Validation and Verification Report

ACR959 Zefiro Methane OOG 1 - Drake
Crediting period: February 3, 2025 – February 2, 2045
Reporting period: February 3, 2025 – February 3, 2025

Prepared for:
Zefiro Methane Corp.

April 30, 2025

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1 Introduction

Zefiro Methane Corp. (Zefiro) contracted TÜV SÜD America, Inc. (TÜV SÜD) to perform the validation and verification of the ACR959 Zefiro Methane OOG 1 – Drake (Project) for the reporting period February 3, 2025 – February 3, 2025 and a crediting period of February 3, 2025 – February 2, 2045 under the ACR program. This report is documentation of validation and verification activities that TÜV SÜD performed for the Project located in Custer County, OK. For the validation, TÜV SÜD reviewed the project information as described in the Project Plan "25.04.24_GHG_Project_Plan_Zefiro_ACR959_v6.2" dated April 24, 2025. For the verification, TÜV SÜD ensured that the GHG statement was materially correct, that the data provided to TÜV SÜD was well documented, and that if Zefiro made any material errors, the errors were corrected.

1.1 Objectives

The objectives of the validation are to evaluate:

- Conformance to the ACR standard and the approved ACR Methodology for the quantification, monitoring, reporting and verification of greenhouse gas emissions reductions and removals from plugging orphaned oil and gas wells in the U.S. and Canada.
- 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 statement 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.

1.2 Project Background

The Project Activity is the plugging of one leaking, orphaned oil and gas well (the "Well") in Custer County, OK. The Project Activity includes the detection and measurement (quantification) of leaking methane emissions from the Well, mitigation of emissions through permanent plugging and abandonment services, and post-plugging detection and measurement of the Well to determine the net GHG reduction.

1.3 Responsible Party

Project Proponent

Zefiro Methane Corp.
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Vancouver, BC V6E 3C9
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rwalker@zefiromethane.com
https://www.zefiromethane.com

Zefiro is responsible for the preparation and fair presentation of the GHG statement in accordance with the criteria listed below in Section 1.5.1.

1.4 Validation and Verification Team

TÜV SÜD is responsible for expressing an opinion on the GHG statement based on the verification. The TÜV SÜD validation and verification team consisted of the following individuals who were selected based upon experience and knowledge of reporting GHG emissions sources.

Lead Validator and Verifier: Issaí Medellín
Independent Reviewer: Phillip Cunningham

1.5 Validation and Verification Criteria

1.5.1 Validation and Verification Standards, Guidelines, and Tools

- ACR Standard, Version 8.0 (July 2023)
- ACR Validation and Verification Standard, Version 1.1 (May 2018)
- Methodology for the Quantification, Monitoring, Reporting and Verification of Greenhouse Gas Emissions Reductions and Removals from Plugging Orphan Oil and Gas Wells in the US and Canada, v1.0, May 2023 (Methodology)
- Errata and Clarifications (E&C) to the Methodology (September 13, 2024)
- ISO 14064-3:2019 "Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas statements"
- Zefiro Orphaned Wells Methane Measurements Method Approval Form (May 22, 2024)

1.5.2 Level of Assurance

The verification was conducted to a reasonable level of assurance.

1.5.3 Materiality

The verification was conducted to ACR's required materiality threshold of +/-5% of the GHG project's emissions reductions or removal enhancements.

2 Validation and Verification Process

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

- TÜV SÜD completed a COI form on June 6, 2024 to identify any potential conflict of interest with the Project or Project Developer. The COI assessment was approved by ACR on June 6, 2024.
- TÜV SÜD and Zefiro held a validation/verification kick-off meeting on June 10, 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 reductions.
- TÜV SÜD developed a risk-based evidence-gathering plan based upon the strategic review and risk assessment. The validation/verification plan and evidence-gathering plan were used throughout the process and were revised as needed based upon additional risk assessments.
- TÜV SÜD conducted a site visit to Zefiro's project in Custer County, OK on July 2, 2024. During the site visit, TÜV SÜD observed the sampling process and onsite GHG management systems and data gathering, monitoring, and handling practices and interviewed key personnel. TÜV SÜD met with the following personnel during the site visit:

- Matthew Brooks – Head of Operations, Zefiro Methane Corp.
- Michael Burns– Operations Manager, Zefiro Methane Corp.
- Sam Jennings - Lead Project Developer- Operations Manager, Zefiro Methane Corp.

