Verification Report

CAR1624 – Nitric Acid
Reporting Period 4: October 2, 2023 – July 9, 2024

Prepared for:

Ascend Performance Materials Operations LLC

January 16, 2025

TÜV SÜD America, Inc.
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1.0 Introduction

TÜV SÜD America, Inc. (TÜV SÜD) was contracted by Ascend Performance Materials Operations LLC (Ascend) to perform the verification of the Nitric Acid project (Project) for the reporting period October 2, 2023 through July 9, 2024 to the Climate Action Reserve (Reserve) Nitric Acid Production Project Protocol Version 2.2 (Protocol). The Project involves GHG emission reductions from the destruction of nitrous oxide (N_2O).

1.1 Project Background & Site Description

The Project activity consists of the installation and operation of a secondary abatement catalyst at an existing nitric acid plant in Cantonment, FL. As part of the Project, a secondary catalyst was placed in the ammonia oxidation reactor (AOR), immediately downstream of the ammonia oxidation catalyst, catalytically reducing the nitrous oxide (N_2O) that would have otherwise been vented to the atmosphere. The Project is located at Ascend Performance Materials' facility, which is situated on a larger chemical production facility. The nitric acid from Ascend's facility is used on site for the manufacture of adipic acid.

This is the verification of the fourth reporting period for the Project within its first crediting period starting on May 5, 2022 and ending on May 4, 2032. The reporting period includes two campaigns: Campaign 5 October 2, 2023 through February 26, 2024 and Campaign 6 February 27, 2024 through July 9, 2024.

1.2 Responsible Parties

Project Developer
Ascend Performance Materials Operations LLC
1010 Travis St., Ste. 900
Houston, TX 77002

Plant Operator
Ascend Performance Materials Operations LLC
3000 Old Chemstrand Rd.
Cantonment, FL 32533

1.3 Verification Team

The TÜV SÜD verification team consisted of the following individuals who were selected based upon verification experience under the Reserve's program and knowledge of U.S. EPA regulations and the nitric acid plant sector.

Lead Verifier: Garrett Heidrick
Team Members: Nina Pinette
Senior Internal Reviewer: Phillip Cunningham

1.4 Objectives

The goal of the verification activities was to ensure that the claimed GHG emission reductions are complete, consistent, accurate, transparent, and permanent and that the Project was in compliance with the Protocol's project additionality, monitoring, and reporting requirements. Furthermore, the verification activities ensure that the data provided to TÜV SÜD is well documented and free of any

material errors or omissions.

1.5 Scope

The scope of the verification consisted of the following independent and objective activities:

- Review the Project Monitoring Plan,
- Review Project boundaries,
- Review Project eligibility,
- Review Project data acquisition and quality control procedures,
- Perform a site visit to the facility, if necessary,
- Review the Project's baseline emissions data,
- Review the Project's emission reduction calculations,
- Review Project documents and data against the Verification Criteria listed in Table 1,
- Issue requests for corrective actions, non-material findings, additional documentation, and clarifications, as necessary, and
- Issue a Verification Report, List of Findings, and Verification Statement to Ascend and the Reserve.

1.6 Verification Criteria

The Project was verified to the criteria shown in Table 1.

Table 1 - Verification Criteria

Criteria	Details
Standard of Verification	• Nitric Acid Production Project Protocol Version 2.2 (April 18, 2019) (Protocol) • Verification Program Manual (February 2021) • Reserve Offset Program Manual Version 9.2 (April 2024) • Policy Memo: Use of Global Warming Potential Values for All Offset Protocols (July 13, 2022)
Verification Process	The Reserve Verification Program Manual and ISO 14064-3:2019 "Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas statements"
Level of Assurance	Reasonable assurance
Materiality	99% materiality threshold (<1% error) because total annual ERs are > 100,000 tCO_2e.

