

AFOGNAK FOREST CARBON PROJECT VCS VERIFICATION REPORT



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Summary:

Environmental Services, Inc., (ESI) was contracted by Camco International Group, Inc., on 14 June 2018 to conduct the monitoring period VCS verification (01 January 2015 – 31 December 2017) of the Afognak Forest Carbon Project [Original Validated Project Description (PD) dated 17 May 2012]. This verification also encompassed a 10-year baseline re-validation with Project Description updates following AFOLU Requirements due to a project start date of 01 January 2006. The Afognak Forest Carbon Project follows the framework of Improved Forest Management (IFM) and achieves net GHG emission reductions and removals through the avoidance of emissions due to logging in the baseline scenario.

The verification objective included an assessment of compliance with VCS Version 3 and all associated updates, the selected methodology (VM0012), and the validated Project Description [Original Validated PD dated 17 May 2012]. ESI (herein referred to as the Validation/Verification Body – VVB/Verification Team) assessed the Greenhouse Gas (GHG) emission removals for the monitoring period/verification period verification (01 January 2015 – 31 December 2017) through Agriculture, Forestry and Other Land Use (AFOLU) criteria. The project activities are categorized as; Improved Forest Management (IFM) - Logged Forest to Protected Forest (LTPF) activities.

The scope of the verification following Section 4.3.4 of ISO 14064-3:2006 included the GHG project implementation; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHGs; and time periods covered. The Afognak Forest Carbon Project follows the framework of project activities listed above.

The criteria followed the verification guidance documents provided by VCS located at <http://v-c-s.org/program-documents>. Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS guidance document as of January 2019.

A summary of all findings (28 total) are included in Appendix B. All findings were satisfied to a reasonable level of assurance and there are no restrictions of uncertainty.

After review of all project information, procedures, calculations, and supporting documentation, ESI confirms that the monitoring conducted by the project proponent, along with the supporting Monitoring Report, and Project Description updates are accurate and consistent with all aforementioned VCS Version 3, the originally validated PD, and the selected methodology (VM0012). ESI confirms that the Afognak Forest Carbon Project Monitoring Report (v1.4 dated 21 January 2019) has been implemented in accordance with the original validated PD and the limited PD updates following baseline re-validation.

ESI confirms all verification activities, including objectives, scope and criteria, level of assurance, validated Project Description implementation, and project monitoring report adherence to VCS Version 3 (and all associated updates), as documented in this report are complete. ESI concludes without any qualifications or limiting conditions that Afognak Forest Carbon Project Monitoring Report (v1.4 dated 21 January 2019) meets the requirements of VCS Version 3 (and all associated updates) for the verification period/reporting period (01 January 2015 – 31 December 2017).

The total GHG emission reductions generated by the project in this monitoring period amount to 121,654 tCO₂e in 2015, 93,726 tCO₂e in 2016, and 96,934 tCO₂e in 2017. The GHG assertion provided by Camco International Group, Inc. and verified by ESI has resulted in 288,709 credits eligible for issuance as VCUs, including a buffer release in the amount of 17,509 tCO₂ equivalents for the

verification period/reporting period (01 January 2015 – 31 December 2017). The project has applied a 10% buffer withholding of 35,490 tCO₂ equivalents¹ based on the non-permanence risk assessment tool.

¹ The Project has taken the minimum Risk Rating following the VCS Non-Permanence Risk Tool v3.3

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1 INTRODUCTION

1.1 Objective

For this project, the verification objective was to ensure implementation of project activities and project compliance with the VCS Program Guide, VCS Standard, AFOLU Requirements, selected methodologies, and the validated VCS Project Description (PD). ESI assessed the GHG emission removals for the AFOLU project, specifically Improved Forest Management (IFM) - Logged Forest to Protected Forest (LtPF) activities.

1.2 Scope and Criteria

The scope of the verification² included the GHG project and baseline scenarios; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHGs; and time periods covered. The geographic verification scope is defined by the project boundary, the carbon reservoir types, management activities, contract periods and related. The scope of the project was outlined by the Project Proponent within the Project Description dated 17 May 2012 and is re-defined as follows for the GHG project:

Baseline Scenario	Commercial timber harvesting
Activities/Technologies/Processes	Afognak Forest Carbon Project will conserve the project area forests for the duration of the project and in perpetuity. This will retain the carbon contained in the current forest biomass, sequester additional carbon in the retained forests, and avoid emissions from logging and transportation in the baseline scenario.
Sources/Sinks/Reservoirs	Above ground biomass Below ground biomass (live and dead) Dead wood Wood products Combustion of fossil fuels by vehicles/equipment
GHG Type	CO ₂
Time Period (state date, crediting period, verification period)	Start Date: 01 January 2006 Monitoring Period: 01 January 2015 – 31 December 2017
Project Boundary	The project covers an area of 3,326.5 hectares (8,219.7 acres) and is publicly owned. The project consists of five adjacent/proximal parcels of land on the North coast (Perenosa Bay/Delphin Bay area) of Afognak Island, Alaska.

² Section 4.3.4 of ISO 14064-3:2006

The criteria followed the verification guidance documents provided by VCS located at <http://v-c-s.org/program-documents> and CCBA located at www.climate-standards.org. Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS guidance document. These documents include the following:

- *VCS Program Guide (v3.7, 21 June 2017)*
- *VCS Standard (v3.7, 21 June 2017)*
- *Agriculture, Forestry and Other Land Use (AFOLU) Requirements (v3.6, 21 June 2017)*
- *VCS Program Definitions (v3.7, 21 June 2017)*
- *AFOLU Non-Permanence Risk Tool (v3.3, 19 October 2016)*
- *Program Validation and Verification Manual (v3.2, 19 October 2016)*
- *VM0012 (v1.1, 04 May 2012) – project years 2006-2015*
- *VM0012 (v1.2, 23 July 2013) – project years 2016-2017*
- *Validated Project Description (17 May 2012)*

1.3 Level of Assurance

The level of assurance was used to determine the depth of detail that the Verifier placed in the Verification and Sampling Plan to determine if there are any errors, omissions, or misrepresentations (ISO 14064-3:2006). ESI assessed the project's implementation of general principles, data collection and processing, sampling descriptions, documentation, ex post calculations, etc., to provide reasonable assurance to meet the Project Level requirements of the VCS Program. Based on the verification findings, a final evaluation statement reasonably assures that the project GHG representations are materially accurate. The evidence used to achieve a reasonable level of assurance is specified in subsequent sections of this report.

1.4 Summary Description of the Project

The project is located on Afognak Island, state of Alaska, USA and seeks to avoid emissions due to intensive logging in the baseline scenario.

As the start date of the project is 01 January 2006 the previous baseline was applied for emission reductions generated through 31 December 2015. The 10-year baseline was therefore re-validated following AFOLU Requirements Section 3.1.10 at this verification period to quantify emission reductions generated from 01 January 2017 – 31 December 2027.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification assessed the Project's compliance with VCS Version 3 and all associated updates, the selected methodology (VM0012, v1.2), and the validated Project Description (PD). ESI assessed the Greenhouse Gas (GHG) emission removals for the monitoring period/verification period (01 January 2015 – 31 December 2017) through Agriculture, Forestry and Other Land Use (AFOLU) criteria, specifically Improved Forest Management (IFM) - Logged Forest to Protected Forest (LtPF) activities.

The non-permanence risk analysis was assessed for this verification. Further, following Section 2.1.2 of the VCS Validation & Verification Manual, V3.2, the objectives of the verification exercise were to evaluate the monitoring report and assess:

- The extent to which methods and procedures, including monitoring procedures, have been implemented in accordance with the validated project description. This includes ensuring conformance with the monitoring plan.
- The extent to which GHG Emission Reductions or Removals reported in the monitoring report are materially accurate.

The criteria followed the verification guidance documents provided by VCS. Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS guidance document. Please also see Section 1.2 of this report.

In the verification process, there is a risk that potential errors, omissions, and misrepresentations will be found; therefore, a risk-based approach was used to guide the collection of appropriate and sufficient evidence to support a reasonable level of assurance. A risk-based approach means that the verification team focused on items that might result in a material misstatement of the reported GHG assertion.

A project specific Verification and Sampling Plan was developed to guide the verification auditing process to ensure efficiency and effectiveness. The purpose of the Verification and Sampling Plan was to present a risk assessment for determining the nature and extent of verification procedures necessary to ensure the risk of auditing error was reduced to a reasonable level. The Verification & Sampling Plan methodology was derived from all items in our verification process stated above. Specifically, the sampling plan utilized the VCS guidance documents and ISO 14064-3. Any modifications applied to the Verification and Sampling plan were made based upon the conditions observed for monitoring to detect the processes with highest risk of material discrepancy. A detailed field plan was developed to guide the verification site visit and is embedded within the Verification & Sampling Plan.

For the field sampling effort, direct measurement, observations, interviews and review of the monitoring period emission reductions in the key areas were determined to be the greatest risk, followed by ground-truthing and review of project activities. Field sampling and techniques were based on the project parameters/scope and best professional judgment of the VVB to meet a reasonable level of assurance as directed by the professional judgment of the Lead Verifier. For this verification, the sample size for the desktop and field verification was a minimum of 10% (2 plots). Please see Section 2.4 of this report for details on the site inspection.

Stratification and disturbance (windthrow) were assessed using end of reporting period imagery. Extensive review of all remote sensing data was undertaken of the project area to aid the VVB in establishing a reasonable level of assurance confirming no areas of ex post disturbance for the quantification of project emissions. The desktop verification component included a full review of all project documentation and calculations received from the Project Proponent as described throughout this report.

2.2 Document Review

A detailed review of all project documentation was conducted to ensure consistency with, and identify any deviation from, VCS Program requirements, the methodology (VM0012 v1.1 and v1.2 (project year 2015: v1.1, project years 2016-2017: v1.2), and the originally validated PD. Initial review focused on the validated PD and Monitoring Report (MR) relative to the field conditions observed and interviews with project management staff. Project details, implementation status, data and parameters, and quantification of GHG emission reductions and removals were thoroughly examined. Key supporting documents were also reviewed. These included monitoring data (i.e., remote sensing/Geographic Information System (GIS) data), Standard Operating Procedures (SOPs), financial analyses, property boundaries, maps and aerial images, monitoring data, biomass and carbon calculation spreadsheets, interview/survey results, and responses to Non-conformance Requests (NCRs) and Clarification Requests (CLs).

The VCS AFOLU Non-Permanence Risk Tool was used by the Project Proponent to assess overall project risk. The VVB reviewed the Non-Permanence Risk Report provided with the verification supporting documentation and confirmed that the project adheres to the requirements set out in the VCS AFOLU Non-Permanence Risk Tool. Each risk factor was thoroughly assessed for conformance. Any identified NCR and/or CL findings related to the AFOLU Non-Permanence Risk Tool/Report are presented in Appendix B. The final score was calculated to be 10%.

For a listing of all documents received from the client for this verification, please see Appendix A.

