

Validation and Verification Report

ACR889 Tradewater US – ODS – #6

November 12, 2024

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Introduction

Tradewater LLC (Tradewater) contracted with TÜV SÜD America, Inc. (TÜV SÜD) to perform the validation and verification of the ACR889 Tradewater US - ODS - #6 (Project) for the reporting period and crediting period of August 5, 2024 through September 6, 2024 under the ACR program.

This report is documentation of validation and verification activities that TÜV SÜD performed for the Project located in Saint-Vulbas, France. For the validation, TÜV SÜD reviewed the project information as described in the Project Plan "Tradewater US – ODS – #6" dated November 2024 [TWUSODS6_GHGPlan_v2.1_11082024 - signed]. For the verification, TÜV SÜD ensured that the GHG assertion was materially correct, that the data provided to TÜV SÜD was well documented, and that if Tradewater made any material errors, that these errors were corrected.

Objectives

The objectives of the validation are to evaluate:

- Conformance to the ACR Standard and the approved ACR Methodology for The Destruction of Ozone Depleting Substances and High-GWP Foam, Version 2.0, February 2023 (Methodology);
- GHG emissions reduction project planning information and documentation in accordance with the applicable ACR-approved Methodology, including the project description, baseline, eligibility criteria, monitoring and reporting procedures, and quality assurance/quality control (QA/QC) procedures;
- Reported GHG baseline, ex ante estimated project emissions and emissions reductions/removal enhancements, leakage assessment, and impermanence risk assessment and mitigation (if applicable).

The objectives of the verification are to evaluate:

- The emissions reductions and to ensure that the assertion is materially correct;
- The data provided to TÜV SÜD can be documented and if errors or omissions are detected, they be corrected.

TÜV SÜD retains all data and documents for seven years after the end of the project reporting period or for the duration required by the GHG program, whichever is longer.

Project Background

The Project destroys Halons 1211 and 1301 that were collected from Wesco HMB, Inc (Wesco). Tradewater purchased the ODS from Wesco and transported it from Metuchen, New Jersey to Saint-Vulbas, France for destruction. The destroyed ODS ensures that it will no longer be used or stockpiled and ensures that the ODS cannot leak into the atmosphere. Tradewater utilized the Trédi Saint-Vulbas (Trédi) destruction facility, which is operated by Séché Environment. Trédi operates a rotary kiln incinerator which destroys ODS at 1,100 degrees Celsius. This process ensures a 99.99% destruction efficiency.

Responsible Parties

Project Proponent

Tradewater LLC 1550 West Carroll Avenue, Suite 213 Chicago, IL 60607

Aggregator

Wesco HMB, Inc. (Wesco) 108 Liberty Street Metuchen, New Jersey 08840

Destruction Facility

Trédi Rue Charles de Gaulle 0150 Saint-Vulbas, France

Tradewater is responsible for the preparation and fair presentation of the GHG statement in accordance with the criteria listed below.

Validation and Verification Team

TÜV SÜD is responsible for expressing an opinion on the GHG statement based on the verification. The TÜV SÜD verification team consisted of the following individuals who were selected based upon verification experience and knowledge of ozone depleting substance projects.

Lead Validator and Verifier: Garrett Heidrick

Team Members: Kelli Miller, Ashley Emery

Internal Reviewer: Phil Cunningham

Validation and Verification Criteria

Validation and Verification Standards, Guidelines, and Tools

- ACR Standard, Version 8.0 (July 2023)
- ACR Validation and Verification Standard Version 1.1 (May 2018)
- The Destruction of Ozone Depleting Substances and High-GWP Foam, Version 2.0 (February 2023) (Methodology)
- Methodology Errata and Clarifications (February 2024)
- ISO 14064-3:2019 "Greenhouse gases Part 3: Specification with guidance for the validation and verification of greenhouse gas statements"

Level of Assurance

The verification was conducted to a reasonable level of assurance.

Materiality

The verification was conducted to ACR's required materiality threshold of $\pm 5\%$ of the GHG project's emissions reductions or removal enhancements.