2.0 Verification Activities Summary

TÜV SÜD developed a verification evidence gathering plan to be followed throughout the verification. The verification evidence gathering plan consisted of the following activities:

- TÜV SÜD completed the Project NOVA/COI form to identify any potential conflicts of interest with the Project or Project developer. The NOVA/COI form was submitted to the Reserve's online registry, and the COI assessment revealed no conflicts of interest and was approved by the Reserve on July 24, 2024.
- TÜV SÜD held a verification kickoff meeting with Ascend on September 20, 2024. During the kickoff meeting TÜV SÜD reviewed the verification objectives and process, the verification

schedule, and requested the verification background documents.

- TÜV SÜD performed a strategic review and risk assessment of the received data and support documents to understand the scope and areas of potential risk in the GHG emissions reductions.
- TÜV SÜD developed a risk-based sampling plan based upon the strategic review and risk assessment. The verification evidence gathering plan and sampling plan were used throughout the verification and were revised as needed based upon additional risk assessments.
- TÜV SÜD conducted a site visit to the Project on January 4, 2024 for the verification of reporting period 3. During the site visit TÜV SÜD inspected the continuous emission monitoring system (CEMS) equipment; observed the onsite GHG management systems and data gathering, monitoring and handling practices; and interviewed key personnel.
- TÜV SÜD conducted a detailed desktop review of submitted material including evidence of regulatory compliance, documentation of ongoing QA/QC procedures, source data, and emission reduction calculations.
- TÜV SÜD submitted requests for corrective actions, non-material findings, additional documentation, and clarifications, as necessary to Ascend throughout the verification.
- TÜV SÜD's Senior Internal Reviewer conducted a review of the verification sampling, Verification Report, and Verification Statement.
- TÜV SÜD issued a final Verification Report, Verification Statement, and List of Findings.
- TÜV SÜD held an exit meeting with Ascend.

3.0 Verification Findings

3.1 Assessment of the GHG Reduction Project Operations

The Project currently destroys N_2O from a nitric acid plant (NAP) via a secondary abatement catalyst located within the AOR, immediately downstream of the ammonia oxidation catalyst. The N_2O emissions per unit of nitric acid production were measured during the baseline campaign using only a primary catalyst in the ammonia oxidation process. The monitoring procedure was repeated in the project campaigns after the secondary abatement catalyst was installed in October 2023 and February 2024. TÜV SÜD confirmed that the plant did not use NSCR technology for NOx abatement at any point within 24 months prior to the effective date of the Protocol.

The flue gas flow rates and N_2O concentrations are monitored continuously using a CEMS. The process control system monitors process temperature, pressure and ammonia-to-air ratio on a continuous basis and records the data multiple times each hour in the process data historian, meeting Protocol requirements. Nitric acid production, as required by the Protocol, is measured and recorded on a daily basis by the CEMS. TÜV SÜD verified that the Project Monitoring Plan and its implementation upholds the monitoring criteria and monitoring frequency as specified in Table 6.1 of the Protocol.

During the verification of the first reporting period, TÜV SÜD verified that all CEMS installation and certification requirements were met and that all historical and baseline parameters were measured and calculated correctly as part of the verification of this first reporting period. TÜV SÜD reviewed calibration records and accuracy testing of the project monitoring equipment and verified the data management systems in place at the Ascend facility.

TÜV SÜD also reviewed company records of NAP operation, maintenance, and downtime and verified that the CEMS monitoring reports that Ascend provided were used as the raw data for the GHG assertion.

3.2 GHG Project Boundary (sources, sinks and/or reservoirs)

According to the Protocol, nitric acid production is the only SSR included in the Baseline and Project scenarios for secondary abatement projects, and, as such, N_2O is the only GHG included in the Baseline and Project activities.

3.3 Project Eligibility Criteria

The Protocol specifies five eligibility rules that GHG Project developers must meet to register reductions with the Reserve. Below is a summary of the Protocol's eligibility rules and the Project's compliance to each requirement.

- **Eligibility Rule I: Location**

  The Project is located at a nitric acid production facility in Cantonment, FL, USA. The Project therefore meets the location eligibility requirement.

