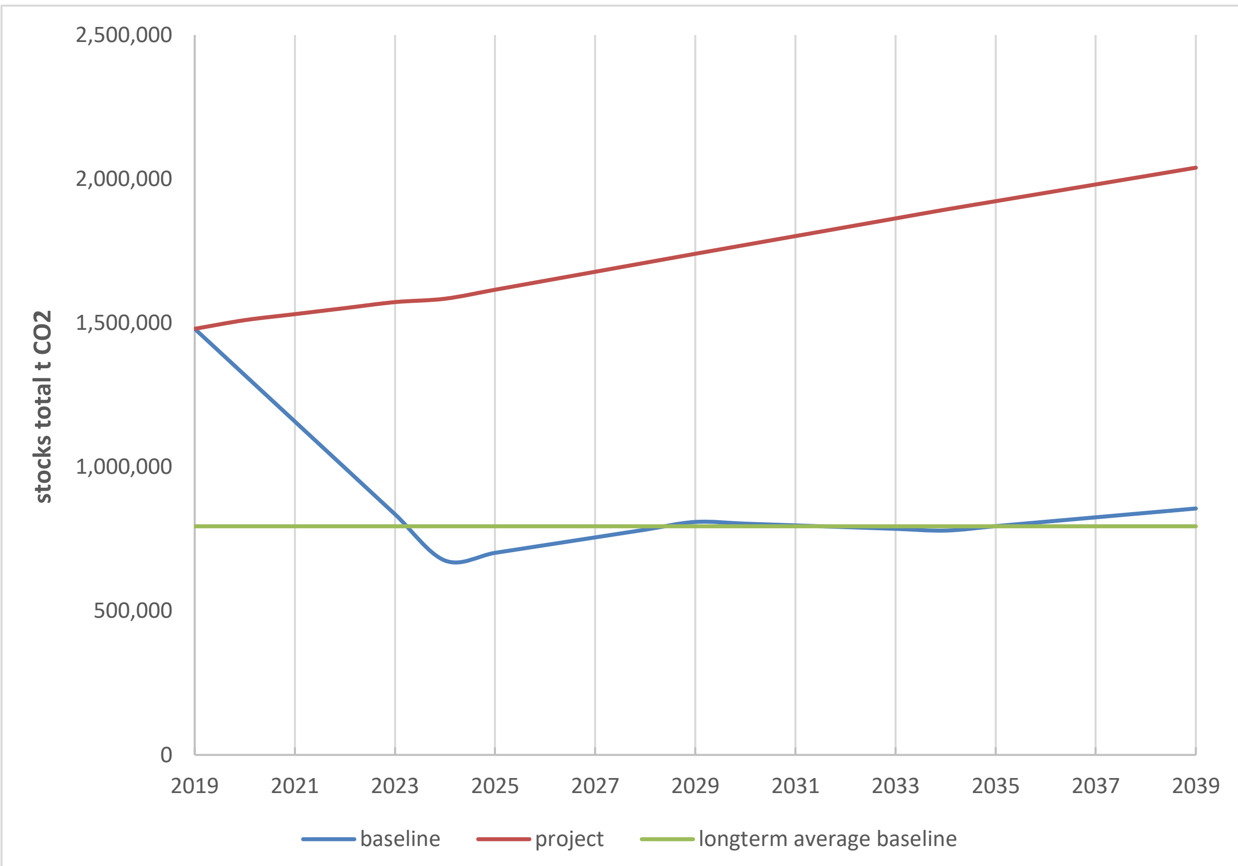
Projections of live tree, standing dead wood and harvested wood products carbon stocks in the project area in the baseline scenario for the first crediting period from 2019 to 2039. For the live tree and standing dead pools, stocks represent stocks on January 10th, the reporting period date of the corresponding year.

For harvested wood products (HWP), stocks represent stocks harvested in the annual interval beginning January 10th on the reporting period date of the corresponding year.

From the modeled stocks, we first calculated long‐term average baseline stocking level for the first 20-year crediting period, 753,354 t CO2, and the change in baseline carbon stocks for each year.

The figure below depicts the projected baseline stocks, average baseline stock for the first crediting period, and projected with-project stocks (see below for derivation of with-project stock projections).

Figure E1.a Total standing (Live + Dead) CO_2e under baseline and project scenarios.



E2. PROJECT SCENARIO

The actual project scenario is measured through future inventories over the course of the project lifetime. However, we produce an ex-ante projection of the project scenario assuming the landowner will conduct the harvest types described in the Project Harvest Schedule Scenario Overview section. This ex-ante projection applies in years beyond 2019, as the landowner harvested no timber in the first reporting period.