2.3 Interviews

Interviews were performed during the verification site inspection and as part of the overall verification process which was additional to that provided in project documentation, monitoring report and any supporting documents. The verification team met with individuals with various roles in the project. This included a series of interviews with staff that play various supporting roles. Onsite interviews and informal discussions were conducted with technical consultants, project staff, and inventory crew members. The following is a list of the main interviewees:

Individual	Affiliation	Role
Charles Purshouse	Camco International Group	Vice President – Renewables & Environmental Markets
Mike Vitt	3GreenTree Ecosystem Services Ltd.	Managing Partner
Brad Seely	3GreenTree Ecosystem Services Ltd.	Modeler
Kris Wilson	Terra Verde	Inventory Crew Member

2.4 Site Inspections

The verification site inspection followed the VVB's prepared Verification and Sampling Plan process and was conducted on 25-27 August 2018 by the Verification Team. The verification site visit was a required tool to help the VVB reach reasonable assurance for verification of monitoring period reported elements. It also allowed the VVB to; understand application of the methodology on-site, confirm the implementation of project activities, and to identify possible sources of error to focus desktop verification efforts.

The objectives of the on-site inspections performed were to:

- Conduct a risk-based review of the project area and project activities to check that the project adhered to the requirements of the VCS rules and the methodology during the monitoring period

- Select data samples from ground measurements for verification purposes in order to achieve a reasonable level of assurance and meet the materiality requirements of the project following Section 5.1.3 of the VCS Standard
- Check that monitoring was conducted in accordance with the requirements of the validated monitoring plan, the VM0012 methodology and VCS rules

For this verification, the sample size for the desktop and field verification was a minimum of 10% (2 plots). Three plots were visited and tree data collected: 13, 33, and 124. Of those plots, two were inventoried for coarse wood debris transects. A total of 7 plots were visited by the verification team while on-site, the 4 additional plots were walked through and ocularly examined. In addition, field review of these plots occurred in which the following aspects of the project were assessed:

- Current project conditions, including reported tree species, reported current density, reported growth characteristics (diameter, or similar), reported biomass volume (above-and/or below-ground), implementation of management plan/monitoring (historical and contemporary), and related
- Lying dead transect assessment
- Visual inspection of adjacent plots
- Direct field measurement of tree density (number and species) and growth characteristics was performed, with a detailed review of field measurement methodologies

For this verification period the proponents have conducted a re-inventory, therefore specific elements were evaluated on-site. The following are specific monitoring elements following VM0012 that were examined while on-site:

9.3.2 Monitoring Annual Spatial Inventory Changes

- a. Natural disturbance events > 4ha (i.e. fires, pest & disease outbreaks, slides and other disturbances;
- b. Planned project activities (i.e. harvests, road construction, reforestation, etc.); and
- c. Unplanned man-made disturbances (for example, non-de minimis illegal or unplanned harvests).

9.3.4 Stratification for Field Plot Sampling

- Checked stratification, updates for monitoring purposes or adjustments for modeling
- AU 101- represents the existing naturally originated, mature spruce stands. AU 201- represents naturally regenerating spruce stands following clearcut harvesting in 1999

9.3.5 Field Plot Sampling Framework

- Plot type, number of plots, precision, sample size, layout, measurement methods and accuracy

9.3.6 Quality Assurance/Quality Control (QA/QC) Methods

(1) collecting reliable field measurements;

(2) verifying laboratory procedures;

(3) verifying data entry; and

(4) data archiving

9.3.7 Leakage Monitoring

- Confirm market leakage assessment rates are appropriate and in line with the region

For field sampling the verification team followed Standard Operating Procedures (SOPs) set forth by the project and compared field results to project values following the verification site visit to confirm accuracy in measurements.

2.5 Resolution of Findings

During the verification process, there was a risk that potential errors, omissions, and misrepresentations would be found. The actions taken when errors, omissions, and misrepresentations were found included: notifying the client of the issue(s) identified and expanding our review to the extent that satisfied the Lead Verifier's professional judgment.

The process of resolution of findings involved one formal round of assessment by the VVB. Findings were resolved during the verification by the Project Proponent implementing corrective actions such as amending the Monitoring Report and calculations, as well as providing written responses. This resulted in project documentation that was in conformance with the requirements of the VCS Standard for GHG projects.

Findings were characterized in the following manner:

Non-Conformity Reports (NCRs) were issued as a response to material discrepancies in a part of the project and generally fell into one category:

- Non-conformity to a VCS guiding document listed in Sections 1.2 and 2.2 above
- Consistency among project documentation or calculations was lacking
- Mathematical formulae were incorrect
- Additional information was required by the VVB to confirm reasonable assurance for compliance

Clarifications (CL) were issued when language within a project document needed extra clarification to avoid ambiguity.

Opportunities for Improvement (OFI) were issued to the Project Proponents when an opportunity for improvement was identified.

During the verification, twenty-eight (28) essential VCS findings were identified. Detailed summaries of each VCS finding, including the issue raised, responses, and final conclusions, are provided in Appendix B VCS NCRS/CLS/OFI SUMMARY. All NCRs/CLs were satisfactorily addressed.

2.5.1 Forward Action Requests

This section is not applicable as no forward action requests are raised for this verification.

2.6 Eligibility for Validation Activities

ESI is an accredited validation/verification body recognized by the VCS Program. Validation activities were undertaken on a limited basis as part of the reporting/monitoring period verification and are described in further detail elsewhere in this report.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The verification team is not aware of project involvement in other forms of environmental credits from its activities. The project has not been registered, and is not seeking registration, under any other GHG programs. The *Afognak Forest Carbon Project* currently only seeks carbon credits under the VCS program. This was confirmed through a risk-based internet review.

3.2 Methodology Deviations

Methodology deviations were previously verified and approved (please see verification reports listed on the VCS Project Database: https://www.vcsprojectdatabase.org/#/project_details/872). A new methodology deviation not in common with previous reporting periods was applied to this reporting period related to re-measurement timing of monitoring plots. This deviation is permissible as it pertains to criteria and procedures relating to monitoring or measurement set out in the methodology v1.2, Section 9.3.8, "Permanent sample plots must be re-measured at intervals of ≤ 5 years." All impacted elements of the methodology pertain exclusively to monitoring of GHG emission reductions/removals. The deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions/removals. The verification team agrees with the justification provided in the monitoring report that re-inventory costs and inaccessibility and reasonable expectations of slow growth rates. The verification team agrees with the overall conclusion of the re-measurement timing methodology deviation.

3.3 Project Description Deviations

A PD deviation was carried forward from the previous verification period. At this verification, in common with the previous periods, the project has applied a PD deviation related to using the LST model over a 30-year period with annual time steps instead of a 100-year time period with 5-year time steps as described in the original PD. This PD deviation is described appropriately within the MR and the verification team approves this PD deviation.

- The deviation only pertains to the criteria and procedures relating to monitoring or measurement set out in the original validated PD
- The deviation has no impact on applicability, no applicability conditions in the methodology require reporting baseline and project emissions/removals on a five-year time scale

- The deviation has no impact on additionality as this component is unrelated to additionality
- The deviation has no impact on the baseline scenario appropriateness as it does not impact the baseline scenario only the baseline emissions quantification

For these reasons the verification team can conclude that this PD deviation is valid.

A second PD Deviation was described in Section 2.2.2 of the MR regarding methods for computing market leakage. As a result of the 10-year baseline re-validation the baseline scenario was re-visited and therefore methods to determine market leakage. The originally validated PD specifies using the CAR tool of which the formula was updated. The proponents instead elected to apply the VCS AFOLU Requirements v3.6 market leakage default factor of 20%. Please see AFOLU Requirements Section 4.6.14 for review of the default factor chosen.

- The deviation only pertains to the criteria and procedures relating to monitoring or measurement set out in the original validated PD
- The deviation has no impact on applicability, VM0012 explicitly allows for use of Option 1 - VCS Default Market Leakage Discount Factors
- The deviation has no impact on additionality as this component is unrelated to additionality
- The deviation has no impact on the baseline scenario appropriateness as it does not impact the baseline scenario only market leakage quantification

For these reasons the verification team can conclude that the PD deviation is valid.

3.4 Grouped Project

Not applicable as the project is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activities and Monitoring Plan, as described in the validated PD, have been fully initiated. There are no remaining issues from the original validation in addition to the 10-year baseline re-validation reported. At this reporting/monitoring period verification, many activities were implemented, but the VVB confirmed that activities reported in Section 2.1 of the Monitoring Report are correct. Monitoring activities through remote sensing and AK conservation easement upkeep was confirmed.

No material discrepancies were noted between the actual monitoring system, the monitoring plan set forth in the project description and the applied methodology. Monitoring activities were demonstrated to follow Section 3.3 – Monitoring Plan of the Monitoring Report for this monitoring period. Further, the verification team confirmed that Section 2.1 of the monitoring report provided an accurate description of the implementation of the project.

The procedures outlined to estimate carbon stocks in specific pools within the project area, and the uncertainty of the estimates, have been implemented correctly. Minor errors in calculation of net GHG reduction estimates were discovered but fixed before verification conclusion. The errors resulted in adjustments to crediting and were confirmed to be below the VCS materiality threshold for a project less than 300,000 tCO₂e. The reporting errors were fixed in the final version of the Monitoring Report. Market leakage was calculated correctly after the new method was confirmed suitable for the project years 2016 – 2017. Carbon stocks for pools by project activity were estimated in accordance with the methodology VM0012.

One new methodology deviation relating to monitoring and/or measurement of GHG emission reductions or removals was applied by the project developer/identified by ESI during this monitoring period verification, please see Section 3.2 of this report. The GHG emission reductions generated by the project have not become included in an emissions trading program other than the VCS program and it has not received or sought any other form of environmental credit as confirmed through a risk-based review by the verification team.

The project has re-assessed its baseline scenario following the VCS AFOLU requirements Section 3.1.10 to “reassess the baseline every 10 years and have this validated at the same time as the subsequent verification.” As the start date of the project is the 01 January 2006 the previous baseline was applied for emission reductions generated through 31 December 2015. The baseline was therefore reassessed at this verification period to quantify emission reductions generated from 01 January 2017 – 31 December 2027.

Following Section 3.1.10 of AFOLU Requirements v3.7 the baseline reassessment was described in the newly updated and revised PD Section 3.1. The agents and drivers of changes in the land use are well represented in the surrounding areas of the project area, clear cut harvesting with little consideration for advanced regeneration. Observations from the site visit suggest that the baseline scenario is active in surrounding areas although the extent and frequency of these activities are difficult to compare to the modelled baseline scenario. The latest version of VM0012 - Improved Forest Management in Temperate and Boreal Forests (LtPF) is v1.2 was applied to project years 2016 – 2017.