- **Eligibility Rule II: Project Start Date**

  TÜV SÜD confirmed the project start date as May 5, 2022. TÜV SÜD reviewed documentation of campaign completion on April 14, 2022, that the secondary abatement catalyst was installed, and the primary catalyst gauze replaced before the start of the next campaign. Records showed the commencement of nitric acid production for the first reporting period campaign on May 5, 2022.

- **Eligibility Rule III: Project Crediting Period**

  The crediting period for a nitric acid project is approximately ten years in length and aligns with the end of the last full campaign that begins in the tenth year of reporting. The current reporting periods are within the Project's first crediting period which began on May 5, 2022, and is estimated to end May 4, 2032.

- **Eligibility Rule IV: Additionality**

  Legal Requirement Test

  TÜV SÜD reviewed Ascend's most recent Title V permit and confirmed that Ascend does not have a PSD permit for greenhouse gases. In addition, Ascend provided evidence that they receive regular updates regarding U.S. EPA and State of Florida rules regarding possible GHG emission standards. TÜV SÜD also verified that Ascend accurately completed the Attestation of Voluntary Implementation form and uploaded it to the Reserve.

  Performance Standard Test

  TÜV SÜD verified that the Project satisfies the Performance Standard by installing a new secondary N_2O abatement catalyst. During the verification, TÜV SÜD reviewed evidence of the installation of the catalyst.

- **Eligibility Rule V: Regulatory Compliance**

  TÜV SÜD verified that the Project was in material compliance with all applicable laws throughout the reporting period. TÜV SÜD reviewed both the Florida Department of Environmental

Protection's (FDEP) compliance tracking database (Oculus) and the U.S. EPA Enforcement Compliance History Online (ECHO) database for any entries associated with the facility.

FDEP's Oculus database is used as a repository for public access to review environmental documents related to Ascend's facility including permits and violations. The U.S. EPA (ECHO) database pulls directly from the FDEP database to list any regulatory compliance issues at the facility. The dates listed in the ECHO database are not necessarily reflective of the date when the violation occurred and are typically the date of notification to the facility. Please note that the verification team over time has noticed that ECHO will keep violations open long after they have been resolved with the relevant state agency.

All non-administrative violations listed on ECHO and Oculus were related to emissions and tuning issues from a boiler at Ascend's facility. These violations occurred during both RP3 and RP4. The violations associated with the boiler were addressed during RP3 and were determined not to be Project related during RP3. The same determination was given to the boiler violation during RP4.

An administrative violation was listed on ECHO during RP4 for the failure to submit emission factors. Specifically, "The facility failed to submit the results of biennial emission factors testing no later than 45 days after completion of testing." According to the Reserve, administrative violations are not Project related and the failure to submit an emission factor does not materially impact the Project.

Finally, TÜV SÜD verified that the Attestation of Regulatory Compliance was correctly completed and uploaded to the Reserve.

3.4 Ownership of GHG Reductions

TÜV SÜD reviewed and confirmed that Ascend Performance Materials Operations LLC is the project developer and is the operator of the Project. TÜV SÜD verified that the Attestation of Title was correctly completed and uploaded to the Reserve.

3.5 Assessment of Information System Controls

During the previous verification, TÜV SÜD performed a site visit that included a review of management systems, onsite procedures, and interviews with key Project personnel. The review included confirming that the Project monitoring was done through direct measurements from a CEMS for both gas flow rates and N_2O concentration. The Project uses a Kurz thermal resistance mass flow meter (model K-BAR 2000B-HT, instrument TAG ID 467FI691) to measure gas flows and a Thermo Fisher Scientific analyzer (Model EM-46iHLALNPCA, instrument TAG ID 467AI692) to measure N_2O concentration. TÜV SÜD inspected the locations of the sample probes within the stack during the site visit.