E3. LEAKAGE

Quantification of leakage is limited to market leakage, as no activity-shifting leakage is allowed by the methodology beyond *de minimis* 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.

Market leakage was determined by quantifying the merchantable carbon removed in both the baseline and with-project cases. Carbon in long-term storage in in-use wood products and landfills, calculated above, was used to assess relative amounts of "total wood products produced" in the two scenarios. No timber harvest is projected to take place in the project scenario. The decrease in wood production relative to the baseline was then calculated and the applicable market leakage discount factor was determined.

Table E3.a Baseline leakage factors.

Period	Baseline wood products summed over 20-yr crediting period (tons CO_2)	Project wood products summed over 20-yr crediting period (tons CO_2)	Project decrease in wood products relative to baseline (%)	Applicable leakage factor (%)
2019-2039	186,651	-	100%	40%

E4. UNCERTAINTY

We computed uncertainty in project and baseline CO_2e according to equations 10 and 18 of the ACR protocol. Error terms for live and dead CO_2e are calculated using the inventory data in the "Stats" tabs of ShaanSeet_Start_RP_CO2.xlsx. As required by ACR equations 10 and 18, these error terms (e_{TREE} and e_{DEAD}), estimated from the most recent inventory data, are used for computing total CO_2e uncertainty in both the project and baseline scenarios. The ACR protocol also specifies that the error term for live CO_2e (e_{TREE}) be used as the uncertainty estimate for CO_2e stored in wood products. No slash burning is anticipated, so expected greenhouse gas emissions (GHG) under both the project and baseline scenarios are zero. Total uncertainty in combined CO_2e stocks (ACR equation 19) is 14.0%. This calculation is found in the "ACR_IFM_ERT_Calcs" tab of RP_ERT_HWP.xlsx.

Table E4.a Uncertainty in start date CO_2e stocks.

Live Stats

Strata	Avg Live CO2/acre	StdDev of Live CO2e	Plots	Acres	%	Std. Error	Total CO2
MH	160.06	139.06	33	2,455.36	28%	24.21	393,016
H	318.90	305.11	9	1,065.93	12%	101.70	339,929
LM	97.49	60.78	11	1,523.93	17%	18.33	148,571
M	114.98	116.69	27	3,132.59	35%	22.46	360,193
L	144.70	126.77	13	713.75	8%	35.16	103,280
Total			**93**	**8,891.56**	**100%**		**1,344,988**

Dead Stats

Strata	Avg Live CO2/acre	StdDev of Live CO2e	Plots	Acres	%	Std. Error	Total CO2
MH	19.89	40.36	34	2,477.70	28%	6.92	49,286
LM	10.76	15.77	11	1,525.21	17%	4.75	16,415
M	8.34	14.70	27	3,136.40	35%	2.83	26,155
L	10.54	13.87	13	715.45	8%	3.85	7,543
H	39.19	60.46	10	1,095.88	12%	19.12	42,951
Total			**93**	**8,891.56**	**100%**		**1,344,988**

Percentage uncertainty expressed as 90% confidence interval

Live ($e_{TREE,t=1}$)	17.6%
Dead ($e_{DEAD,t=1}$)	37.4%

E5. REDUCTIONS AND REMOVAL ENHANCEMENTS

Table E5.a shows estimated net reductions and removal enhancements attributable to the Shaan Seet project over the first 20-year crediting period (2019 - 2039). The annual project-level uncertainty was 16.4%, and is above the 10% threshold required by the ACR protocol. The appropriate uncertainty deduction was applied to the annual Emission Reduction Tons (ERTs) generated by the project. ERTs presented in Table E1.n incorporate the assumed 40% market leakage. ERTs are dated beginning on January 10, 2019, the project Start Date. Therefore, annual values in Table E5.a correspond to the 1-year interval ending on January 9th of each year. For example, ERTs in 2019 include GHG reductions and removals occurring between January 10, 2019 and January 9th, 2020.

Table E5.a Estimate of net Emission Reduction Tons (ERTs) by year (includes buffer tonnes).

Project year	Year	Estimated GHG emission reductions (tons CO_2)
0	*2019*	Start Date
1	*2020*	98,604
2	*2021*	93,263
3	*2022*	93,166
4	*2023*	93,166
5	*2024*	48,333
6	*2025*	15,647
7	*2026*	15,644
8	*2027*	15,641
9	*2028*	15,639

Project year	Year	Estimated GHG emission reductions (tons CO_2)
10	*2029*	15,636
11	*2030*	15,378
12	*2031*	15,375
13	*2032*	15,373
14	*2033*	15,370
15	*2034*	15,367
16	*2035*	14,553
17	*2036*	14,551
18	*2037*	14,549
19	*2038*	14,547
20	*2039*	14,545

E6. EX-ANTE ESTIMATION METHODS

Table E6.a shows projected CO_2e stocks under the project scenario described in Section E2. Project Scenario.