Sustainable development contributions are not applicable to this project.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

ESI conducted an intensive review of all input data, parameters, formulae, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS Standard, the validated PD, and VM0012. Data with associated conversion factors, formulas, and calculations were provided by the project proponent in spreadsheet format to ensure all formulae were accessible for review. The Verification Team recalculated subsets of the analyses to confirm correctness and assess if data transposition errors occurred to achieve a reasonable level of assurance and to meet the materiality requirements of the project, as required by Section 5.1.3 of the VCS Standard. The project proponent also provided answers to questions on calculations to ensure the verification team understood the approach and could confirm its consistency with VM0012 and the PD.

An overview of select data and parameters monitored, along with verification team findings, are included in the table below:

Data Unit / Parameter	Accuracy of GHG emission reductions and removals	Whether methods and formulae set out in the PD have been followed	Appropriateness of default values
$\Delta\text{CBSL},\text{P},\text{t}$	Verification team confirmed that Equation 2 was computed correctly by recalculating and checking input values. The value was traced to the quantification of annual change in carbon stocks in all pools in the baseline across the project activity area and, ultimately net GHG emission reductions during the monitoring period.	This parameter was reviewed and re-calculated using methods set forth in the methodology and the PD and confirmed followed.	Not applicable.
$\Delta\text{CBSL},\text{LB},\text{t}$	Confirmed at validation.	This parameter was reviewed and re-calculated using methods set forth in the methodology and the PD and confirmed followed. Annual outputs from LST model confirmed against 5-year outputs approved at validation.	Not applicable.
CF	Confirmed at validation.	Confirmed that value of 0.5 was correctly taken from PD Table 4.	Not applicable. Confirmed at validation
BRESIDUAL,t	Verification team confirmed that Equation 22 was computed correctly by recalculating and checking input values.	The calculation approach as presented in Appendix 2 of the PD was confirmed correctly implemented.	Not applicable.
MLFy	Verification team confirmed that the market leakage factor was determined correctly following Option 1 – VCS Default Market Leakage Discount Factors and Equation 56a.	A PD deviation was presented and approved for this element, please see Section 3.3 of this report.	Not applicable.

$\Delta\text{C}_{\text{PERMHWP1,t}}$	Verification team confirmed that the calculation of harvested carbon was correct following Section 8.1.7 of methodology. It was also confirmed that the derivative parameter values were calculated correctly.	The calculation approach as presented in Appendix 2 of the PD was confirmed correctly implemented.	Not applicable.
$\text{ABSL}_{\text{,i}}$	Areas were confirmed at validation. Verification team ensured that calculations remain unchanged.	Values from the PD were correctly matched for this period.	Not applicable.

The methods and formulae set out in the PD for calculating baseline emissions, project emissions and leakage were followed. A PD deviation not in common with previous verification periods was noted during this project verification, as described in Section 3.3 above.

The total end of the 01 January 2015 to 31 December 2017 reporting/monitoring period carbon stocks in all pools (i.e., above-ground biomass, below-ground biomass, dead wood, and wood products) resulting from carbon stock changes were correctly quantified as 374,020 tCO₂e.

Uncertainty was assessed as required. The verification team recalculated the statistics independently to confirm the accuracy of the reported precision and confirmed that a 1.8% uncertainty risk discount factor was required. Field data collection utilized appropriate principles of forestry data collection, including appropriate tools and methods. Collected data was handled appropriately, including a structured process for QA/QC. Analysis of collected data used appropriate formulae, conversions, and parameters supported by scientific literature. Where ranges of parameters or other types of formulaic uncertainty exist, appropriately conservative values were used in data analysis.

In conclusion, the quantification methods for GHG emission reductions and removals have been performed correctly and in accordance with the validated PD and VM0012.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

During this verification assessment, the evidence provided by the Project Proponent was more than sufficient in both quantity and quality to support the determination of GHG emission removals reported by the project. Throughout the verification, the Project Proponent demonstrated a commitment toward conservativeness and took all measures appropriate to ensure the reliability of evidence provided.

The threshold for materiality with respect to the aggregate of errors, omissions and misrepresentations relative to the total reported GHG emission reductions and/or removals was met for this project as defined in the Verification Sampling Plan. Materiality is a concept that errors, omissions and misrepresentations could affect the GHG reduction assertion and influence the intended users (ISO 14064-3:2006). As defined by VCS Version 3, the materiality will be 5% for this project.

The evidence provided to determine emission reductions reported in the monitoring report included values, notations, units and sources. This evidence has been cross-checked with supplied emission reduction calculation spreadsheets and a GIS dataset. The procedure for data recording, transfer and final transposition was also verified and found to be in compliance with the monitoring plan outlined in the PD. The verification team was able to confirm through cross-checks that adequate monitoring mechanisms are in place where the required parameters need to be monitored.

Interviews conducted (oral evidence) are outlined in Section 2.3 above, and the final documents received from the Project Proponent supporting the determination of GHG removals can be viewed in Appendix A.

4.4 Non-Permanence Risk Analysis

The VCS AFOLU Non-Permanence Risk Tool (19 October 2016, v3.3) was used by the Project Proponent to assess overall project risk. The verification team reviewed the Non-Permanence Risk Report provided with the verification supporting documentation and confirmed the Project adheres to the requirements set out in the VCS AFOLU Non-Permanence Risk Tool. Each risk factor was thoroughly assessed for conformance. Any identified NCR and/or CL findings related to the VCS AFOLU Non-Permanence Risk Tool/Report are presented in Appendix B. The final score was calculated to be 1%. As such, the minimum 10% is utilized. A brief review of each factor is found in the table below:

Risk Factor	Rationale & Quality	Conclusion
Internal Risks		
Project Management	A) The project does not involve operational reforestation, and reforestation within the baseline (and relating to previous management) are based on natural regeneration from on-site native tree sources. A score of 0 was applied for this	A risk rating of -2 is appropriate given the rationale provided, and all statements made are substantiated.

	item. This is appropriate, which is supported by site visit observations. B) No history of illegal activities exists in the region. C) The management team has significant experience conducting forest carbon projects and possesses the skills necessary to successfully undertake all project activities. D) The verification team is reasonably assured that the management team maintains a presence in the country and may be on site within a day of travel..	
Financial Viability	The verification team reviewed the support documentation provided by the Project Proponent and found all calculations and assertions correct. The initial verification confirmed the securing of funding needed to cover the total cash out before the project reaches break even. As cumulative cash flow is still positive the original score remains valid. Breakeven project cash flow breakeven point is less than 4 years from the current risk assessment. Thus, the current monitoring year financial analysis indicates that sufficient funding has been received from previous VCU vintages to cover breakeven costs.	A risk rating of 0 is appropriate given the rationale provided, and all statements made are substantiated.
Opportunity Cost	NPV of the timber harvesting in the baseline scenario is likely between 20% more to 20% less than the returns from carbon in the project scenario, and calculations performed were confirmed correct. The project is protected by a legally binding easement, committing the land owner to continue management practices that protect the credited carbon stocks over the length of the project crediting period. The Rocky Mountain Elk Foundation is the Project Proponent and is a non-profit organization. A mitigation score of -2 was applied.	A risk rating of -10 is appropriate given the rationale provided.
Project Longevity	The project has a legal agreement or requirement to continue the management practice, this criterion is met.	A risk rating of 0 is appropriate given the rationale provided.
Total Internal Risks		0
External Risks		

Land Tenure	The risk report appropriately states, "The risk report states: "The carbon proof of right and right of use are held by ALC and RMEF, while the surface rights are owned by the State of Alaska under a Federal Conservation Easement." Score appropriate.	A risk rating of 0 is appropriate given the rationale provided.
Community Engagement	As no households are located within the project area, this criterion is not applicable. The risk report states that no communities are within 20km of the project. This was confirmed to a reasonable level of assurance through Google Earth imagery review.	A risk rating of 0 is appropriate given the rationale provided.
Political Risk	The average World Governance Indices (WGI) score for the United States, based on the WGI's six governance categories, for 2012-2017 = 1.25.	A risk rating of 0 is appropriate given the rationale provided.
Total External Risks		0
Natural Risks		
Natural Risk	Fire: The risk report states that the risk of fire is major once every 100 years or more. The verification team accessed the "Fire History Map at the Alaska Interagency Coordination Center" and noted that only one fire has been recorded on Afognak since 1939. Thus, the verification team is reasonably assured that a score of 0 for this item is appropriate, given the advanced age of trees on the project area. No mitigation was applied. Pest and Disease: The risk report states that the risk of pest and disease is major every 50-100 years. The ratings are appropriate, given the stand composition (mostly one species), age, and the fact that pest outbreaks are not common in Alaska due to the colder weather (supported by literature). The verification team is reasonably assured that the risk score of 1 is appropriate. No mitigation was applied. Extreme Weather: Changes in Weather Patterns: The risk report states that the risk of extreme weather is insignificant every 50 to 100 years. This is supported by the advanced stand age and site visit observations. The risk score of 0 is appropriate. No mitigation was applied. Geological Risk: The risk report states that	A risk rating of 1 is appropriate given the rationale provided, and all statements made are substantiated.

	the risk of geological events is minor every 100 years or more. The support given relies heavily on the 1964 earthquake and the 1912 Novarupta volcanic eruption. While these two events are massive (the earthquake was the second largest recorded in history, and the volcano was the largest eruption of the 20th century), the average stand age in the project is near 150 years. Thus, the risk factors chosen are appropriate. A score of 0 was appropriately applied.	
Total Natural Risks		1
Overall Risk Rating = 1%³		

The project was eligible for an early buffer release following the VCS Registration and Issuance Process - VCS Version 3 Procedural Document 21 June 2017, v3.8. The verification team confirmed the first monitoring period verification report on the VCS website is dated 20 June 2012, therefore the project is eligible for issuance of 'buffer release' credits for years 01-January-2012 to 31-December-2013. The timeline ensures that the project is eligible for a buffer release.

5 SAFEGUARDS

5.1 No Net Harm

Project is a remote conservation-based project that seeks to retain a fully functional natural ecosystem, there are no material negative environmental impacts from the project. The verification notes that there are potentially some lost economic and employment opportunities for certain regional service providers by eliminating the logging in the baseline scenario, however for the local previous landowners any related impact is mitigated by alternate investment strategies. The verification team witnessed value-based timber extraction activities near the project area and noted that when this resource is exhausted, or market conditions change any expected negative impacts will be ameliorated with the presence of the project.

5.2 Local Stakeholder Consultation

Local stakeholder consultation occurred prior to project area acquisition. No on-going stakeholder discussions are needed for this project as the State of AK holds a conservation easement for the property preventing activities of concern.

³ The project has taken 10% as the Non-Permanence Risk Rating, the lowest allowable following the VCS AFOLU Non-Permanence Risk Report v3.3.

6 VERIFICATION CONCLUSION

After review of all project information, procedures, calculations, and supporting documentation, ESI confirms that the monitoring conducted by the project proponent, along with the supporting Monitoring Report, and Project Description updates are accurate and consistent with all aforementioned VCS Version 3, the originally validated PD, and the selected methodology (VM0012). ESI confirms that the Afognak Forest Carbon Project Monitoring Report (v1.4 dated 21 January 2019) has been implemented in accordance with the original validated PD and the limited PD updates following baseline re-validation.