The record keeping and reporting of the data are managed by a QA Enterprise Advantage System. The QA Enterprise Advantage System reads data from the CEMS Allen Bradley PLC and stores the information in its own database (SQL Server) for viewing and reporting. Ascend IP.21 AspenTech process data historian is configured to write the values of several tags to the CEMS PLC so that the application can perform the required calculations and store required data. Additionally, the QA Site Advantage data acquisition and handling system (DAHS) includes a virtual server supplied by Ascend and a QA Emission Point PC. This PC serves as a local HMI and engineering workstation as well as provide additional data warehousing capability to serve the data to the virtual server.

During the verification site visit, TÜV SÜD verified that the QA Enterprise Advantage System is used to generate reports in the required formats and provides those reports to plant management and the company server used to back-up the plant data.

3.6 CEMS Installation and Certification

The Protocol states that project developers must follow the following CEMS installation and certification requirements:

- 40 CFR Part 60, Sec. 60.13
- 40 CFR Part 60, Appendix B, Performance Specification 2
- 40 CFR Part 75, Appendix A, Sec. 6

TÜV SÜD verified that the Project met all CEMS installation and certification requirements. As is the case with most NAPs located in the U.S., parts of the Project CEMS were installed prior to the Project; however, the Project conducted the tests for the Part 75 CEMS installation and certification specifically for this Project.

TÜV SÜD verified that the following requirements were met for installation and certification of the CEMS:

7-day Calibration Error Test:

TÜV SÜD reviewed the calibration drift summary for June 17 - 26, 2021. This was before the baseline sampling period began. The drift never exceeded 5 percent and is in compliance with 40 CFR Part 75.

Linearity Check:

TÜV SÜD reviewed the linearity report for June 15, 2021. The checks took place prior to the baseline sampling period and met the requirement of less than 5.0 percent error.

RATA and bias tests:

TÜV SÜD reviewed the results of the RATA that was conducted on June 17, 2021 for the flow meter and analyzer. The relative accuracy (RA) for both was within the allowable range and both passed the bias test with no BAF required.

Cycle Time Test:

TÜV SÜD reviewed the results of the cycle time test on June 15, 2021 which ensures that the monitoring system is capable of completing at least one cycle of sampling, analyzing, and data recording every 15 minutes.

TÜV SÜD verified that the Project met all Protocol requirements for CEMS installation and certification.

3.7 Ongoing CEMS QA/QC Program

TÜV SÜD confirmed that the Project met the ongoing CEMS QA/QC requirements throughout the reporting period.

3.7.1 Daily Requirements

Ascend demonstrated the capabilities of the DAHS and how daily checks were performed for calibration error and adjustments, data validation, quality assurance and data recording for the analyzer. The DAHS records project data necessary to demonstrate operation within the allowable

operating conditions (AOCs). TÜV SÜD confirmed the Project met all Protocol daily requirements using DAHS including:

- Calibration error test for N_2O analyzer
- Calibration adjustments for N_2O analyzer
- Data validation
- Quality assurance
- Data recording

TÜV SÜD reviewed evidence that the daily calibration error tests were performed for the N_2O analyzer. TÜV SÜD reviewed the raw data and results of each test. TÜV SÜD also confirmed that calibration adjustments are performed if necessary, data is validated daily, data is continuously monitored and recorded every minute, and QA checks are performed.

Daily calibration error checks performed during the reporting period for the analyzer were either found to be within the +/-5% error threshold required by the Protocol or, if it was found to be out of calibration, the analyzer was immediately re-calibrated until it was shown to be reading accurately.

3.7.2 Quarterly Requirements

TÜV SÜD verified that the following quarterly assessments were performed according to Protocol requirements:

Calibration Error Test:

Ascend performs calibration error checks daily, which exceeds the Protocol requirement to conduct quarterly checks. TÜV SÜD reviewed copies of the calibration check reports for the entire reporting period for the flow meter. All daily calibration error checks performed during the reporting period were within the +/- 3% error. If the flow meter was found to be above the +/-3% error threshold required by the Protocol, the instrument was re-calibrated immediately.