Validation and Verification Process

As the first step in validation/verification activities, the Lead Validator/Verifier developed a Validation/Verification Evidence-Gathering Plan to be followed throughout the validation and verification. The plan included the following activities:

- TÜV SÜD completed a COI form to identify any potential conflict of interest with the Project, Project Proponent, or Project Developer. The COI form was approved by ACR on July 12, 2024. TÜV SÜD submitted revisions after approval.
- TÜV SÜD and Tradewater held a validation/verification opening meeting on July 15, 2024. During the kick-off meeting TÜV SÜD reviewed the validation/verification objectives and process, reviewed the schedule, and submitted an initial document request.
- 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 reduction.
- TÜV SÜD developed a risk-based evidence-gathering and sampling plan based upon the strategic review and risk assessment. The validation/verification evidence-gathering plan and sampling plan were used throughout the process and were revised as needed based upon additional risk assessments.
- TÜV SÜD conducted a site visit to Trédi located in Saint-Vulbas, France on August 2, 2024. During the site visit TÜV SÜD observed the weighing in, mixing, and destruction processes as well as onsite GHG management systems and data gathering, monitoring, and handling practices. TÜV SÜD interviewed key personnel involved in the destruction and aggregation processes.
- TÜV SÜD met with the following personnel during the site visit:
 - o Gina Sabatini-Mattei Manager of Verification and Logistics, Tradewater
 - o Ana Laura Fernandez Galera Logistics Associate, Tradewater
 - o Raoul Goldbronn Director of Process, Trédi
 - o Damien Notteau Business Developer, Trédi
- TÜV SÜD performed a risk-based desktop review of the submitted validation/verification documents. The desktop review included an assessment of the GHG calculation methods and inputs, source data completeness, GHG management and monitoring systems and eligibility documentation.
- TÜV SÜD submitted requests for corrective actions, non-material findings, additional documentation, and clarifications as necessary to Tradewater throughout the validation/verification.
- TÜV SÜD's internal reviewer conducted a review of the validation/verification sampling, report, and statement.
- TÜV SÜD issued a final validation/verification report, verification statement, and List of Findings.

• TÜV SÜD held an exit meeting with Tradewater.

Validation and Verification Findings

Project Boundary and Activities

TÜV SÜD reviewed the project boundary and activities and confirmed that both were appropriately identified and described in the Project Plan. For the Project, Wesco collected ODS from multiple sources throughout the United States. The ODS sent for destruction were left over from a previous reclamation process completed by Wesco. The ODS were consolidated and stored in Wesco's warehouse until Tradewater purchased the ODS and began the destruction process. The Project destroyed the halon 1211 and 1301 at Trédi's facility in Saint-Vulbas, France.

All cylinders that were collected and aggregated at Wesco were shipped to Trédi where Trédi staff sampled the ODS and sent the samples to Bureau Veritas for analysis. Once analyzed, the destruction process began.

The Project's temporal boundary is the reporting period from August 5, 2024 – September 6, 2024.

GHG Sources Sinks, and Reservoirs

Table 1 shows the GHG emission sources included in the project boundary based on the Methodology. TÜV SÜD confirmed that the Project Plan appropriately identifies the offset project boundary and includes all relevant SSRs.

Source	GHG	Description					
SSR 4	CO ₂	Fossil fuel emissions from the vehicular transport of ODS from aggregation point to final destruction facility.					
SSR 5	CO ₂ e	Emissions of ODS from recovered ODS stockpiles and EOL equipment.					
SSR 6	ODS and CO ₂	Emissions of ODS from incomplete destruction at destruction facility. Emissions from the oxidation of carbon contained in destroyed ODS. Fossil fuel emissions from the destruction of ODS at destruction facility. Indirect emissions from the use of grid-delivered electricity.					

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Eligibility

ACR Eligibility

TÜV SÜD confirmed the following ACR eligibility criteria listed in the ACR Standard, Version 8.0 by reviewing the project proponent's Project Plan, Monitoring Report, and calculations as well as other supporting documentation described throughout this report (a full list of documents reviewed is in Appendix A).