ESI confirms all verification activities, including objectives, scope and criteria, level of assurance, validated Project Description implementation, and project monitoring report adherence to VCS Version 3 (and all associated updates), as documented in this report are complete. ESI concludes without any qualifications or limiting conditions that Afognak Forest Carbon Project Monitoring Report (v1.4 dated 21 January 2019) meets the requirements of VCS Version 3 (and all associated updates) for the verification period/reporting period (01 January 2015 – 31 December 2017).

The total GHG emission reductions generated by the project in this monitoring period amount to 121,654 tCO₂e in 2015, 93,726 tCO₂e in 2016, and 96,934 tCO₂e in 2017. The GHG assertion provided by Camco International Group, Inc. and verified by ESI has resulted in 288,709 credits eligible for issuance as VCUs, including a buffer release in the amount of 17,509 tCO₂ equivalents for the verification period/reporting period (01 January 2015 – 31 December 2017). The project has applied a 10% buffer withholding of 35,490 tCO₂ equivalents⁴ based on the non-permanence risk assessment tool.

Verification period: From 01 January 2015 to 31 December 2017

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

Year	Baseline emission s or removals (tCO ₂ e)	Project emission s or removals (tCO ₂ e)	Leakage emissio ns (tCO ₂ e)	Net GHG emission reduction s or removals (tCO ₂ e) ⁵	Uncertai nty Risk Discount (tCO ₂ e)	Buffer Allocatio n (tCO ₂ e)	VCUs eligible for issuance
2015	126,869	8,827	14,042	121,654	2,190	12,938	106,526
2016	108,067	9,090	23,431	93,726	1,687	11,077	80,961
2017	111,816	9,351	24,233	96,934	1,745	11,475	101,222 ⁶
Total	346,752	27,268	61,706	312,313	5,622	35,490	288,709

⁴ The Project has taken the minimum Risk Rating following the VCS Non-Permanence Risk Tool v3.3

⁵ Section 8.5.1 of VM0012: "The annual net carbon emissions reductions is the actual net GHG removals by sinks from the project scenario minus the net GHG removals by sinks from the baseline scenario".

⁶ An early buffer release of 17,509 tCO₂e is included in this VCU total

APPENDIX A – DOCUMENTS RECEIVED/REVIEWED

Documents received 20 July 2018

- EGT Afognak material July 20
 - Afognak Spatial Data Summary.docx
 - _Afognak Carbon Model v3.4- Monitoring 2014.xlsx
 - Afognak LST Aug14, 2014.xlsx
 - _Afognak Spatial Data Summary.docx
 - 3GreenTree - Base PSP Plot SOP 2011 v1.0.pdf
 - Afognak - VCS Non-Permanence Risk Report 2012-2013 MR v1.3.pdf
 - Afognak - VCS Project Design Document - 2012 v2.6.pdf
 - Afognak Carbon Model v3.4- Monitoring 2014.xlsx
 - Afognak LST Aug14, 2014.xlsx
 - Afognak Monitoring Report 2006-2011 v1.3 Updated Final.pdf
 - Afognak Monitoring Report 2012-2013 v1.5.pdf
 - Afognak plot data & UF Oct 2014.xlsx
- Project_Boundary
 - project_boundary.shx
 - project_boundary.dbf
 - project_boundary.prj
 - project_boundary.sbn
 - project_boundary.sbx
 - project_boundary.shp
 - project_boundary.shp.xml
- Sample_Plots
 - Plot_locations.shx
 - Plot_locations.dbf
 - Plot_locations.prj
 - Plot_locations.sbn
 - Plot_locations.sbx
 - Plot_locations.shp
 - Plot_locations.shp.xml
- Satellite photos
 - Sattelite AOI.xlsx
 - AOI
 - AfognakAOI_2.shx
 - AfognakAOI_1.dbf
 - AfognakAOI_1.prj
 - AfognakAOI_1.sbn
 - AfognakAOI_1.sbx
 - AfognakAOI_1.shp
 - AfognakAOI_1.shp.xml
 - AfognakAOI_1.shx
 - AfognakAOI_2.dbf
 - AfognakAOI_2.prj
 - AfognakAOI_2.sbn
 - AfognakAOI_2.sbx
 - AfognakAOI_2.shp
 - AfognakAOI_2.shp.xml
 - Area 1
 - 058116362010_01_README.XML
 - 058116362010_01_P001_PSH
 - INTERNAL.TXT
 - 17NOV02213047-S2AS-058116362010_01_P001.IMD
 - 17NOV02213047-S2AS-058116362010_01_P001.RPB
 - 17NOV02213047-S2AS-058116362010_01_P001.TIF

- 17NOV02213047-S2AS-058116362010_01_P001.TIF.aux.xml
- 17NOV02213047-S2AS-058116362010_01_P001.TIF.ovr
- 17NOV02213047-S2AS-058116362010_01_P001.TIL
- 17NOV02213047-S2AS-058116362010_01_P001.XML
- 17NOV02213047-S2AS-058116362010_01_P001_README.TXT
- 17NOV02213047-S2AS-058116362010_01_P001-BROWSE.JPG
- 058116362010_01_P002_PSH
 - INTERNAL.TXT
 - 17OCT22211812-S2AS-058116362010_01_P002.IMD
 - 17OCT22211812-S2AS-058116362010_01_P002.RPB
 - 17OCT22211812-S2AS-058116362010_01_P002.TIF
 - 17OCT22211812-S2AS-058116362010_01_P002.TIF.aux.xml
 - 17OCT22211812-S2AS-058116362010_01_P002.TIF.ovr
 - 17OCT22211812-S2AS-058116362010_01_P002.TIL
 - 17OCT22211812-S2AS-058116362010_01_P002.XML
 - 17OCT22211812-S2AS-058116362010_01_P002_README.TXT
 - 17OCT22211812-S2AS-058116362010_01_P002-BROWSE.JPG
- GIS_FILES
 - 058116362010_01_TILE_SHAPE.shx
 - 17NOV02213047-S2AS-058116362010_01_P001_PIXEL_SHAPE.dbf
 - 17NOV02213047-S2AS-058116362010_01_P001_PIXEL_SHAPE.prj
 - 17NOV02213047-S2AS-058116362010_01_P001_PIXEL_SHAPE.shp
 - 17NOV02213047-S2AS-058116362010_01_P001_PIXEL_SHAPE.shx
 - 17OCT22211812-S2AS-058116362010_01_P002_PIXEL_SHAPE.dbf
 - 17OCT22211812-S2AS-058116362010_01_P002_PIXEL_SHAPE.prj
 - 17OCT22211812-S2AS-058116362010_01_P002_PIXEL_SHAPE.shp
 - 17OCT22211812-S2AS-058116362010_01_P002_PIXEL_SHAPE.shx
 - 058116362010_01_ORDER_SHAPE.dbf
 - 058116362010_01_ORDER_SHAPE.prj
 - 058116362010_01_ORDER_SHAPE.shp
 - 058116362010_01_ORDER_SHAPE.shx
 - 058116362010_01_PRODUCT_SHAPE.dbf
 - 058116362010_01_PRODUCT_SHAPE.prj
 - 058116362010_01_PRODUCT_SHAPE.shp
 - 058116362010_01_PRODUCT_SHAPE.shx
 - 058116362010_01_STRIP_SHAPE.dbf
 - 058116362010_01_STRIP_SHAPE.prj
 - 058116362010_01_STRIP_SHAPE.shp
 - 058116362010_01_STRIP_SHAPE.shx
 - 058116362010_01_TILE_SHAPE.dbf
 - 058116362010_01_TILE_SHAPE.prj
 - 058116362010_01_TILE_SHAPE.shp
- 058116362010_01_LAYOUT.JPG
- 058116362010_01_README.TXT
- Area 2
 -
 - .DS_Store
 - Sattelite AOI.xlsx
 - .DS_Store
 - 058116362010_01_README.TXT
 - Afognak AOI.mxd
 - Project check.mxd

Documents received 17 August 2018

- Afognak_AUs
 - afognak_NP2_Union_Buffers.shp

Documents received 20 August 2018

- Afognak 2015-2017 Monitoring Report v1.0_Draft.docx
- __MACOSX
 - ._Afognak 2015-2017 Monitoring Report v1.0_Draft.docx
 - ._Afognak - VCS Non-Permanence Risk Report 2015-2017 MR v1.0_Draft.doc
- Afognak - VCS Non-Permanence Risk Report 2015-2017 MR v1.0_Draft.doc
- Afognak - VCS Risk Report Calculation Tool, v3.1 2015-2017 MR v1.0_Draft.xls

Documents received 08 October 2018

- 2015-2017 Verification - Auditor Documents
 - __MACOSX
 - Draft versions
 - ._Afognak - VCS Non-Permanence Risk Report 2015-2017 MR v1.0_Draft.doc
 - ._Afognak 2015-2017 Monitoring Report v1.0_Draft.docx
 - ._Afognak - VCS Non-Permanence Risk Report 2015-2017 MR v1.1.pdf
 - ._Afognak 2015-2017 Monitoring Report v1.1.pdf
 - ._Afognak VCS Project Description Document - 2018 v3.0.pdf
 - Draft versions
 - Afognak - VCS Non-Permanence Risk Report 2015-2017 MR v1.0_Draft.doc
 - Afognak - VCS Risk Report Calculation Tool, v3.1 2015-2017 MR v1.0_Draft.xls
 - Afognak 2015-2017 Monitoring Report v1.0_Draft.docx
 - Afognak 2015-2017 Monitoring Report v1.1.pdf
 - Afognak - US WGI Governance Index 2015-2018.xlsx
 - Afognak - VCS Non-Permanence Risk Report 2015-2017 MR v1.1.pdf
 - Afognak - VCS Risk Report Calculation Tool v3.1 2015-2017 MR v1.1.xlsm
 - Afognak Carbon Model v3.5- Monitoring 2018.xlsx
 - Afognak LST Sep, 2018.xlsx
 - Afognak VCS Project Description Document - 2018 v3.0.pdf

Documents received 26 October 2018

- Afognak plot data & UF Oct 2018.xlsx
- Afognak plot data & UF Sep 2018.xlsx
- BC Biomass equations Standish 1985.pdf

Documents received 28 November 2018

- Afognak PDD v3.1
 - Afognak VCS Project Description Document - 2018 v3.0d.docx
 - Afognak VCS Project Description Document - 2018 v3.0d.pdf
 - Afognak VCS Project Description Document - 2018 v3.0d_trackchanges.docx
- Monitoring Report v1.2
 - Afognak 2015-2017 Monitoring Report v1.2.docx
 - Afognak 2015-2017 Monitoring Report v1.2.pdf
 - Afognak 2015-2017 Monitoring Report v1.2_trackchanges.docx
 - Afognak Carbon Model v3.6- Monitoring 2018.xlsx
 - Afognak plot data & UF Sep 2018 v1.1.xlsx
- Risk Reports v1.2
 - Afognak - VCS Non-Permanence Risk Report 2015-2017 MR v1.2.doc
 - Afognak - VCS Non-Permanence Risk Report 2015-2017 MR v1.2.pdf
 - Afognak - VCS Non-Permanence Risk Report 2015-2017 MR v1.2_track changes.doc
 - Afognak - VCS Risk Report Calculation Tool v3.1 2015-2017 MR v1.2.xlsm
- Supporting Reference Documents