TÜV SÜD also confirmed that calibration adjustments are performed if necessary, data is validated, data is continuously monitored and recorded every minute, and QA checks are performed.

Leak Check:

The Project utilizes a thermal mass flow meter; this quarterly assessment is not required.

Flow-to-Load Ratio or Gross Heat Rate Evaluations:

Ascend performs flow-to-load ratio evaluations since the NAP produces thermal output. TÜV SÜD reviewed evidence of evaluations conducted quarterly during project campaigns for quarter 4 of 2023 and quarters 1, 2 and 3 of 2024. The results were within the required range of ≤20% if L^{avg} for the most recent normal-load flow RATA is <500 klb/hr of steam with unadjusted flow rates used in the calculations, per Part 75 Appendix B requirements.

Linearity Checks

TÜV SÜD confirmed that the quarterly linearity checks were performed for the N_2O analyzer. Linearity checks were conducted for the analyzer in each quarter during the project campaign that did not include a RATA for the analyzer: October 9, 2023 (Q4), January 10, 2024 (Q1), April 18, 2024 (Q2), and July 19, 2024 (Q3). TÜV SÜD verified that the results of all checks met Protocol and Part 75 requirements. The results were within the required range (<5%) for low-level, mid-level, and high-level gas concentrations. A RATA was conducted in the first quarter of 2024.

Data Validation

TÜV SÜD confirmed that the results of all QA/QC checks were within the ranges required by the Protocol and 40 CFR Part 75 Appendix B requirements.

3.7.3 Annual and Semi-Annual Assessments

TÜV SÜD reviewed the results of the RATA conducted on January 27, 2023 and March 7, 2024 for all equipment. Montrose Air Quality Services, LLC conducted the RATAs using test methods in accordance with 40 CFR, Part 75, Appendix A.

The results are shown in Table 2 below.

Table 2 – RATA Results

Equipment	January 27, 2023	March 7, 2024
N_2O Analyzer	3.59%	2.3%
Flow Meter	4.43%	0.8%

The results of the RATAs for the analyzer and the flow meter showed the relative accuracy to be within the acceptable range (below 10%) and below 7.5 percent, requiring annual RATAs for both instruments in the future.

As a result of the bias tests, the analyzer required a BAF for a portion of the baseline sampling period and for a portion of the reporting periods. TÜV SÜD verified that the BAF was applied to the raw data in the DAHS.

The results are shown in Table 3 below.

Table 3 - Bias Adjustment Factors

Equipment	October 2, 2023 – March 6, 2024	March 6, 2024 – July 9, 2024
N_2O Analyzer	1.034	1.000
Flow Meter	1.038	1.000

3.7.4 Missing Data Substitution

During Campaign 6, missing data substitution methods were applied for a total of 11 hours for N_2O concentration and 11 hours for flow rate. The DAHS automatically performs data substitution. TÜV SÜD reviewed evidence that the DAHS correctly applied missing data substitution methods during the reporting periods according to 40 CFR Part 75, Section 75.33 missing data procedures.

3.8 Assessment of GHG Emissions Reductions Calculations

The emission reduction calculations assessment included a review of the historical, baseline, and project assumptions; data inputs; data management; and accuracy of calculations. TÜV SÜD assessed the information generated from the Historical and Baseline campaigns and evaluated the completeness and validity of the original data and how the data is transferred from Ascend's CEMS information control systems to Ascend's GHG calculation database.

TÜV SÜD reviewed the formulas and data outputs in the DAHS Calculation Summary document, for compliance with the Protocol.

TÜV SÜD confirmed that all data was normalized to 0 °C and 101.325 kPa in the calculation database/spreadsheets. Ascend also performed unit conversions for some monitoring parameters, and TÜV SÜD confirmed that the conversions were performed correctly. All applicable raw data was

converted to the units required by the Protocol for all parameters.