- Start Date: The project start date is August 5, 2024.
- Crediting Period: The crediting period is the reporting period as specified by the Methodology, August 5, 2024 – September 6, 2024.
- Minimum Project Term: Projects with no risk of reversal subsequent to crediting have no required minimum project term.
- Offset Title: TÜV SÜD confirmed that the project proponent has undisputed title to all offsets. The project proponent purchased refrigerant from Wesco's stockpiles and then destroyed the refrigerant at an eligible facility. All refrigerant transactions are described by Tradewater's Transfer of Ownership documentation. Tradewater retains all legal claims to the environmental attributes and GHG benefits of its processes and the avoidance of future leaks into the atmosphere.
- Additional: TÜV SÜD confirmed that the project is additional as described under "Additionality."
- Permanent: In the absence of the project, the ODS would have been stored in stockpiles. The ODS will eventually leak into the atmosphere from the degradation of the storage vessel. By destroying the refrigerant, Tradewater ensures that there will be no future leaks into the atmosphere. The project will generate emission reductions that are permanent and have no risk of reversal.
- Net of Leakage: The Methodology specifies that leakage does not need to be considered as it is unlikely that any emissions would occur outside the project boundary.
- Independently Validated and Verified: TÜV SÜD is a third-party validation and verification body that the project proponent has contracted to validate the project.
- Environmental and Social Impacts: TÜV SÜD reviewed project impacts as described below and in the *Environmental and Social Impact Assessment Report* and *Sustainable Development Goals (SDG) Contributions Report* uploaded to ACR.

Methodology Eligibility

TÜV SÜD reviewed the Project against the ACR Methodology eligibility requirements and confirmed the following:

- The Project collected ODS from the United States.
- The destruction facility is located at Rue Charles de Gaulle, 0150 Saint-Vulbas, France. GPS coordinates 45.839409, 5.2734378.
- Trédi meets the requirements of the Montreal Protocol TEAP standards with an ODS destruction efficiency of 99.99%.
- The refrigerant meets the definition of eligible refrigerant sources, which must originate from equipment, systems, or other supplies outside of the United States.
- The destroyed ODS are eligible species; halons 1211 and 1301.

Additionality

The Project meets the requirements for the demonstration of additionality specified by the ACR Standard by exceeding the approved performance standard defined in the Methodology and demonstrating surplus to regulations.

Regulatory Additionality Test

No existing laws or regulations mandate the Project activity. During 2024, there were no requirements to destroy refrigerants in the United States. TÜV SÜD reviewed the Environmental Protection Agency's (EPA's) ODS rulings, which states that ODS can be reclaimed, recycled, or destroyed within the United States; however it does not stipulate or require destruction. The Project passes the regulatory additionality test.

Practiced-Based Performance Standard Test

Per the Methodology, in the Business as Usual (BAU) scenario, the ODS would be used to suppress fires and be released to the atmosphere due to equipment leaks or the ODS would be stored in containers for possible future use. Either way, the ODS would eventually leak into the atmosphere. By destroying the gas, Tradewater is going beyond the BAU scenario. The Project passes the performance standard test.

Permanence

The emissions reductions from the destruction of ODS can be deemed as permanent because they are destroyed at a facility with a 99.99% destruction efficiency.

Environmental and Social Impacts

The Project Plan, *SDG Contributions Report*, and *Environmental and Social Impacts Assessment Report* include a comprehensive summary of the Project activity's net positive environmental impacts. Destroying ODS avoids the future leakage of the ODS into the atmosphere. There are no negative community or environmental impacts for the Project. The Project Plan and *SDG Contributions Report* identify contributions as aligned with relevant SDGs including:

Direct Positive Impact to SDG Targets

- SDG 9.4 Industry Innovation and Infrastructure: As ODS refrigerants are either destroyed or utilized, innovation is required to replace the refrigerants with less harmful, yet equally as effective, alternatives to meet the needs of future fire suppression systems.
- SDG 12.4 Responsible Consumption and Production: The Project supports the collection and destruction of one of the most powerful greenhouse gases in the world, paving the way to the development and use of safer and more environmentally friendly alternatives.
- SDG 13.2 Climate Action: The phase-out to date of most ODS has not only led to the regeneration of the ozone layer but also to significant reductions in greenhouse gas emissions (GHG), as most ODS are also powerful GHGs.