- Afognak - US WGI Governance Index 2013-2017 Data.xlsx
- Afognak Financial Modelling_v1.xlsx
- Afognak Use Permitting Email - Nov 19, 2018.docx
- Conformed Quitclaim Deeds_ALC to RMEF_04-22-2016.pdf
- DeedOfPartialRelease_Executed_CIG+ALC+PMEF+APX_4-07-16 VCS_.pdf
- NIR2013-9_DNRRecordersDB.docx
- VCS_Findings_Rd1_Response 1.xlsx

Documents received 13 January 2019

- Afognak PDD v3.1
 - Afognak VCS Project Description Document - 2018 v3.0d.docx
 - Afognak VCS Project Description Document - 2018 v3.0d.pdf
 - Afognak VCS Project Description Document - 2018 v3.0d_trackchanges.docx
- Monitoring Report v.1.3
 - Afognak 2015-2017 Monitoring Report v1.3 track changes.docx
 - Afognak 2015-2017 Monitoring Report v1.3.docx
 - Afognak 2015-2017 Monitoring Report v1.3.pdf
 - Afognak Carbon Model v3.7- Monitoring 2018.xlsx
 - Afognak LST Jan, 2019.xlsx
 - Afognak plot data & UF Sep 2018 v1.1.xlsx
- Risk Reports v1.3
 - Afognak - VCS Non-Permanence Risk Report 2015-2017 MR v1.3.doc
 - Afognak - VCS Non-Permanence Risk Report 2015-2017 MR v1.3.pdf
 - Afognak - VCS Risk Report Calculation Toolv3.1 2015-2017 MR v1.3.xlsm
- Supporting Reference Documents
 - Afognak - US WGI Governance Index 2013-2017 Data.xlsx
 - Afognak Financial Modelling_v1.xlsx
 - Afognak Use Permitting Email - Nov 19, 2018.docx
 - CE-BLM, Waterfall, 2005-12-19.pdf
 - Conformed Quitclaim Deeds_ALC to RMEF_04-22-2016.pdf
 - DeedOfPartialRelease_Executed_CIG+ALC+PMEF+APX_4-07-16 VCS_.pdf
 - Federal CE_9-28-2000.pdf
 - NIR2013-9_DNRRecordersDB (1).docx
 - NIR2013-9_DNRRecordersDB.docx
- VO18025_00_Afognak_verif_VCS_Findings_Rd2_20190108_Response.xlsx

Documents received 21 January 2019

- Monitoring Report v1.4
 - Afognak 2015-2017 Monitoring Report v1.4.docx
 - Afognak 2015-2017 Monitoring Report v1.4.pdf
 - Afognak Carbon Model v3.7- Monitoring 2018.xlsx
 - Afognak LST Jan, 2019.xlsx
 - Afognak plot data & UF Sep 2018 v1.1.xlsx
 - Afognak 2015-2017 Monitoring Report v1.4. track changes.docx
- Supporting Reference Documents
 - Wood density of Canadian Tree species Gonzalez 1990.pdf
- VO18025_00_Afognak_verif_VCS_Findings_Round3_Repsonse.xlsx

Documents received 04 February 2019

- Afognak 2015-2017 Monitoring Report v1.4.docx
- Afognak 2015-2017 Monitoring Report v1.4.pdf

APPENDIX B – NCRS/CL/OFIS

Item Number	1
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Section)	3.8 PROJECT CREDITING PERIOD
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	a) The validity of the original baseline scenario shall be assessed. Such assessment shall include an evaluation of the impact of new relevant national and/or sectoral policies and circumstances on the validity of the baseline scenario.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	PD Section 3.1
ESI Findings	The verification team reviewed the MR Section 3.1, addendum related to the baseline revalidation made in 2018 but was unable to locate the results of the evaluation of the impact of any new policies on the reassessed baseline following this requirement in reporting documentation (revised PD and current MR). The baseline scenario overview in the original PD and the new PD describe an initial 2-year planning delay before the harvesting plan was implemented.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please direct the verification team to discussion of the results of the evaluation of the impact of any new policies on the reassessed baseline following this requirement in reporting documentation.
Round 1 Response from Project Proponent (28 November 2018)	As noted in an email to the audit team on Nov 5, 2018: the baseline revalidation is as described in the AFOLU Requirements 3.1.10, which then references (specifically) the VCS Standard section 3.8.5 (2) d). Finding 1 and 2 are referring to 3.8.5 (2) a) & b). These other sub-bullets are related to renewing a crediting period, not the baseline re-assessment process. So, we propose that finding 1 is not applicable. But, for reference there have been no changes to the primary laws and regulations in Alaska that relate to the project area during this assessment period. See: http://forestry.alaska.gov/forestpractices and for further detail: History of FRPA regulations (on linked page). Note that the Afognak project is in Region 1 for regulatory purposes.
ESI Findings - Round 2	The verification team agrees with the referenced criteria in the response for baseline renewal. We also examined the linked response to the AK Forest Practices history and agree that no new relevant state level policies affect the re-initiated baseline. The item is addressed.

Item Number	2
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Section)	3.8 PROJECT CREDITING PERIOD

VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	b) Where it is determined that the original baseline scenario is still valid, the GHG emissions associated with the original baseline scenario shall be reassessed using the latest version of the CDM Tool to assess the validity of the original/ current baseline and to update the baseline at the renewal of a crediting period.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	PD Section 3.1
ESI Findings	The proponent has demonstrated the original baseline scenario is still valid through MR Section 3.1 where an addendum related to the baseline revalidation made in 2018 was added to the revised PD. It is not clear the CDM Tool to assess the baseline was applied from reporting documentation.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please clarify whether the latest version of the CDM Tool was used to assess the validity of the baseline following this requirement.
Round 1 Response from Project Proponent (28 November 2018)	As noted in an email to the audit team on Nov 5, 2018: the baseline revalidation is as described in the AFOLU Requirements 3.1.10, which then references (specifically) the VCS Standard section 3.8.5 (2) d). Finding 1 and 2 are referring to 3.8.5 (2) a) & b). These other sub-bullets are related to renewing a crediting period, not the baseline re-assessment process. So, we would propose that finding 2 is not applicable
ESI Findings - Round 2	The verification team agrees this criteria is not applicable. No further action is needed. The item is addressed.

Item Number	3
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Section)	3.11 OWNERSHIP AND OTHER PROGRAMS
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	3.11.1 The project description shall be accompanied by one or more of the following types of evidence establishing project ownership accorded to the project proponent(s), or program ownership accorded to the jurisdictional proponent(s), as the case may be (see VCS document Program Definitions for definitions of project ownership and program ownership). To aid the readability of this section, the term project ownership is used below, but should be substituted by the term program ownership, as appropriate:
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	PD Section 1.12.1

ESI Findings	At this reporting period one of the two project proponents was dropped from the PD (newly revised as part of the 10-year baseline re-validation). The American Land Conservancy (ALC) is no longer a project proponent as described in footnote 2 on page 6 of the new PD. The revised PD mentions a Partial Release Representation which was filed with VCS to be removed. The verification team understands that now the Rocky Mountain Elk Foundation (RMEF) is responsible for all elements in the project and has overall control and responsibility for the project. It is not clear whether the ALC retains any responsibilities as a former proponent and whether they remain "Tenants in Common" with RMEF. The verification team understands a change to the project proponent does not constitute a PD deviation following discussions via phone with Verra on 30 Oct. 2018.
Round NCR/CL/OFI (01 November 2018)	1 CL: Please provide the Partial Release Representation to substantiate release of ALC as no longer a project proponent. Please also clarify whether ALC remain a common owner in the property and retain any responsibilities for the project as a former proponent.
Round 1 Response from Project Proponent (28 November 2018)	The Partial Release Representation has been provided, and the Verra/VCS project page now properly reflects RMEF as the only project proponent.
ESI Findings - Round 2	The Deed of Partial Release was provided in response to the finding. It was reviewed and clearly indicates Rocky Mountain Elk Foundation as the "Remaining Registration Representor." The VCS Project Database indicates RMEF is the sole project proponent. The item is addressed.

Item Number	4
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Section)	3.16 MONITORING
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	3.16.3 The project proponent shall establish a GHG information system for obtaining, recording, compiling and analyzing data and information important for quantifying and reporting GHG emissions and/or removals relevant for the project (including leakage) and baseline scenario.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	MR, PD (2018 and original)
ESI Findings	This requirement is met in the current MR monitoring plan and the validated PD monitoring plan. The newly submitted PD monitoring plan appears to be the same as the original validated PD monitoring plan. The monitoring plan in this verification period's MR seems appears to be an update (e.g. "QA/QC for Data Archiving" section), as the PD is being re-freshed it may be appropriate to include these updates in the new 2018 PD. However, the verification team understands that it is appropriate to include the validated monitoring plan in its entirety within the monitoring report, monitoring plan section.

Round 1 NCR/CL/OFI (01 November 2018)	1	CL: Please ensure the entire updated validated monitoring plan is included in reporting for this verification period.
Round 1 Response from Project Proponent (28 November 2018)		The monitoring plan text in the MR has been updated to match the 2018 PD update.
ESI Findings - Round 2		The updated PD and revised MR were reviewed in response to the finding. The verification team was unable to find a specific requirement for including the validated monitoring plan in its entirety in the monitoring report. References to the appropriate PD sections were found and these are deemed to be sufficient in guiding the reader. The item is addressed.

Item Number	5	
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Section)		3.16 MONITORING
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)		3.16.6 The monitoring report describes all the data and information related to the monitoring of GHG emission reductions or removals. The project proponent shall use the VCS Monitoring Report Template and adhere to all instructional text within the template.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)		MR; VCS template
ESI Findings		The correct VCS Monitoring Report template was confirmed used. However, a broken reference was found on page 45 and 52 "Error! Reference source not found"
Round 1 NCR/CL/OFI (01 November 2018)	1	CL: Please fix all instances of broken references in reporting documentation.
Round 1 Response from Project Proponent (28 November 2018)		Corrected in the new documents.
ESI Findings - Round 2		The updated PD was confirmed to not contain any instances of "Error! Reference source not found." However, the MR has broken references on pages 51 and 59.
Round 2 NCR/CL/OFI (08 January 2019)	2	CL: Please ensure all broken references are fixed with the final MR submittal.
Round 2 Response from Project Proponent (10 January 2019)		All broken links have been fixed in the latest version of the MR document.
ESI Findings - Round 3		Broken links were confirmed fixed by the verification team. The item is addressed.