Historical Campaigns

TÜV SÜD reviewed historical data from five previous years, from 2017 to 2021 to verify that $HNO_{3,max}$ was appropriately calculated. The AOCs and CPV_{cap} were calculated using data from five historical campaigns, dating from June 7, 2019 to November 14, 2021. The AOCs for the baseline campaign were determined based on a statistical analysis of the historical data, and TÜV SÜD verified that Ascend appropriately followed the Protocol steps outlined in Section 5.1.2, source (a) for the statistical analysis. Because the temperature probe was moved during the installation of the secondary abatement catalyst and the historical temperatures were no longer representative of project campaign temperatures, Ascend requested a variance to revise the AOC for oxidation temperature. The Reserve granted the variance on October 28, 2022, pursuant to the following condition: The verifier confirms that option c is appropriately used to define the oxidation temperature AOC. TÜV SÜD confirmed that Ascend used option c outlined in Section 5.1.2 of the Protocol—specified range of temperature found in the operating manual. Ascend also used option c, specifically information from the ammonia oxidation catalyst manufacturer (as allowed by the Protocol), to determine maximum ammonia-to-air ratio as no valid historical data was available.

TÜV SÜD verified the values of each parameter from the historical data:

- $HNO_{3,MAX}$ = 46.62 metric tons HNO_3/hr
- CPV_{cap} = 111,728 metric tons HNO_3.
- Baseline AOCs
    - Oxidation temperature: min. = 885.03 °C, max. = 900.47 °C
    - Oxidation pressure: min. = 130.70 psia, max. = 155.70 psia
    - Ammonia-to-Air Ratio: max. = 11.00%
- Project AOCs
    - Oxidation temperature: min. = 593.00 °C, max. = 927.00 °C
    - Oxidation pressure: min. = 130.70 psia, max. = 155.70 psia
    - Ammonia-to-Air Ratio: max. = 11.00%

TÜV SÜD confirmed that the values for each AOC were used in the calculations for this Project campaign.

Baseline Emissions

TÜV SÜD reviewed data from the Baseline campaign conducted immediately prior to the installation of the secondary catalyst from November 18, 2021 to April 14, 2022. However, the Baseline campaign exceeded the CPV_{cap} at 9:00 am on March 12, 2022. As a result, Ascend only used data prior to that point to calculate baseline parameters. TÜV SÜD verified that the raw data from the baseline campaign was correctly adjusted in accordance with the Protocol and used to calculate the Baseline Emission Factor. TÜV SÜD verified the assumptions and variables used for Equations 5.4 and 5.5 in the Protocol. The results are as follows:

- $N_2O_{conc,BL}$ = 2,019 mgN_2O/m^3
- F_{BL} = 150,802 m^3/hr
- $HNO_{3,BL}$ = 109,169 metric tons HNO_3

TÜV SÜD verified that the Project's Baseline campaign operated inside the established AOCs exceeding the 50 percent requirement in the Protocol.

Project Emissions

TÜV SÜD verified that the Ascend's Project campaigns operated inside the established AOCs over 95% of the time, thus exceeding the 50% requirement in the Protocol. TÜV SÜD confirmed that the operating conditions during the Project campaign are representative of AOCs by verifying that the mean values for oxidation temperature, oxidation pressure and ammonia-to-air ratio are within the corresponding ranges defined for the AOCs. The mean values for oxidation pressure and ammonia-to-air ratio were not met within the AOCs during the time periods May 31, 2024 through June 10, 2024 and June 29, 2024 due to a pressure transmitter failure. Ascend removed all project data associated with the failure to meet AOCs.

TÜV SÜD confirmed that $HNO_{3,RP}$ was less than $HNO_{3max,scaled}$ for this campaign. TÜV SÜD also verified the total operating hours and application in the calculations. TÜV SÜD verified that project emissions were appropriately calculated using the raw data from the Project campaign. TÜV SÜD verified the assumptions and variables used for Equation 5.7 in the Protocol.