- 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 Zefiro throughout the validation/verification.
- TÜV SÜD's independent reviewer conducted a review of the validation/verification evidence-gathering activities, report, and opinion.
- TÜV SÜD issued a final validation/verification report, verification opinion, and list of findings.
- TÜV SÜD held an exit meeting with Zefiro.

3 Validation and Verification Findings

3.1 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. The project activity focused on quantifying methane emissions leaking from an orphaned well, primarily through the surface casing vent, and subsequently mitigating these emissions through well-plugging operations.

Post-plugging monitoring was conducted on February 3, 2025, confirming that methane emissions did not exceed 2 ppm. These results marked the start of both the reporting and crediting periods. The Project's temporal boundary for the reporting period is from February 3, 2025 to February 3, 2025. The Project's temporal boundary for the crediting period is from February 3, 2025 to February 2, 2045.

The last well in the project was plugged on October 24, 2024, and the validation was completed on April 25, 2025. Since the validation deadline is 12 months from the plugging date, the deadline would be October 23, 2025. The validation was completed within this timeframe.

3.2 GHG Sources Sinks, and Reservoirs

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

Table 1. GHG Emissions Sources

Source	GHG	Description
Baseline	CH_4	Emissions from Orphaned wells
Project	CO_2e	Emissions from mobile mechanical equipment for plugging
Leakage	N/A	Per the Methodology, Leakage is considered zero.

3.3 Eligibility

3.3.1 ACR Eligibility

TÜV SÜD confirmed the following ACR eligibility criteria listed in the ACR Standard 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 included as Appendix A).

- Start Date: The project start date corresponds to the date that a well in the project first meets the post-plugging monitoring requirements, which occurred on February 3, 2025.
- Crediting Period: The crediting period is 20 years as specified by the Methodology, February 3, 2025 to February 2, 2045.
- Minimum Project Term: Projects with no risk of reversal subsequent to crediting have no required minimum project term.
- Title: TÜV SÜD confirmed that the project proponent holds undisputed title to all carbon credits associated with the project. Based on the documentation provided, it was verified that the Fourtner well API 3503920644 was added to the Oklahoma Corporation Commission's orphan well list on May 10, 2022. Prior to that, 4 of US Resources LLC had failed to pay the required operator fees, as outlined in Order No. 723081 dated January 27, 2021. Although the well became orphaned at that point, it was not considered disowned, as the wellbore had previously been assigned to North Lake on August 9, 2021 and was never officially assigned to 4 of US Resources. On October 18, 2021, 4 of US Resources assumed operatorship from North Lake via Form 1073, without a formal wellbore reassignment. Subsequently, the wellbore was reassigned from North Lake to Formation Resources on May 31, 2022, while the well remained listed as an orphan. It was later transferred from Formation Resources to H2OK, LLC on November 1, 2023. H2OK, LLC then submitted Form 1073 on September 18, 2024 to formally request removal of the well from the orphan list. On September 26, 2024, Zefiro acquired all CO_2e credits related to emission reductions from the Fourtner well from H2OK, LLC. Zefiro retains full legal ownership of all environmental attributes and greenhouse gas (GHG) benefits associated with the well's plugging.
- Additional: TÜV SÜD confirmed that the project is additional as described in Section 3.4.
- Permanent: TÜV SÜD confirmed that Zefiro conducted the post-plugging sampling, and the post-plugging report from February 3, 2025, confirmed that no emissions were detected.
- Net of Leakage: According to ACR Standard 8.0, leakage is defined as a decrease in the sequestration or increase in emissions outside project boundaries resulting from project implementation. It refers to secondary effects where the GHG emission reductions of a project may be negated by shifts in market activity or shifts in materials, infrastructure, or physical assets associated with the project. Once a well is plugged and confirmed to be no longer emitting, there is no action from the O&G industry that may be done on that well to result in additional emissions. Plugging of orphaned wells does not increase the number of orphaned wells, and consequently should not result in the increase of fugitive methane emitting to the atmosphere.
- Independently Validated and Verified: TÜV SÜD is a third-party validation and verification body that the project proponent has contracted to validate the project.
- Social & Environmental Impacts: TÜV SÜD reviewed project impacts as described in section 3.6 of this report and in the *Environmental and Social Impact Assessment Report* and *Sustainable Development Goals* (*SDG) Contribution Report* uploaded to the ACR Registry.