Item Number	6
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VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Section)	3.17 RECORDS AND INFORMATION
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	3.17.1 The project proponent shall ensure that all documents and records are kept in a secure and retrievable manner for at least two years after the end of the project crediting period.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	MR Section 3.3.4
ESI Findings	This requirement appears to be met through language in the monitoring plan but reporting mentions "past the duration of the project" and this requirement states "for at least two years after the end of the project crediting period."
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please ensure reporting language in the monitoring plan satisfies this requirement for record retention duration "for at least two years after the end of the project crediting period."
Round 1 Response from Project Proponent (28 November 2018)	The MR has been updated. See also the response to Finding #23.
ESI Findings - Round 2	QA/QC descriptions within the monitoring plan of the PD were updated to satisfy this requirement and VM0012. The item is addressed.

Item Number	7
VCS AFOLU Requirements 21 June 2017, v3.6 (Section)	4.7 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	* Where the net change in carbon stocks is not a whole number, round the calculated VCU and buffer credit volumes down to the nearest whole number. Where the net change in carbon stocks is a whole number, round the calculated buffer volume up, and the VCU volume down, to the nearest whole number.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Monitoring calc worksheet; MR Section 4.4.2
ESI Findings	The VVB noted in review of the final estimated buffer and VCU calculations and reporting that this decimal guidance was not followed.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please address the findings and correctly compute and report final estimated buffer volumes and VCUs following this requirement.
Round 1 Response from Project Proponent (28 November 2018)	We have added a rounddown function into the buffer contribution and Saleable VCU column of the Afognak Carbon Model v3.6 from 2015 onwards. Years prior to that kept the original function as they were verified as such. These have been updated in version 1.2 of the MR.
ESI Findings - Round 2	The verification team noted that v3.6 of the Afognak Carbon Model worksheet includes correct rounding rules for VCU and Buffer contributions. Further, these values are correctly reported in Table 11 of the MR v1.2. The item is addressed.

Item Number	8
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	8.1.7 Carbon storage in harvested wood products ($\Delta\text{CBSL}, \text{STORHWP}, t$)
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Thus, carbon storage in harvested wood products at time t may be calculated using a cohort approach in which medium-term and long-term wood products from each harvest period h are tracked independently and then summed over the project time period as indicated in equation 23.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Afognak Carbon Model Workbook;
ESI Findings	$\text{CBSL}, \text{MILL}, h, \text{SW_PULP}$ utilizes " $\text{fRND}, h, \text{SW_SAW}$ " and " $\text{rRND}, h, \text{SW_SAW}$ ", when the verification team understands that the "pulp" values of fRND and rRND should be utilized.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please ensure that the correct values for fRND and rRND are utilized in calculating $\text{CBSL}, \text{MILL}, h, \text{SW_PULP}$.
Round 1 Response from Project Proponent (28 November 2018)	The Afognak Carbon Model spreadsheet has been updated so that the formula now references the proper values as indicated. These appear in the new version of spreadsheet (v3.6).
ESI Findings - Round 2	$\text{CBSL}, \text{MILL}, h, \text{SW_PULP}$ is now correctly calculated in the Afognak Carbon Model v3.6. This item is addressed.

Item Number	9
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	8.1.8 Secondary processing of the residue carbon (biomass) generated from primary processing
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Default values are 26.5%, 42.9%, and 30.6%, for fBARK , fCOARSE , and fFINE , respectively (Perlack, Wright, Turhollow, Graham, Stodkes, & Erback, 2005).
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Afognak Carbon Model Workbook;
ESI Findings	The value applied for $\text{fBSL}, \text{FINE}/\text{fPRJ}, \text{COARSE}$ (0.307) does not match that as presented in the methodology (0.306).
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please ensure that the value applied for $\text{fBSL}, \text{FINE}/\text{fPRJ}, \text{COARSE}$ matches that as presented in the methodology. Otherwise, please provide supporting documentation to

	substantiate the value applied.
Round 1 Response from Project Proponent (28 November 2018)	The Afognak Carbon Model spreadsheet has been updated so that the value applied for fBSL,FINE/fPRJ,COARSE (has been set to 0.306). This change appears in the new version of spreadsheet (v3.6). The change was only applied to years after 2014 to maintain consistency with previous versions.
ESI Findings - Round 2	The value applied for fBSL,FINE/fPRJ,COARSE has been updated for this reporting period to the correct value from the methodology. This item is addressed.

Item Number	10
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	8.1.8 Secondary processing of the residue carbon (biomass) generated from primary processing
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	BCOARSE,t and BFINE,t must now be allocated to particular product classes in order to derive estimates of permanence from secondary manufacturing using the 100-year method (Δ CBSL,PERMHWP2,t). See Equation 24. Note: This element sourced from VM0012 v1.1.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Afognak Carbon Model Workbook;
ESI Findings	Because not all values were presented in the previous PDD in a manner that was easily interpreted by the verification team, the verification team had to utilize what values were available from previously validated/verified documentation available to the verification team and confirm through tracing equations. The verification team was unable to follow the calculation of Δ CBSL,PERMHWP2,t. Thus, the verification team was not able to confirm the calculation of Δ CBSL,PERMHWP2,t.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please ensure that the calculation of Δ CBSL,PERMHWP2,t is presented in a way that is easily interpretable and traceable from the methodology.
Round 1 Response from Project Proponent (28 November 2018)	The row headers in rows 35 and 37 (Baseline section) and rows 82 and 84 (Project section) have been relabeled to clarify that the appropriate components of Eq. 24 (Δ CBSL,PERMHWP2,t) have been included. Specifically, the coarse and fine components of Eq. 24 are shown. These have been included in version 3.6 of the spreadsheet.

ESI Findings - Round 2	Version 3.6 of the Afognak carbon modeling spreadsheet clearly presents the calculations of $\Delta\text{CBSL,PERMHWP2,t}$. In the calculation of $\Delta\text{CBSL,PERMHWP2,t}$, the verification team noted that paper was included in BPRJ,RESIDUAL,t up until year 6. From year 7 onward, it is unclear why paper was not included in BPRJ,RESIDUAL,t. $\Delta\text{CBSL,PERMHWP2,t}$ is calculated correctly, pending the finding and request in this row.
Round 2 NCR/CL/OFI (08 January 2019)	CL: Please clarify why paper was included in BPRJ,RESIDUAL,t up until year 6, but then was excluded from year 7 onward.
Round 2 Response from Project Proponent (10 January 2019)	During the 2012-2013 verification the auditor identified the fact that paper should not be included in the calculation of BPRJ,RESIDUAL,t as shown in Eq 22 of the Methodology. The spreadsheet was corrected starting in year 7 and going forward from there. We left the old equation in the previous years as it had gone through the previous verification (2006-2011) as such.
ESI Findings - Round 3	The verification team reviewed the prior verification report "VERIF_REP_872_01JAN2012_TO_31DEC2013.pdf" and confirmed that paper was appropriately omitted from calculations following VM0012 v1.1. The item is addressed.

Item Number	11
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	8.1.8 Fossil fuel emissions associated with logging, transport, and manufacture
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	The annual change in fossil fuel emissions from harvesting and processing of the various wood products ($\Delta\text{CBSL,EMITFOSSIL,t}$) are calculated as: $\text{CBSL,EMITFOSSIL,t} = \text{CBSL,EMITHARVEST,t} + \text{CBSL,EMITMANUFACTURE,t} + \text{CBSL,EMITTRANSPORT,t}$
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Afognak Carbon Model Workbook;
ESI Findings	Because not all values were presented in the previous PDD in a manner that was easily interpreted by the verification team, the verification team had to utilize what values were available from previously validated/verified documentation available to the verification team and confirm through tracing equations. It is unclear to the verification team why emissions from paper manufacturing are not included in emissions calculations.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please clarify why emissions from paper manufacturing are not included in emissions calculations.

Round 1 Response from Project Proponent (28 November 2018)	Emissions associated with paper were excluded from calculation as Pingoud and Lehtila (2002), the source of the parameters, reports that most of the energy used for pulping and paper production comes from the burning of black liquor byproducts of wood processing. Thus, paper production is conservatively assumed to be neutral from an emissions standpoint.
ESI Findings - Round 2	The verification team reviewed the VM0012 methodology and noted that Table 4 reports the carbon emission intensity factor for paper as zero. As such, it is the opinion of the verification team that paper emissions are ignored appropriately. This item is addressed.

Item Number	12
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	8.2.9 Harvested Wood Products
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	The annual change in emissions associated with the production of harvested wood products (HWP), $\Delta\text{CBSI}_{\text{HWP},t}$, is calculated as: $\Delta\text{CPRJ}_{\text{HWP},t} = \Delta\text{CPRJ}_{\text{STORHWP},t} - \Delta\text{CPRJ}_{\text{EMITFOSSIL},t}$,
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Afognak VCS Project Description Document - 2018 v3.0.pdf;
ESI Findings	Table 4 of the 2018 PDD reports harvest volumes one year off.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please ensure that Table 4 of the PDD accurately reports baseline harvest volumes.
Round 1 Response from Project Proponent (28 November 2018)	Table 4 of the 2018 PDD has been corrected to fix the error identified by the auditors.
ESI Findings - Round 2	Table 4 of the PDD now correctly reports harvest volumes. This item is addressed.

Item Number	13
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	8.3.4 Market Leakage Option 2 – CAR Market Leakage Formula
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	The CAR leakage formula is calculated as per the latest approved CAR Forest Protocol. The currently approved calculation is provided Figure 1, which is to be replaced by the most up to date approved CAR method as required:

Evidence Used to Assess (Location in PD/MR or Supporting Documents)	MR Sections 2.2.1, 2.2.2, and 3.3.2; Afognak LST Jan, 2019.xlsx; Afognak Carbon Model v3.7- Monitoring 2018.xlsx
ESI Findings	CAR has released v4.0 of their Forest Project Protocol, which includes an updated SE equation. This equation was not utilized, even though the PD is being revalidated with the updated baseline.
Round 1 NCR/CL/OFI (01 November 2018)	1 CL: Please ensure that the SE equation utilizes the most recent CAR Forest Project Protocol SE equation, per the requirement.
Round 1 Response from Project Proponent (28 November 2018)	The project team has discussed this with Verra/VCS and the methodology developer (3GreenTree) has submitted an errata/clarification for VM0012 that will return the reference to CAR v.3 or directly to Table 1 in VM0012, which is consistent with the current Afognak PD and MR's. Submitted Nov. 27, 2018. We will update this finding once a response is received from Verra/VCS.
ESI Findings - Round 2	The verification team understands that a market leakage method was chosen from VM0012 using a VCS method which is allowable and no errata or clarification was received from VCS. Please see review under section 8.3.3. Please refer to the Round 3 finding where the VCS market leakage method is reviewed under this criteria.
Round 2 NCR/CL/OFI (08 January 2019)	2
Round 2 Response from Project Proponent (10 January 2019)	
ESI Findings - Round 3	The criteria is now reviewed under Option 1 for market leakage in VM0012 as the project has elected to switch from the CAR method (Option 2) to the VCS method (Option 1) as a result of the 10-year baseline re-validation and subsequently triggering a PD deviation. This is applicable for project years 2016-2017 as the 2015 project year falls under the original validation baseline for the 10-year period which began with the start date. Updated reporting and calculations files were provided. VCS AFOLU Requirements v3.6 were used by the proponent in line with requirements under VM0012 Option 1. The following items were raised by the verification team: -Section 3.3.2 of the MR states that a detailed explanation was included in spreadsheets, the verification team notes that insufficient detail was provided to understand assumptions of the methods applied, further this reporting detail is needed within the MR to clarify the PD deviation justification following Section 3.6 of the VCS Standard -parameter MLFy is missing from MR Section 3.2
Round 3 NCR /CL/OFI (18 January 2019)	3 CL: Please address the findings and describe the details associated for market leakage determination as required for a PD deviation in addition to reporting the parameter MLFy in MR Section 3.2.