TÜV SÜD determined that the emission reduction calculations followed the Protocol and found no material misstatements in the final Project GHG reductions calculations and results (see Table 4 below).

Table 4. Emission Reduction ($MTCO_2e$) Percent Difference

Reporting Period	Ascend	TÜV SÜD	Percent Difference
4	94,738	95,071	0.35%

4.0 Verification Results

Ascend provided sufficient evidence and documentation of their emission reductions, data collection procedures, monitoring, and quality control procedures. The verification process focused on verifying the historical emissions, baseline emissions, and full campaign project emission reductions and the source data used by Ascend to quantify the emission reductions is accordance with the Protocol.

During the verification process, TÜV SÜD made requests for non-material findings, additional documentation, and clarifications in order to complete the verification. The details of TÜV SÜD's findings are documented in the List of Findings provided to the Reserve and Ascend.

The Project reported emission reductions of 94,738 metric tons of CO_2 equivalents as per the information provided in the calculation summary spreadsheets. During the final review, TÜV SÜD identified no material misstatements in the data or emission reduction calculations. Tables 5 and 6 define the emission reductions verified for this reporting period.

5.0 Verification Opinion

TÜV SÜD America, Inc. (TÜV SÜD) conducted the verification of CAR 1624 Nitric Acid (Project) according to the requirements found in ISO 14064-3:2019, 14065:2020, and 17029:2019. The objective of this verification was to ensure that the GHG statement is materially correct and conforms to all relevant criteria. The GHG statement is the responsibility of Ascend Performance Materials.

A summary of the GHG statement is as follows:

- GHG-related activity: N_2O abatement at Ascend's nitric acid facility
- GHG statement: October 2, 2023 – July 9, 2024
- Criteria:
    - Nitric Acid Production Project Protocol Version 2.2 (April 18, 2019) (Protocol)
    - Verification Program Manual (February 2021)
    - Reserve Offset Program Manual Version 9.2 (April 2024)
    - Policy Memo: Use of Global Warming Potential Values for All Offset Protocols (July 13, 2022)

The data and information supporting the GHG statement were historical in nature.

TÜV SÜD has ensured Ascend's effective use of controls related to the GHG statement. TÜV SÜD concludes that there is sufficient and appropriate evidence to support Ascend's GHG statement and is issuing an Umodified Opinion.

TÜV SÜD confirms that the GHG statement has been prepared:

- Without material discrepancy,
- In accordance with all applicable criteria, and
- Verified to a reasonable level of assurance.

In compliance with the requirements of ISO 14065:2020, the client may reproduce and distribute TÜV SÜD's verification report without TÜV SÜD's prior authorization, as long as the verification report is reproduced in its entirety, including the date.

The verified emission reductions are summarized in Table 5 and 6.

Table 5 - Emission Reductions Verified for October 2, 2023 to July 9, 2024

Reporting Period	Campaign Start & End Dates	Emission Reductions ($MTCO_2e$)
4	**October 2, 2023 – July 9, 2024**	**94,738**

Table 6 - Emission Reductions Verified for Vintage 2023 and 2024

Vintage	Date Range	Emission Reductions ($MTCO_2e$)
2023	October 2, 2023 – December 31, 2023	26,559
2024	January 1, 2024 – July 9, 2024	68,179
Total	**October 2, 2023 – July 9, 2024**	**94,738**

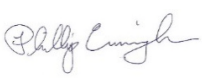
*Total may not sum due to rounding of final emission reduction values.

While TÜV SÜD confirmed the emission reduction calculations and the total emission reductions to be correct and within the materiality threshold, the values in Table 5 and 6 are summary data only with significant figures rounded for summary purposes in this report. Additionally, the actual campaign start and end dates are reflected but maintenance periods between campaigns are included in the reporting period to ensure contiguous reporting.

Lead Verifier Signature

Garrett Heidrick

Senior Internal Reviewer Signature



Phillip Cunningham