3.3.2 Methodology Eligibility

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

- Project Location: The Project occurs in the U.S. The plugged well is located in Custer County, OK.
  Latitude: 35.6786635
  Longitude: -99.2134858
- Well Status: Zefiro provided a signed leak status attestation by Tina Reine on February 6, 2025, confirming that the well was found leaking upon initial access by the project participants.
- Orphaned Well: The Fourtner well was added to the Oklahoma Corporation Commission's orphan well list on May 10, 2022, as confirmed through an Open Records Request. This action was triggered by 4 of US Resources LLC's failure to pay the required operator fees, as specified in Order

No. 723081 dated January 27, 2021. Subsequently, on September 18, 2024, H2OK, LLC submitted Form 1073 to formally request the well's removal from the orphan list.

3.4 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.

3.4.1 Regulatory Additionality Test

During the validation and verification, TÜV SÜD identified no existing laws or regulations in Custer County, OK, requiring wells without a designated operator or those managed by the Oklahoma Corporate Comission to be plugged. Therefore, the Project satisfies the regulatory additionality test.

3.4.2 Practiced-Based Performance Standard Test

According to the Methodology, the additionality requirement is satisfied due to inadequate regulation at both state and provincial levels. For orphaned wells without a solvent operator, there is the added challenge of the absence of a responsible party for regulators to hold accountable. Since this well meets the Methodology's definition of an orphan well, the Project also passes the performance standard test.

3.5 Permanence

The emissions reductions from plugging the methane-leaking well are considered permanent, as post-plugging monitoring conducted by Zefiro confirmed no detected emissions. The post-plugging monitoring was carried out by Zefiro on February 3, 2025, using the RMLD meter (#8212218001), which does not require calibration according to the manufacturer's manual. Measurements were taken 5 cm above the square meter over the previous well location, identified as the center of the leak, over a 5-minute period, the sample recorded a 12.2910 ppm of methane. Background measurement was conducted at least 10 ft of the center in the upwind direction, the sample recorded a reading of 40.6175 ppm of methane, resulting in a delta of -28.3265 ppm, which does not exceed the 2 ppm limit specified by the methodology.

3.6 Social and Environmental Impacts

The Project Plan, *SDGs Contribution Report*, and *Environmental and Social Impact Assessment Report* include a comprehensive summary of the Project activity's net positive environmental impacts. There are no negative community or environmental impacts for the Project. The Project Plan and *SDG Contribution Report* identify contributions as aligned with relevant SDGs including:

3.6.1 SDGs Contribution

<u>Direct Positive Impact to SDG Targets</u>

- SDG 12: Ensure sustainable consumption and production patterns.
    - 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
        - This project will reduce methane emissions and their adverse impacts on human health and the environment. Methane puts "nearby residents at higher risk of asthma attacks, cancer and other health problems ... Methane gas emitted from wells can pollute the air while also harming animal and plant biodiversity. Moreover, a recent study in Los Angeles revealed that proximity to active or

recently idle well sites negatively affects lung function, even when considering other risk factors like smoking, asthma, and freeway proximity.