Table E6.a Project CO_2e stocks.

Year	Live trees (tons CO_2e per acre)	Standing dead (tons CO_2e per acre)	Harvested wood products (tons CO_2e per acre)
2019	151.3	15.2	0.0
2020	154.6	15.2	0.0
2021	157.0	15.2	0.0
2022	159.3	15.2	0.0
2023	161.7	15.2	0.0
2024	163.0	15.2	0.0
2025	166.5	15.2	0.0
2026	170.0	15.2	0.0
2027	173.5	15.2	0.0

Year	Live trees (tons CO_2e per acre)	Standing dead (tons CO_2e per acre)	Harvested wood products (tons CO_2e per acre)
2028	177.1	15.2	0.0
2029	180.6	15.2	0.0
2030	184.0	15.2	0.0
2031	187.5	15.2	0.0
2032	190.9	15.2	0.0
2033	194.4	15.2	0.0
2034	197.8	15.2	0.0
2035	201.1	15.2	0.0
2036	204.4	15.2	0.0
2037	207.6	15.2	0.0
2038	210.9	15.2	0.0
2039	214.2	15.2	0.0

F. COMMUNITY & ENVIRONMENTAL IMPACTS

F1. NET POSITIVE IMPACTS

Community and Environmental Assessment

1. See section A5. Brief Summary of Project and A4. Location.

2. See section C1. Regulatory Surplus Test

3. The Bluesource – Shaan Seet Improved Forest Management 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.

4. The below identify Sustainable Development Goals to which the project aligns and the positively contributes:

Impact	Carbon sequestration
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Carbon sequestration and climate change benefits will be monitored by the Shaan Seet Incorporation as well as annually by Bluesource LLC.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Impact	Habitat protection for wildlife, plant species, and trees in the forested communities.
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Periodically monitored by Shaan Seet Incorporation.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Impact	Water quality protection
Risk Category	Positive

Monitoring Plan (how, how often, by whom)	Periodically monitored by Shaan Seet Incorporation.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Impact	Protection from soil erosion and degradation
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Periodically monitored by Shaan Seet Incorporation.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Impact	Access to recreation opportunities
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Periodically monitored by Shaan Seet Incorporation.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

The Bluesource – Shaan Seet carbon project has no anticipated negative community or environmental impacts. Annual attestations confirming this assessment will be provided separately for verification purposes.

5. The Bluesource – Shaan Seet carbon project is not a community-based project.

F2. STAKEHOLDER COMMENTS

N/A. 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. Shaan Seet Incorporated is made up of Class A and Class B shareholders. Class A shareholders are persons of native decent and are incorporated into the decision making process through Shaan Seet's bylaws, and through their right to vote in elections every year. The Bluesource – Shaan Seet IFM project was voted on by elected board members during the Fall of 2018, and passed. Shaan Seet Incorporated will provide references to the publicly available documentation for the project.

G. OWNERSHIP AND TITLE

G1. PROOF OF TITLE

G1.1 Ownership of forestlands

Forestlands included in the project are owned directly by the Project Proponent, Shaan Seet Incorporated, which hold full legal titles and thus have long term control of the land. The relevant patents of interim conveyances are available for review by verifier in a document folder "Appendix_A_Ownership_Docs".

G1.2 Emission reduction rights

Emissions reductions rights are owned by the Project Proponent.

G2. CHAIN OF CUSTODY

No sales or purchasing of offsets was conducted prior to project registration.

G3. PRIOR APPLICATION

The Bluesource – Shaan Seet Improved Forest Management project has not previously applied or been registered under any GHG emission trading system or program.

H. PROJECT TIMELINE

H1. START DATE

The project "Bluesource – Shaan Seet Improved Forest Management Project" has a project start date of January 10, 2019, the date of the contractual signing agreement between the Project Proponent and the Offset Developer. This start date is appropriate and consistent with the ACR Standard v. 6.0.

H2. PROJECT TIMELINE

Below is a schedule of the project activities in chronological order for important aspects of the Bluesource – Shaan Seet Improved Forest Management Project.

Project Activity	Date	Source/Notes
Project Start Date (Initiation of project activities)	January 10, 2019	CDMA contract signing
Frequency of monitoring, reporting and verification		Every 5 years after the first verification
Length of First Crediting period	Through January 9, 2039	20 years
Expected project longevity	Minimum Project Term of at least 40 years	40 years