Indirect Positive Impact to SDG Targets

• SDG 3.9 Good Health: Ozone layer depletion allows more UV radiation to reach the earth's surface, a contributing factor to melanoma skin cancer. Increases in UV radiation also cause other health concerns, including eye damage (e.g. cataracts), suppression of the immune system and premature skin aging. The destruction of ODS before it leaks contributes to reducing the number of deaths and illnesses from a thinning ozone layer.

- SDG 14.1 Life Below Water: The destruction of ODS protects the bodies of water and its species as the thinning of the ozone layer increases the UVB radiation, which can have negative impacts on survival rate, early developmental stages, and population numbers in different marine species.
- SDG 15.1 Life on Land: As ODS are potent greenhouse gases, their destruction contributes to climate change mitigation efforts as it avoids these gases to leak to the atmosphere, and as they prevent the thinning of the ozone layer it also protects the terrestrial biosphere and its capacity as carbon sink.

Furthermore, the *Environmental and Social Impact Assessment Report* identifies any positive or negative environmental or social impacts, including positive impacts for:

- Biodiversity Conservation and Sustainable Management of Living Natural Resources
 - Terrestrial and Marine Biodiversity and Ecosystems: UV rays from a deteriorating ozone layer have a negative effect on aquatic ecosystems, specifically phytoplankton, and other fauna's reproduction. By destroying ODS, the Project positively effects aquatic biodiversity by preventing ODS from entering the atmosphere and allowing the ozone layer to heal, reducing UV rays.
- Resource Efficiency and Pollution Prevention
 - Pollutant Emissions to Air: By destroying the ODS, the negative impacts to the ozone layer and atmosphere are eliminated.
 - Generation of Waste and Release of Hazardous Materials: ODS are considered hazardous waste. By destroying them, the project guarantees that the hazardous waste is disposed of safely and in accordance with the Montreal Protocol.

The validation team confirmed that the project activity will not promote significant negative environmental impacts.

Local Stakeholder Consultation

The Project had a 30-day public comment period where the Project Listing Form and project information were made available. No comments were received.

Point of Origin Determination

TÜV SÜD verified one point of origin and one collection and aggregation facility. Wesco HMB, Inc. is the point of origin, the collection facility, and the aggregation facility. Wesco is located at 108 Liberty Street, Metuchen, New Jersey 08840.

Chain of Custody

TÜV SÜD verified the Chain of Custody (CoC) for the shipment from Wesco's warehouse to Trédi's destruction facility during the desktop review and site visit. Wesco shipped two containers full of cylinders to Trédi. TÜV SÜD reviewed all bills of lading from Wesco to the port in New York, New York; from the port in New York, New York to the port in Le Havre, France; and from the port in Le Havre, France to Trédi's facility in Saint-Vulbas, France.

ODS Composition and Quantity Analysis

Scales

TÜV SÜD confirmed that Trédi used calibrated scales to measure the pre- and post-destruction weights of the bulking tanks. TÜV SÜD verified that all scales were calibrated quarterly according to the Methodology requirements.

Composition Sampling

TÜV SÜD confirmed the procedures for the sampling of the non-mixed ODS for the destruction events met the requirements of the Methodology by reviewing the documentation provided by Tradewater. A third party, Trédi, was used for all sampling.

TÜV SÜD also confirmed that the Bureau Veritas laboratory used for composition and concentration analysis is a certified ISO IEC 17025 laboratory.

For sampling, TÜV SÜD confirmed the following:

- The samples must be taken while ODS is in the possession of the company that will destroy the ODS
 - o TÜV SÜD confirmed that the samples were taken at the Trédi facility.
- Samples must be taken by a technician unaffiliated with the project proponent
 - o TÜV SÜD confirmed that the samples were taken by Jerome Legin, a Trédi employee.
- Samples must be taken with a clean, fully evacuated sample bottle that meets applicable Department of Transportation requirements with a minimum capacity of one pound
 - TÜV SÜD confirmed through the ODS SOPs and sample tickets provided by Trédi.
- Each sample must be taken in liquid state
 - o TÜV SÜD confirmed through the ODS SOPs and sample tickets provided by Trédi.
- A minimum sample size of one pound must be drawn for each sample
 - TÜV SÜD confirmed through the ODS Sampling Report signed by Jerome Legin of Trédi.
- Each sample must be individually labeled and tracked according to the container from which it was taken, and the following information recorded: time and date of sample, name of project proponent, name of technician taking sample, employer of technician taking sample, volume of container from which sample was extracted, and the ambient air temperature at time of sampling
 - TÜV SÜD confirmed through the ODS Sampling Report signed by Jerome Legin of Trédi.
- Chain of custody for each sample from the point of sampling to the laboratory must be documented by paper bills of lading or electronic, third-party tracking that includes proof of delivery
 - TÜV SÜD confirmed through the Chain of Custody form.