Round 3 Response from Project Proponent (21 January 2019)	Substantial detail was added to the MR (v1.4) and comments were added to the supporting Excel files to address the concerns raised by the auditors. Specifically, a detailed description of the VCS leakage discount method including the selection of the leakage area and an overview of data sources and other assumptions was added to Section 3.3.2 of the MR. In addition, the MLFy parameter was added to Table 2 in Section 3.2 with considerable detail describing data sources and calculations. Lastly, the references to supporting spreadsheets and tabs relevant for the market leakage factor calculations were added to Appendix 1. Comments were also added to the headers of the relevant columns in the supporting spreadsheets to clarify how each value is used and the sources of the data.
Final ESI Findings	Verifiers examined additional detail provided within MR v.1.4 and confirm that it provides appropriate detail needed to clarify the approach taken for the PD deviation for market leakage. Further, verifiers confirmed that MLFy is appropriately included in MR Section 3.2. Lastly, verifiers examined related supporting excel files and confirm that the provided approach is sound. The item has been addressed.

Item Number	14
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	8.5 Summary Gross Emissions Reductions and/or Removals Equation
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Gross carbon emissions reductions (ER _{y,gross} ; t CO ₂ e yr ⁻¹) created by the carbon project are calculated annually as the difference between the baseline and project scenario net emission reductions/emissions (See Equation 57):
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Afognak Carbon Model v3.5- Monitoring 2018.xlsx
ESI Findings	The verification team reviewed the monitoring calculation worksheet and noted that the CF factor applied throughout is 3.67 instead of 44/12.
Round 1 NCR/CL/OFI (01 November 2018)	1 CL: Please address the findings and ensure all calculations utilize the correct carbon factor as prescribed by VM0012.
Round 1 Response from Project Proponent (28 November 2018)	The 3.67 conversion factor has been replaced with 44/12 as required. The updated formulas are included in the new version of the spreadsheet (v.3.6). The change was only applied to years after 2014 to maintain consistency with previous versions.
ESI Findings - Round 2	The verification team reviewed the updated Afognak Carbon Model workbook (v3.6) and noted that the use of 3.67 has been updated to 44/12 from 2015 onward for some instances, per the methodology. However, some instances of 3.67 still remain, such as "Net Project Scenario Emissions (tCO ₂ e/y)" in the "Annualized HWP Carbon Model" tab and the "Ann. Summary Tables & Figs" tab.

Round 2 NCR/CL/OFI (08 January 2019)	2	CL: Please address the findings and ensure all calculations utilize the correct carbon factor as prescribed by VM0012.
Round 2 Response from Project Proponent (10 January 2019)		The cases in which the 3.67 conversion factor had not been replaced with 44/12 have been fixed. There should be no other occurrences of the 3.67 multiplier other than in years prior to 2015 in the 'Ann. Summary Tables and Figs' tab and in years prior to year 10 (2015) in the 'Annualized HWP Carbon Model' tab. The updated formulas are included in the new version of the spreadsheet (v.3.7). All affected tables in the latest version of the MR have been updated.
ESI Findings - Round 3		The verification team reviewed revised calculations and confirmed that conversion factors are applied according to baseline validation date, i.e. 3.67 is applied prior to baseline re-validation (year 11) where the proper conversion factor is applied as 44/12 for year 2016 onward. It is currently applied to 2015 incorrectly.
Round 3 NCR/CL/OFI (18 January 2019)	3	CL: Please address the findings and ensure all calculations utilize the correct carbon factor as prescribed by VM0012.
Round 3 Response from Project Proponent (21 January 2019)		After a phone discussion with the audit team (including Shawn M. and Matthew P.) it was determined that the use of 44/12 in 2015 was in fact correct. This is because the use of 3.67 was a mistake that should be corrected in all ongoing verification years and that it was not restricted to the years affected by the recent baseline update. It was agreed that this finding would be dropped.
Final ESI Findings		Verifiers confirm that the use of 44/12 is appropriate for all years in the current verification. The item has been addressed.

Item Number	15
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	8.5.2 Calculating Verified Carbon Units (VCU's) for the Project
VCS Standard Version 3 Requirements Document 21 June 2017, v3.7 (Description)	The number of VCU's the project available for issuance and sale in year, y (VCU _y ; t CO ₂ e yr ⁻¹), is calculated as: $VCU_y = E_{Ry} \cdot (1 - E_{Ry,ERR}) - B_{ry}$
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Afognak Carbon Model Workbook;
ESI Findings	The verification team reviewed the calculation of VCUs in Equation (59) of the methodology. It does not currently appear that the project's calculations are following this method, as the buffer contribution is not calculated in the same manner as presented in the equation as presented methodology.
Round 1 NCR/CL/OFI (01 November 2018)	1 CL: Please ensure that the calculations of VCUs (Equation 59) is appropriately conducted.

Round 1 Response from Project Proponent (28 November 2018)	The formula represented in Column BK of the 'Annn. Summary Tables & Figs' sheet of the Afognak Carbon Model spreadsheet represents both Eqs. 58 and 59 from the Methodology. The resulting value for Saleable VCUs (Column BK) is the same whether the equations are calculated together or separately.
ESI Findings - Round 2	The verification team reviewed the response and the calculations of VCUs. The added clarity assisted the verification team in confirming that Equation 59 is correctly implemented. The item is addressed.

Item Number	16
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	8.5.3 Calculation of an Uncertainty Factor
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Step 1 – Calculate the average percent model error (EM) for the project based on the average area-weighted difference between measured values in monitored plot observations and model-predicted values using Equations 60a,b
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Afognak plot data and UF file
ESI Findings	Verifiers examined the computation of Em and noted that the computation uses an incorrect computation of y,d,h,i.
Round NCR/CL/OFI (01 November 2018)	1 CL: Please address the findings and update computation accordingly.
Round 1 Response from Project Proponent (28 November 2018)	The terms in Eq. 60b in v1.2 of the methodology were reversed in error. This has been identified in a published errata. Thus, the formula is actually correct. The errata document will be made available to the audit team.
ESI Findings - Round 2	Verifiers confirmed that this has been updated in the errata and appropriately computed. The item has been addressed.

Item Number	17
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	8.5.3 Calculation of an Uncertainty Factor
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Step 2 – Calculate the inventory error (EI) at a 90% confidence interval expressed as a percentage of the mean area-weighted inventory estimate from the measured plots.

Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Afognak plot data and UF file
ESI Findings	Verifiers reviewed the computation Ei and noted that an incorrect value was used for the 90% confidence interval t-value.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please use the same methods for determination of the 90% CI as validated in the original PD.
Round 1 Response from Project Proponent (28 November 2018)	We had assumed that the Excel confidence function would use the same t-value. However, it appears to be a little different. Accordingly we have updated the equation to use the t-value specified in the PD and methodology. All resulting values have been updated.
ESI Findings - Round 2	Verifiers confirmed that the project now uses the correctly required t-value for computation of the Ei. The item has been addressed.

Item Number	18
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	9.3.2 Monitoring Annual Spatial Inventory Changes
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Projects will undertake remote and ground-based monitoring (for example: satellite and aerial photography, aerial observation, ground observation, aerial and ground-based GPS mapping, etc.) to identify and update inventory data for:
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	MR Section 3.3.1, 6.3; Appendix 3
ESI Findings	A visual inspection was performed of the project area using WorldView 50cm resolution imagery dated Oct. and Nov. 2017. The verification team independently confirmed no disturbance using imagery supplied by the proponents. The methodology doesn't prescribe specific remote sensing change detection methods, a visual inspection is allowable. Section 3.3.1 of the MR states that a "permitting activity log compiled by the State of Alaska indicates there have been no other activities material to carbon stocks in the project area during the monitoring period." The verification team requests this evidence, if available, to help support assertions of no activities during the monitoring period.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please provide the State of Alaska permitting log as noted in the finding to substantiate the lack of activities which may affect carbon stocks during the monitoring period.
Round 1 Response from Project Proponent (28 November 2018)	The use permitting updated was provided via email by Dan Beutel, Permits & Special Projects, Alaska State Parks & Outdoor Recreation on Nov 19th, 2018. A copy of that email has been provided. No permits related to biomass removal were noted for the project area.

ESI Findings - Round 2	The email from Dan Beutel was confirmed to clarify that no permits for tree removal were granted at Afognak. This evidence, in addition to imagery review indicates that required monitoring was carried out in order to update the inventory. The verification team is reasonably assured that no disturbances took place during the monitoring period. The item is addressed.
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Item Number	19
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	9.3.2 Monitoring Annual Spatial Inventory Changes
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	a. Natural disturbance events > 4ha (i.e. fires, pest & disease outbreaks, slides and other disturbances;
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	MR Section 6.3; Appendix 3; imagery
ESI Findings	This element independently checked using supplied imagery and confirmed. The MR Section 3.3.1 states "No material new areas of timber blowdown were evident in recent high-resolution satellite imagery" Clarification is requested for additional detail on the concept of material as relates to this requirement.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please clarify the quoted statement in the finding as related to this requirement. Please also describe the characteristics of blowdown events which were not included in reporting.
Round 1 Response from Project Proponent (28 November 2018)	Section 3.3.1 has been modified to better describe the visual assessment of blowdown and the characteristics of blowdown event that were not included in reporting.
ESI Findings - Round 2	The verification team reviewed the newly added language regarding blowdown characteristics in section 3.3.1 of the MR. The descriptions are now consistent with observations by the verification team on-site and imagery review. The verification team agrees with the threshold of 0.5ha for blowdown detection and cataloguing given the site characteristics. The item is addressed.