- SDG 13: Take urgent action to combat climate change and its impacts.
    - SDG 13.2: Integrate climate change measures into national policies, strategies, and planning.
        - This project contributes to SDG 13 by reducing almost 100,000 tCO2eq over 20 years. It will help foster a wider strategy of reducing emissions from orphaned and abandoned wells, as there is no financial incentive to plug these wells.

Indirect Positive Impact to SDG Targets

- SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
    - SDG 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

        This project contributes to SDG 9, specifically target 9.4: "...upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes. As such, this can be considered a "clean and environmental sound...industrial process" because methane emissions are being reduced that would otherwise be emitted from this industrial processd.

3.6.2 Environmental and Social Impact Assessment Report

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

1. Labor Rights and Working Conditions
    a. Safe and Healthy Working Conditions for Employees: Zefiro Methane complies with all relevant laws and regulations related to working conditions for employees.
    b. Fair Treatment of All Employees, Avoiding Discrimination, and Ensuring Equal Opportunities: Zefiro Methane complies with all relevant laws and regulations related to antidiscrimination.
    c. Forced Labor, Child Labor, or Trafficked Persons, and Protections for Contracted Workers Employed by Third Parties: Zefiro Methane complies with all relevant laws and regulations related to forced labor, child labor and employee/contractor protections.
2. Respect for Human Rights, Stakeholder Engagement
    a. Human Rights and Discrimination: Zefiro Methane complies with all relevant laws and regulations related to human rights and anti-discrimination.
    b. Abidance by the International Bill of Human Rights and Universal Instruments Ratified by the Host Country: Zefiro Methane abides by all applicable laws and treaties ratified by the US as the host country for this project.
3. Gender Equality
    a. Equal Opportunities in the Context of Gender: Zefiro Methane has a strict policy of non-discrimination and encouraging opportunities for women.
    b. Violence Against Women and Girls: Zefiro Methane abides by all applicable laws and regulations and has a zero-tolerance policy against violence against women and girls.
    c. Equal Pay for Equal Work: Zefiro Methane has a strict policy of paying women and men equally.

The validation team confirmed that the project activity is not promoting negative environmental or social impacts.

3.7 Local Stakeholder Consultation

Local stakeholder consultation is not applicable for the Project as this is not a community-based project.

3.8 Baseline Scenario

The baseline represents the emissions that would occur in the absence of the Project. For the Project, the baseline consists of the methane emissions that would have continued to be released into the atmosphere had Zefiro not intervened. TÜV SÜD confirmed the Project's baseline scenario of ongoing unmitigated release of methane into the atmosphere.

3.9 Data Management System and Monitoring Plan

TÜV SÜD reviewed the data management systems during the desktop review, as well as during the site visit. TÜV SÜD completed the majority of the GHG management systems review during the site visit by observing the onsite procedures and interviewing the personnel responsible for the Project. The onsite review included an assessment of the Project data collection, processing and handling procedures, recordkeeping and data storage, quality control and assurance procedures, record retention systems, and a field tour of the Project equipment. TÜV SÜD confirmed that Zefiro's data collection and management processes meet all ACR and Methodology requirements.

The primary project data includes gas flow, concentration, pressure, and temperature measurements taken from the exhaust outlet of the well enclosure. The SEMTECH® Hi-Flow 2 sampler units (SN: H23549878, H23549873, A2453194, and A24553189) were directly connected to the exhaust outlet over the wellhead, where the primary leak was identified. Each unit was calibrated by Sensors Inc. on August 28, 2023; August 25, 2023; September 10, 2024; and August 19, 2024, respectively. The equipment automatically corrects for temperature and pressure, but not to the conditions required by the methodology; therefore, Equation A from the E&C must be applied to convert the data to standard conditions (60°F and 1 atm). Flow, concentration, temperature, and pressure data are continuously monitored and stored onboard the equipment throughout sampling. Once the sampling is complete, the data are transferred to Zefiro's cloud platform.