Refrigerant Analysis Reports

TÜV SÜD reviewed the Refrigerant Analysis Reports provided by Bureau Veritas for the destruction event. TÜV SÜD confirmed that the analysis demonstrates that the ODS met all the requirements as outlined in Appendix C of the Methodology. The analysis provided:

- Identification of the refrigerant
- Purity of the ODS mixture by weight
- Moisture level in %m/m, which is functionally equivalent to parts per million, demonstrating a moisture content of less than 75 percent of the saturation point of the ODS species with the lowest saturation point that is at least 10 percent of the mixture by mass
- Analysis of high boiling residue (HBR) indicating less than 10 percent by mass
- Analysis of other ODS

Destruction Facility Requirements

TÜV SÜD confirmed that the Trédi destruction facility meets the TEAP requirements in the Methodology. TÜV SÜD reviewed the most recent DRE test from June 2024, which states the Destruction Removal Efficiency (DRE) of the system using SF_6 as the testing material is 99.99% removal efficiency. SF_6 is more difficult to destroy than the eligible ODS species, which ensures that all ODS species are being destroyed at an efficiency of 99.99% or greater.

Monitoring Parameters

Trédi provided an excel file download of the real-time monitoring parameters data for the reporting period as defined in Section 6.1 of the Methodology. The lead verifier also reviewed the data with Trédi personnel during the site visit. The CEMS parameters are monitored continuously, recorded every 15 minutes, and downloaded to excel on an as-needed basis. The following information was tracked during the destruction event:

- Date and time
- ODS feed rate (lbs/hr)
- Rotary kiln incinerator temperature (°C)
- Rotary kiln incinerator pressure (bar)
- CO flow rate (ppm)
- pH of effluent

TÜV SÜD confirmed that the rotary kiln incinerator unit operated within the parameters recorded during DRE testing or the parameters specified within their hazardous waste permit, and if the rotary kiln incinerator unit fell outside of these parameters, that the proper Startups, Shutdowns, or Malfunctions Plans (SSMPs) were used. There were no instances of shutdowns due to permit limit exceedances.

Certificate of Destruction

TÜV SÜD confirmed that the Certificates of Destruction contained Methodology required parameters.

• Project Proponent or Project Developer

- Destruction facility
- Certificate of Destruction ID number
- Serial, tracking, or ID number of all containers for which ODS destruction occurred
- Weight and type of material destroyed from each container
- Destruction Start Date
- Destruction End Date

Baseline Scenario

The baseline determines the emissions that would occur in the absence of the Project. The Project activity is the destruction of ODS to avoid future leakage into the atmosphere. GHG emissions are avoided because in the baseline scenario, the ODS would have been stored in collection tanks causing CO_2e emissions to be released. Instead, the ODS are purchased from stockpiles, aggregated, and destroyed, thus avoiding those emissions. The Methodology establishes the baseline scenario as the continued use or storage for future use of ODS. TÜV SÜD confirmed that the Project Plan appropriately identifies the baseline scenario.

Data Management System and Monitoring Plan

TÜV SÜD reviewed Trédi and Tradewater's processes for data collection and management and determined that they were sufficient to meet all ACR and Methodology requirements. The validation/verification team gained an understanding of the controls put in place to account for the ODS received, mixing and sampling, and destruction through interviews with key personnel, the site visit, and the review of all documentation provided by Tradewater. Trédi monitors the amount of ODS that are purchased, bulked for destruction, and sampled. Trédi also monitors the weight of ODS sent for destruction and the destruction process. Trédi's scales are calibrated quarterly. This activity is completed by Precia Molen Service. The ODS sent for destruction are analyzed by Bureau Veritas.