Item Number	20
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	Size and Shape of Sample Plots

VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Plot shape and size can be determined by the project proponent based on local common practice and the most suitable methods for the project conditions, so long as the procedures are fully documented in project SOP's and the results provide verifiable statistical sampling as required by this methodology.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	PD, MR
ESI Findings	The sampling design remains unchanged from the initial validation, in summer 2018 the permanently demarcated plots were re-inventoried. The verification team observed that tree measurements during the 2018 re-inventory effort were measured using imperial instruments, and understood that the inventory SOPs specify metric instruments.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please clarify the projects' inventory SOPs and inventory implementation with regard to imperial and metric.
Round 1 Response from Project Proponent (28 November 2018)	The project documentation, including the inventory SOP's have been written with metric units. However, the methodology/PD/SOP documents do not restrict, nor was intended to restrict measurement to metric as known conversions obviously exist. In the 2018 re-measurement, imperial unit field equipment was used to collect data. These data were then converted to metric within the plot data and carbon modeling spreadsheets using common conversions as shown within the relevant spreadsheet cells.
ESI Findings - Round 2	Verifiers confirm that the approach used was acceptable. However table 3.2 Data and Parameters Monitored of the monitoring report states that DBH and Ht are measured in CM/M, respectively.
Round 2 NCR/CL/OFI (08 January 2019)	CL: Please ensure table 3.2 in the monitoring report correctly identifies calculation method used to get to the final data unit for the current inventory.
Round 2 Response from Project Proponent (10 January 2019)	Table 3.2 has been updated accordingly in the latest version of the MR.
ESI Findings - Round 3	For parameters DBH and Ht. the calculation method is now reported appropriately, "Measurements were taken in inches using Imperial-based equipment. Inches were converted to centimeters by multiplying by 2.54; 1 ft = 0.3048 m." The item is addressed.

Item Number	21
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	Measurement and Data Analysis Techniques
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Therefore, tree biomass should be estimated from allometric biomass equations that predict aboveground biomass from mathematical relationships between DBH and/or height and species.

Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Afognak plot data and UF file
ESI Findings	The verification team examined tree level carbon computations and noted a discrepancy in standing total carbon. It was found to be incorrectly computed for tree #504 in plot 101. The verification team notes associated plot level carbon stock estimates are impacted.
Round 1 NCR/CL/OFI (01 November 2018)	CL: It is unclear how the computation of plot and tree level carbon are appropriate, please clarify or modify appropriately.
Round 1 Response from Project Proponent (28 November 2018)	We went back to the original field data and noticed the the field crew had made a typo when entering the tree code (which determines whether the tree is live or dead) when entering data for tree #504. The tree code was intended to be '1' which indicates a healthy live tree. The tree code has been updated accordingly and the biomass is now correctly calculated. All dependent calculations have been updated. The updated plot data file is entitled 'Afognak plot data & UF Sep v1.1.xlsx'.
ESI Findings - Round 2	Verifiers confirmed that the change had been appropriately made. Further, verifiers confirmed all subsequent computation. The item has been addressed.

Item Number	22
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	Dead Organic Matter
VCS Standard Version 3 VCS Requirements Document 21 June 2017, v3.7 (Description)	<u>DOMLDW = Σ MLDW,c - Equation 60c</u>
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Afognak plot data and UF file
ESI Findings	The verification team reviewed and independently computed lying dead organic matter carbon estimates. Values reported in the uncertainty factor calculation tab and summary tab reflect a count instead of the appropriate implementation of the equation. The verification team notes that this calculation impacts uncertainty calculations elsewhere.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please address the findings and correct the noted discrepancy. Please ensure all derivative elements are updated correctly to reflect any changes.
Round 1 Response from Project Proponent (28 November 2018)	The pivot table calculation for CWD has been updated to correctly report the sum of CWD from sample period 2. All dependent calculations have been updated accordingly. The updated plot data file is entitled 'Afognak plot data & UF Sep v1.1.xlsx'.

ESI Findings - Round 2	The verification reviewed the newly submitted file and confirmed that CWD was now appropriately computed in the summary and related uncertainty tabs. The item has been addressed.
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Item Number	23
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Section)	9.3.6 Quality Assurance/Quality Control (QA/QC) Methods
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	The project will provide data archiving SOPs which provide procedures for securely retaining and maintaining the following records for each monitoring period for 2 years past the duration of the project:
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Afognak PD section 4.3.4
ESI Findings	While the PD exactly reflects the language in the methodology, it does not state specifics such as where or how the data is archived. For example, while both original and electronic forms of the measurement, check plots, laboratory data and related data are maintained, are they kept in separate locations (e.g. electronic data in the cloud) to reduce loss from a disaster such as fire?
Round 1 NCR/CL/OFI (01 November 2018)	1 CL: Please provide greater detail/specifics in the PD regarding where and how the data is archived to ensure effectiveness of the procedures.
Round 1 Response from Project Proponent (28 November 2018)	Data collected is all in electronic form and is archived under Camco's Dropbox account and stored on the cloud to ensure protection against physical loss. The account will be maintained at least 2 years after the duration of the project. Access to Camco's Dropbox account is restricted to Camco employees.
ESI Findings - Round 2	The description is sufficient to address the detail needed on data management. As this is a verification and the PD has already been validated, this item is closed.

Item Number	24
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 2 Financial Viability
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Project cash flow breakeven point is less than 4 years from the current risk assessment

Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Non-Permanence Risk Report; Non-Permanence Risk Report Calculation Spreadsheet;
ESI Findings	The risk report states: "The project has achieved breakeven, with sales from previously issued credits exceeding the project costs to date. Therefore the project has selected item d) with a cashflow breakeven point less than 4 years. See tab "Financial Viability" in the Afognak Financial Model file for calculations." A risk score of 0 was applied for this item. However, the verification team could not locate the Afognak Financial Model in the project files provided to confirm this item.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please provide the Afognak Financial Model file. In doing so, please provide the project cash flow breakeven calculations.
Round 1 Response from Project Proponent (28 November 2018)	The Afognak Financial Model was inadvertently excluded in previous materials. It has been provided with the updated materials.
ESI Findings - Round 2	The verification team reviewed the Afognak financial model spreadsheet, and is reasonably assured that the project cash flow breakeven point is less than 4 years from the current risk assessment. A risk score of 0 is appropriate. This item is addressed.

Item Number	25
VCS AFOLU Non- Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 2 Financial Viability
VCS Standard Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Non-Permanence Risk Report; Non-Permanence Risk Report Calculation Spreadsheet;
ESI Findings	The risk report states: "The project has secured all of the necessary funding to cover the total cash required until breakeven, and therefore the project selects risk rating h)." A score of 0 was applied for this item. The verification team was unable to locate supporting documentation, however, to support a risk score of 0 for this item.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please provide documentation that supports that the project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven.
Round 1 Response from Project Proponent (28 November 2018)	The Afognak Financial Model was inadvertently excluded in previous materials. It has been provided with the updated materials.

ESI Findings - Round 2	The verification team reviewed the Afognak financial model spreadsheet, and is reasonably assured that the project cash flow breakeven point is less than 4 years from the current risk assessment. The breakeven has already occurred. A risk score of 0 is appropriate. This item is addressed.
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Item Number	26
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 3 Opportunity Cost
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Mitigation: Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over at least 100 years
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Non-Permanence Risk Report; Non-Permanence Risk Report Calculation Spreadsheet;
ESI Findings	The risk report states: "The Afognak project area is protected by a legally binding perpetual Federal Conservation Easement over 100 years, so the project has applied the risk mitigation rating "i"." A mitigation score of -8 was applied here. The verification team does not currently possess the Federal Conservation Easement.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please provide the Federal Conservation Easement that supports the continuation of management practices that protect the credited carbon stocks over at least 100 years.
Round 1 Response from Project Proponent (28 November 2018)	The Conservation Easement documentation has been provided.
ESI Findings - Round 2	The verification team could not locate the Conservation Easement documentation in the project documentation provided in response to the first round of findings and requests.
Round 2 NCR/CL/OFI (08 January 2019)	CL: Please provide the Conservation Easement documentation. Please ensure that the documentation provided is transparent and verifiable. Please ensure that the documentation provided is traceable, with dates, grantees and grantors, and tracts verifiable.

Item Number	27
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 8: Political Risk

VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Table 8: Political Risk
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	Non-Permanence Risk Report; Non-Permanence Risk Report Calculation Spreadsheet; Afognak - US WGI Governance Index 2015-2018.xlsx;
ESI Findings	The VCS AFOLU Non-Permanence Risk Tool v3.3 states that the WGI must be averaged over the most recent five years of available data. The current WGI calculations file (Afognak - US WGI Governance Index 2015-2018.xlsx) utilizes data from 2012-2016. However, there is 2017 data available on the WGI website. Further, the risk report states that data from 2008-2012 was utilized.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please ensure that the five most recent years of WGI data are used while calculating political risk. Please also ensure that the risk report accurately reports the data utilized.
Round 1 Response from Project Proponent (28 November 2018)	The Conservation Easement documentation has been provided.
ESI Findings - Round 2	The verification team could not locate the Conservation Easement documentation in the project documentation provided in response to the first round of findings and requests.
Round 2 NCR/CL/OFI (08 January 2019)	CL: Please provide the Conservation Easement documentation. Please ensure that the documentation provided is transparent and verifiable. Please ensure that the documentation provided is traceable, with dates, grantees and grantors, and tracts verifiable.
Round 2 Response from Project Proponent (10 January 2019)	The detailed Conservation Easement documentation has been provided as requested.
ESI Findings - Round 3	The verification team confirmed through review of the Federal Conservation Easement, that the conservation easement is still valid and remained in full force and effect as of 31 January 2017. This conservation easement continued to be in place, and they were constitute "a legally binding agreement that covers at least a 100 year period from the project start date". The item is addressed.

Item Number	28
VCS Registration and Issuance Process - VCS Version 3 Procedural Document 21 June 2017, v3.8 (Section)	6.2.2
VCS Standard VCS Version 3 Requirements Document 21 June 2017, v3.7 (Description)	Release of buffer credits may only occur where a verification report (submitted to request VCU issuance) was issued at least five years after the issuance date of the verification report previously submitted to request VCU issuance.
Evidence Used to Assess (Location in PD/MR or Supporting Documents)	MR Section 4.4.2; monitoring calc worksheet

ESI Findings	Section 4.4.2 of the MR includes a buffer release for the year 2017. The verification team understands the first monitoring period verification report on the VCS website dated 21 November 2014 for issuance of credits for years 01-January-2012 to 31-December-2013. The timeline suggests that the project is not yet eligible for a buffer release following these rules.
Round 1 NCR/CL/OFI (01 November 2018)	CL: Please address the findings and clarify the project's eligibility of buffer release credits.
Round 1 Response from Project Proponent (28 November 2018)	The first verification report (2012) had not been posted on the VCS website due to an oversight by VCS. VCS was contacted and has indicated that the report will be posted. A copy of the 2012 Verification report has been made available to the audit team. In conclusion, the 2017 buffer release will remain in the calculation of VCUs.
ESI Findings - Round 2	The verification team confirmed that the first verification report is dated 20 June 2012 as indicated by guidance from VCS. This allows the project to meet the timeline rules for an early buffer release as allowed by the VCS Registration and Issuance Process document v3.8. The item is addressed.