Zefiro'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 Monitoring 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 Zefiro and reviews of project documents, TÜV SÜD determined that the Monitoring Plan accurately reflects how Project data is monitored and recorded and confirmed that Zefiro implemented the monitoring plan as stated in the Project Plan during Project activities.

3.10 Instrument QA/QC

TÜV SÜD reviewed evidence that the Hi-Flow 2 samplers met instrument QA/QC requirements as outlined in the Methodology for calibration. The Monitoring Report describes the procedures for instrument calibration. These procedures in the Monitoring Report follow the Methodology requirements.

TÜV SÜD reviewed calibration documentation for the handheld unit (flow meter). The flow meter H23549878 was calibrated by Sensors, Inc. on August 28, 2023 and September 10, 2024. The flow meter A24553189 was calibrated by Sensors, Inc, on August 19, 2024.

TÜV SÜD also reviewed the calibration certificates for the Analyzer Modules. The analyzer module H23549873 was calibrated by Sensors, Inc. on August 25, 2023 and September 10, 2024. The analyzer module A2453194 was calibrated by Sensors, Inc. on August 19, 2024.

All calibration certificates showed a flow and methane concentration variation of <5%, aligning with the 95% confidence level required by the methodology

TÜV SÜD also reviewed the RMLD-CS operator's manual and confirmed that calibration is not required, as the equipment performs automatic self-calibration. The RMLD-CS was used to conduct the post-plugging sampling.

Additionally, Zefiro conducted multiple bump tests, although not all were documented. While not required by the manufacturer, these tests served as an additional quality assurance measure.

3.11 Project Data and GHG Emissions Reduction Statement

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.

3.11.1 Baseline Emissions

Baseline emissions are calculated by multiplying the methane emission rate for the well (measured over a two-hour period) by the specified global warming potential (GWP) of methane and the 20-year crediting period. The methane emission rate is determined using Equation 1, which factors in:

- The well gas flow rate,
- The methane concentration,
- A moisture correction factor (determined to be 1, as the gas flow rate and concentration were measured on a wet basis), and
- A gas density of 0.0423 (lb CH_4/scf CH_4) based on standard conditions.

A deduction for ambient methane concentration was applied to the calculations. The concentration was measured with the same Hi-Flow 2 Sampler before the well measurements started.

TÜV SÜD confirmed that the well gas flow, concentration, temperature and pressure rate was obtained directly from the Hi-Flow 2 Sampler, where all collected well data is stored and then extracted and uploaded to Zefiro's storage cloud. This information was exported as a CSV file and provided to TÜV SÜD. Sensors Inc. confirmed that the Hi-Flow 2 Sampler adjusts the measured flow to standard conditions of 25°C and 1 atm, Zefiro applied Equation A from the E&C and corrected the flow to 60°F meeting the Methodology requirements.

Two measurement periods were conducted for the well: 3 hours and 50 minutes for Measurement 1, and 4 hours and 12 minutes for Measurement 2. Zefiro selected a minimum sampling duration of two hours as the basis for its calculations. Zefiro conducted Pre-plugging Measurement 1 on March 12, 2024, and Measurement 2 on August 26, 2024, meeting the required minimum interval of 30 days between measurements as specified by the Methodology.

The Hi-Flow 2 Sampler collected data every 1 second in standard cubic meters per day (sm^3/second). The data was averaged over 10-minute intervals, producing 12 data points for each dataset. The average flow of the 12 data points for each measurement was calculated, followed by calculating the average of Measurement 1 and Measurement 2, resulting in the total well gas flow rate.

TÜV SÜD replicated the process described above and compared the average well gas flow rates from Measurements 1 and 2, confirming that they did not differ by a factor greater than 10. Additionally, TÜV SÜD verified that the methane emission rates from Measurements 1 and 2 were each within 10% of their respective average methane emission rates.

TÜV SÜD also calculated the gas pressure by subtracting the barometric pressure (sourced from the Mesonet website) from the gauge pressure recorded by the Hi-Flow 2 Sampler. A minimum of eleven out of the twelve data points were within ±10% of the mean, as required by the methodology.