Tradewater's Project Plan includes a Monitoring Plan that identifies all monitored data and parameters. TÜV SÜD confirmed that the monitoring parameters and approaches conform to the methods required by the Methodology. The plan includes all relevant data parameters and appropriately identifies units of measurements, data sources, methodologies, uncertainty, monitoring frequency and procedures, and QA/QC procedures. After discussions with Tradewater and reviews of project documents, TÜV SÜD determined that the Monitoring Plan accurately reflects how Project data is monitored and recorded. There are two deviations relevant to the Project activity against the requirements of the Methodology ("Deviations"). Tradewater implemented the monitoring plan as stated in the Project Plan during Project activities.

Project Data and GHG Emissions Reduction Assertion

TÜV SÜD reviewed the Project Plan, Project data, and calculations to ensure that appropriate equations were used in calculating baseline emissions, project emissions, and emissions reductions.

Baseline Emissions

Baseline emissions include the emissions that would have occurred had the ODS been stored and leaked. TÜV SÜD used the total amount of ODS destroyed as found on the CODs provided by Trédi

and then removed the amount of high boiling residue (HBR) and moisture determined by the lab analysis provided by Bureau Veritas. The remaining weight was multiplied by the percent composition of eligible ODS and/or refrigerants in the material destroyed.

The weight of eligible materials was then converted from kilograms to metric tons to calculate Q_{refri} for each eligible ODS. Q_{refri} was then multiplied by the appropriate GWPs for each ODS to determine BE_{refri}. Due to rounding, some values might not equate to the final values claimed by Tradewater.

Project Emissions

TÜV SÜD calculated project emissions for the destruction events. TÜV SÜD calculated the project emissions from transportation and destruction by multiplying the total weight of all ODS destroyed in the CODs by the appropriate default emission factor. TÜV SÜD then added these values together to determine total project emissions. Due to rounding, some values might not equate to the final values claimed by Tradewater.

Emissions Reductions

TÜV SÜD verified that Tradewater calculated emissions reductions according to relevant Methodology equations and that the methods are included in the Project Plan.

TÜV SÜD calculated emissions reductions for the reporting period according to the equations defined in the Methodology and the Project Plan and found the assertion to be free of material misstatement. TÜV SÜD's calculated ERTs are shown in Table 2.

Halon	TÜV SÜD ERTs	Tradewater ERTs	Percent Difference
Halon 1211	5,566	5,566	0.00%
Halon 1301	65,471	65,472	0.00%
Total	71,037	71,037	0.00%

Table 2. TÜV SÜD-calculated ERTs (MT CO₂e)

Deviations

Tradewater submitted two deviation requests for missing the weighing in and weighing out procedures outlined in Appendix C I.A.ii-iii of the Methodology. Cylinder AA593466 was weighed in on August 30, 2024 at 10:21 am and the destruction began on September 1, 2024 at 12:30 pm, missing the 48-hour requirement by two hours and nine minutes. Cylinder BR1402 was weighed out on August 12, 2024 at 8:35 am and the destruction ended on August 9, 2024 at 9:45 pm, missing the 48-hour requirement by ten hours and fifty minutes. The hours outside of the 48-hour window prescribed by the Methodology are indistinguishable and do not materially impact the weights or assertion provided by Tradewater.

ACR approved the deviation requests on October 11, 2024.

Validation and Verification Results

TÜV SÜD developed one List of Findings for the validation and verification, notifying Tradewater of corrective action requests (CARs), non-material findings (NMFs), additional documentation

requests (ADRs), and clarification requests (CRs). Tradewater appropriately responded to all items in the List of Findings. The List of Findings is provided as Appendix B.

Validation and Verification Opinion

TÜV SÜD conducted a risk-based validation and verification of the Tradewater US – ODS – #6 Project according to the requirements found in ISO 14064-3:2019, 14065:2020, and 17029:2019. The objective of the validation activities was to assess the Project design, baseline scenario, and monitoring plan and to ensure compliance of the Project Plan to the assessment criteria defined in "Validation and Verification Criteria." 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 Tradewater.

A summary of the GHG statement is as follows:

- GHG-related activity: Ozone depleting substances destruction in Saint-Vulbas, France
- GHG statement: August 5, 2024 September 6, 2024
- Criteria:
 - ACR Standard, Version 8.0 (July 2023)
 - o ACR Validation and Verification Standard, Version 1.1 (May 2018)
 - The Destruction of Ozone Depleting Substances and High-GWP Foam, Version 2.0 (February 2023) (Methodology)
 - Methodology Errata and Clarifications (February 2024)

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

Based upon TÜV SÜD's review, the GHG statement meets all requirements except for the Methodology requirements for weighing procedures (Appendix C I.A.ii-iii). The missed requirements are allowable via two deviations from ACR (see "Deviations").

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

TÜV SÜD confirms that the GHG statement has been prepared:

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

Table 3 provides a summary of the emissions reductions.

Table 3. Emissions Reductions (MT CO₂e)

Vintage	Baseline Emissions	Project Emissions	Emissions Reductions					
2023 71,140 103 71,037								
Note: Totals may not sum due to rounding								

Lead Validator and Verifier

Internal Reviewer

Garrett Heidrick

Phil Cunningham

Appendix A—Documents Reviewed

- 1. Chain of Custody documentation
- 2. CEMS data report
- 3. Environmental reports for Trédi
- 4. Compliance documents and/or statements for applicable facilities
- 5. GHG assertion spreadsheet
- 6. All relevant permits
- 7. Weight tickets
- 8. Refrigerant analyses
- 9. SOPs
- 10. Scale calibrations
- 11. Trédi DRE testing
- 12. Tradewater regulatory compliance attestation
- 13. Tradewater Project Plan
- 14. Tradewater Monitoring Report
- 15. Tradewater Listing Form
- 16. Certificates of Destruction
- 17. Destruction process overview
- 18. All applicable hazardous waste permits
- 19. SSMPs
- 20. Ownership of environmental benefits
- 21. Deviation requests
- 22. Training documents
- 23. Truck permits
- 24. Bureau Veritas ISO accreditation

Appendix B—List of Findings

Includes Corrective Action Requests (CAR), Additional Documentation Requests (ADR), and Clarification Requests (CR)

	Corrective Action	Request (CAR), I	Non-Material Finding (NMF), Additional Documentation Requ	iest (ADR), or Clarification Request	(CR) #	
#	Finding and Date	Section of Methodology or Program Document	Project Developer Response and Date	TUV SUD response and Date	Additional Project Developer Response and Date	Additional TUV SUD Response and Date	Open or Closed
CAR 1	 9/30/2024: Please submit a deviation for missing Methodology requirement Appendix C. 1.B for the following: -1301: Cylinder BR1402 was weighed more than 48 hours after the end of destruction. Destruction ended on 8/9/2024 21:45 and the weight was taken on 8/12/2024 8:35. -1211: Cylinder AA593466 was weighed more than 48 hours prior to the start of the destruction. Destruction began on 9/1/2024 12:30 and the weight was taken on 8/30/2024 10:21. 	Appendix C. 1.B	Pending	10/18/2024: Received.			Closed
NMF 1	10/2/2024: Emissions for transportation are using the pound to kilogram conversion when the weights are already in kilograms. This is halving your project emissions.	Methodology Equation 11	10/02/2024: Corrected.	10/7/2024: Closed.			Closed
ADR 1	9/27/2024: Please provide Wesco's 608 certifications.	Methodology 2.2	10/01/2024: We would not have to provide 608 certifications from Wesco for this project as 608 certifications do not apply to the handling of halons.	10/2/2024: Are there any EPA certifications needed for handling halons? If yes, please provide.	10/02/2024: There are no EPA certifications needed for handling halons.		Closed
ADR 2	9/27/2024: Is there a more recent inspection report for Tredi? The most recent one we have is 3/26/2024.	Methodology 3.7	10/03/2024: This is the most recent inspection report.	10/7/2024: Closed			Closed