TÜV SÜD reviewed the final calculations and did not identify any material issues.

3.11.2 Project Emissions

Per the Methodology, any emissions from fossil fuel combustion associated with plugging activities at the well site must be quantified. Zefiro calculated these emissions based on the diesel consumption of all equipment used during plugging operations. Fuel usage was tracked by Plants & Goodwin. Using the total diesel volume, Zefiro applied Equation 3 to determine total project emissions. TÜV SÜD did not identify any material issues with the calculations.

3.11.3 Emissions Reductions

TÜV SÜD verified that Zefiro 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 GHG statement to be free of material misstatement. TÜV SÜD's calculated Emissions Reductions metric tons are shown in Table 2.

Table 2. Emission Reductions

Reporting Period	TÜV SÜD ERs (metric tons CO2e)	Zefiro Ers (metric tons CO2e)	% Difference
February 3, 2025 – February 3, 2025	93,135	92,956	-0.19

As shown in Table 2, the percentage difference between TÜV SÜD's and Zefiro's emission reduction calculations was -0.19%, not exceeding the 5% materiality threshold required by the ACR standard.

3.12 Project Deviations

Zefiro deviated from Section 4 of the Methodology and E&C #7a by initiating pre-plugging measurements prior to the submission and approval of the Methane Measurement Method Approval Form. Pre-plugging measurements began on March 12, 2024, while the Approval Form was submitted to ACR on July 1, 2024, and approved on the same day. The proposed deviation related to the sequence of the submission/approval of the Methane Measurement Method Approval Form and the pre-plugging measurements, indicating that does not impact the conservativeness of the methodology's approach to the quantification of the GHG emission reductions and removals. ACR approved this deviation on April 2, 2025, with no further comments.

TÜV SÜD reviewed the nature of the deviation and conducted a detailed analysis of the information provided to address the deviation. Based on site visit observations and the supporting evidence, TÜV SÜD confirmed that the deviation did not compromise the conservativeness of the Methodology and were unrelated to additionality or baseline establishment.

4 Validation and Verification Results

TÜV SÜD developed one List of Findings for both the validation and verification notifying Zefiro of corrective action requests (CARs), non-material findings (NMFs), additional documentation requests (ADRs), and clarification requests (CRs), as necessary. Zefiro appropriately responded to all items in the List of Findings. The List of Findings is provided as Appendix B.

5 Validation and Verification Opinion

TÜV SÜD America, Inc. conducted the validation and verification of ACR959 Zefiro according to the requirements found in ISO 14064-3:2019. 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 Section 1.5.1. The objective of the verification activities was to conduct an independent assessment of the project reporting period and ex-post GHG emission reductions resulting from the Project. Preparation and fair presentation of the GHG statement in accordance with the criteria is the responsibility of Zefiro.

- GHG-related activity: Permanent plugging of an orphaned leaking gas well
- GHG statement reporting period: February 3, 2025 – February 3, 2025
- Criteria:
    - ACR Standard, Version 8.0 (July 2023)
    - ACR Validation and Verification Standard, Version 1.1 (May 2018)
    - Methodology for the Quantification, Monitoring, Reporting and Verification of Greenhouse Gas Emissions Reductions and Removals from Plugging Orphan Oil and Gas Wells in the US and Canada, v1.0, (May 2023)
    - Errata and Clarifications to the Methodology (September 13, 2024)
    - Zefiro Orphaned Wells Methane Measurements Method Approval Form (July 1, 2024)

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

TÜV SÜD has ensured Zefiro's effective use of controls related to the GHG statement. TÜV SÜD concludes that there is sufficient and appropriate evidence to support Zefiro's GHG statement and issues an Unmodified 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.

Table 3 provides a summary of the emissions reductions as stated in the GHG statement.

Table 3. Zefiro Emissions Reductions

Crediting period	Baseline Emissions (metric tonnes CO2e)	Project Emissions (metric tonnes CO2e)	Emissions Reductions (metric tonnes CO2e)
February 3, 2025 – February 2, 2045	97,855	6.29	92,956

Lead Validator and Verifier

Issaí Medellín

Independent Reviewer

Phillip Cunningham

6 Appendix A—Documents Reviewed

1. SEMTECH HI-FLOW 2 meter calibrations
2. RMLD-CS meter manual
3. Post-plugging report
4. Calculations
5. Methodology deviation approval
6. Leak attestation
7. Open Records Request – Orphan well evidence
8. Measurement method approval form
9. Well title chain
10. Fuel consumption report
11. Binding Term Sheet (Zefiro, Reclaim and H2OK)
12. Plugging record form 1003
13. Intent to plug form 1001
14. Plugging company business license
15. GHG Project Plan
16. Monitoring Report
17. Listing Form
18. ACR Environmental and Social Impact Assessment Report
19. ACR SDG Contributions Report
20. Project Deviation Request
21. SEMTECH HI-FLOW 2 Reference Manual, Quick Start, Technical Sheet

7 Appendix B—List of Findings

Project ID & Name:	**ACR959 Zefiro Methane OOG 1 - Drake**
Project Developer:	**Zefiro Methane Corp.**
List of Findings version:	**Final**

This document is a private working document generated by TÜV SÜD America (TÜV SÜD) that lists all the material and non-material findings, requests for additional documentation, requests for clarification, and recommendations for improvement in order to complete the project verification.

During the verification site visit and desktop review TÜV SÜD examined the Project site, project equipment, source data, supporting documentation, Monitoring Plan, Monitoring Report, and emission reductions calculations. During the site visit and/or desktop review, TÜV SÜD discovered items that require correction, additional information, and/or clarification before the closure of the verification.

The tables below list the items that TÜV SÜD is requesting that the Zefiro address.

Corrective Action Request (CAR), Non-Material Finding (NMF), Additional Documentation Request (ADR), or Clarification Request (CR) #	Finding and Date	Section of Protocol/ Methodology or Program Document	Project Developer Response and Date	TÜV SÜD response and Date	Open or Closed
CAR 1	1/24/2025. The file titled "Fourtner March Test Stability (New Requirement)", which contains calculations for Measurement 1, does not account for corrections to standard temperature and pressure. This omission conflicts with the explanation provided by Sensors Inc. on September 27, 2024, indicating that the software default adjusts measured flow to 25°C. This adjustment is also outlined in Section 6, Subsection 12 of the Quick Start Reference Manual. Furthermore, the calculations fail to include the arithmetic mean of all 10-minute interval flowing pressures (in psi) over the required minimum 2-hour stability period.	EC 9/13/2024 # 14a & 16a	2/26/2025. An updated calculation spreadsheet was provided.	2/27/2025. Zefiro updated its calculations.	Closed
CAR 2	1/24/2025. The photos included in the post-plugging report indicate that the handheld device was not positioned within 1 m^2 of the buried wellhead, nor was the detector placed within 5 cm of the ground. The recorded measurement was 3.43 ppm.	Methodology Section 4.7 and EC 9/13/2024 #13	2/5/2025. An updated Post Plugging report was provided.	2/7/2025. The Post-Plugging Report dated February 3, 2025 and prepared by Michael Burns, provided a clearer description of the measurements taken in accordance with the methodology's requirements. The results from the post-plugging measurements indicated an average methane concentration of 12.29 ppm above the wellhead and 40.61 ppm a few feet upwind from the wellhead, with a delta of less than 2 ppm, as specified in the methodology.	Closed
CAR 3	3/12/2025. According to the measurement method, a weekly bump test is required for the equipment. However, these tests were not provided for Measurement 1 as requested under CR2.	ACR959 Measurement Method.	4/11/2025. Our MMMAF included a conservative QA/QC plan that committed to weekly bump tests using CH_4 calibration gas. At least one week was missed. This frequency is not required by the ACR methodology or the Hi-Flow 2 manufacturer. ACR's response to the 4-hour duration issue prompted a closer look at whether the missed bump test constituted a deviation at all. Brent later confirmed that, if the VVB agrees the methodology was followed, no deviation is required since this was only a departure from an internal QA/QC commitment.	4/16/2025. TÜV reviewed Zefiro's correspondence with ACR and confirmed that, according to Bren, a deviation was not required for the missed weekly bump test, provided that Zefiro adhered to the manufacturer's calibration requirements.	Closed
CAR 4	3/12/20253. The methane emission rates during the 2-hour stability period were not corrected for ambient methane concentration in either Measurement 1 or Measurement 2.	EC 9/13/2024 # 12b	4/9/2025. An updated calculator was provided, including ambient methane deductions.	4/15/2025. Confirmed that calculations have been updated to reflect both changes in final calculator.	Closed
ADR 1	10/2/2024. Please provide the raw data associated to Measurement 1 and Measurement 2, ensuring that the date is included with the data.	Methodology Section 5.2	1/17/2025. See provided file "Zefiro Methane LLC ADR 1 Response Supplement" along with supporting documentation in folder "ADR 1".		Closed
ADR 2	10/2/2024. Please provide the calculations for Measurement 1 and Measurement 2. While the Measurement 1 calculation (dated 3/12/24) has been shared, the date is missing from the document.	Methodology Section 5.2	2/26/2025. An updated calculation spreadsheet was provided.	2/27/2025. Zefiro updated its calculations and no more issues were identified.	Closed
ADR 3	10/2/2024. Please provide evidence that ACR has been informed of the removal of one well.	Methodology Section 2.1	2/3/2025. An email from Jessica Bede at ACR indicated: "Changes to the composition of wells should be denoted in the Section VII of the Monitoring Report and, if more than one well remains in the project, the final set of included wells should be documented in the Multi-Site Design Document. Separate notification is not required. When submitting for ACR's review, please review the description of the project on the Registry and notify us if a change is required."	2/3/2025. No more evidence required.	Closed