ADR 3	9/27/2024: Was this shipped under Basel Conventions, like Chile 1? If not, please provide the transportation hazmat certificates.	Methodology 3.7	10/01/2024: The containers were shipped under the Basel Convention	10/2/2024: Can the transporters provide letters that state that they have the authority to ship the material, similar to what was provided for Chile 1?	 10/02/2024: We won't be able to provide evidence from transporters - this would be very difficult to ask them to produce to us. The halons were reported as hazardous waste, and only companies that have hazardous waste licenses can accept the load. When the booking occurs, we provide all documents required which include identification of the chemicals as hazardous waste. This involves showing the approval of Basel authorities. By virtue of having the Chain of Custody documentation that delineates that the material was shipped legally, it itself is a demonstration. 	10/7/2024: Closed	Closed
ADR 4	9/27/2024: What is the volume of the B500 cylinders?	Methodology 6.1.10	10/01/2024: These are half-ton containers	10/2/2024: What is the volume in liters?	10/02/2024: Volume in L for the B500 is 672L.	10/7/2024: Closed	Closed
ADR 5	9/30/2024: Please provide the CoDs.	Methodology 2.2.7	10/01/2024: The CODs are in Verification > Destruction	10/2/2024: Please obtain re- issued CoDs for Halon 1211 cylinders 26877 and 3515 to list total eligible ODS destroyed. See CR 3.	10/02/2024: CODs for 26877 and 3515 are pending. 10/03/2024: CODs have been re- uploaded to Verification > Destruction	10/7/2024: Closed	Closed

ADR 6	9/30/2024: The lab analyses do not provide the PPM for 1211 or 1301 at 25 and 28 C, respectively. Please provide the PPM for 1211 and 1301.	Appendix C. 1.D	10/01/2024: We obtained the saturation points for Halon 1211 and Halon 1301 from the following literature: Halogenated Hydrocarbons Solubility-Miscibility with Water By A.L. Horvath. The resources used to obtain the saturation points have been uploaded to Requested Documents > Saturation Points	10/2/2024: Provided.			Closed
ADR 7	9/30/2024: Please provide a document that shows the conversion from KF to ppm.	Appendix C. 1.D	10/01/2024: The Karl Fischer method was used to determine moisture, and the lab provided results in %m/m. To get the moisture content in ppm, we have to multiply the values by 10,000 using unit conversion.	10/2/2024: Please provide a document or evidence that this is the correct conversion. I tried to look up conversions from KF to ppm and couldn't find anything.	10/02/2024: KF is not a unit, it stands for the Karl Fischer method (KF) to determine moisture. The table in the sample results include the unit as %m/m, meaning that the units are in percent. Please see the following unit conversion used in Cell 127	10/7/2024: Got it. %m/m is grams of water content per 100 grams of solution.	Closed
CR 1	9/27/2024: Were any of the fire suppressants sourced from strategic stockpiles? See Methodology, "Halon 1301 originating in strategic stockpiles (strategic reserves that are being maintained for fire suppression systems in aviation, military use, shipping, oil and gas, computer rooms, and other critical applications) is not eligible under this Methodology."	Methodology 2.2.4	10/01/2024: None of the fire suppressants were sourced from strategic stockpiles.	10/2/2024: Closed			Closed

CR 2	9/30/2024: Were there any instances of noncompliance or violations at Tredi between beginning of August and end of September 2024?	Methodology 3.7	10/01/2024: There have been no instances of non-compliance or violations at Tredi between beginning of August and end of September 2024. We know this to be true as Tredi reports CEMS data to the regulator in real time. The Regulator reviews the data immediately, and any instances of non- compliance or violations would trigger Tredi to shut down operations until the instances have been addressed appropriately.	10/2/2024: Closed		Closed
CR 3	9/30/2024: The lab analyses for 1211 show both R-123 and R-11. Why weren't these included in the emission reduction calculations?	Methodology 2.2.1	10/01/24: GHG Quantification for 26877 and 3515 were updated to reflect R-123 and R- 11 contents	10/2/2024: Closed		Closed
CR 4	9/30/2024: It looks like lab analyses might have gotten swapped for 241566-4 182 and 241566-9 132. In the sampling document, destruction #4 is 132 and #9 is 182. The lab analyses are opposite.	Methodology 6.1	10/02/24: Sampling certificates for 132 and 182 have been re- uploaded.	10/2/2024: Closed		Closed