ADR 4	10/2/2024. Update the GHG Project Plan to reflect: 1) the removal of one well and 2) any necessary adjustments regarding baseline calculations. 3) Additionally, update the project boundary section to accurately define the boundary in line with ACR's definition: "A GHG Project's physical boundary or implementation area, the GHG sources, sinks, and reservoirs (or pools) considered, and the project duration." 4) Include physical conditions prior to project implementation. 5) Update section E8. 6) Under A4 Project Action, include "Description of prior physical conditions", "Description of how the project will achieve GHG emission reductions and/or removal enhancements"	ACR Standard V8 Section 6.B EC 9/13/2024 # 19	4/24/2025. An updated GHG Project Plan was provided.	4/25/2025. No more issues identified.	Closed
ADR 5	10/2/2024. Please provide evidence of credit ownership.	Methodology Section 6.1	2/18/2025. See "Zefiro Methane LLC ADR 5 Response Supplement No.2" and attached evidence.	2/19/2025. Based on the evidence provided it was confirmed that the well was included to the orphan list on May 10, 2022 while 4 of US Resources LLC did not pay the required fees to be an operator in Oklahoma through the order 723081 dated Jan 27, 2021. At this point the well becomes orphan but not disowned since the wellbore was assigned to North Lake on August 9, 2021 and was never assigned to 4 of US, it was only transferred from North Lake to 4 of US Resources on October 18, 2021 as a operatorship based on form 1073.The wellbore is then assigned from North Lake to Formation Resources on 5/31/2022 while the well still being part of the orphan list. Subsequently the wellbore was assigned from Formation Resources to H2OK, LLC on 11/1/2023 and subsequently H2OK, LLC requested the transfer from the orphan well list through form 1073.	Closed
ADR 6	10/2/2024. Please provide evidence that the well meets the definition of "orphaned" according to the methodology.	Methodology Section 1.1	1/17/2025. See provided file "Zefiro Methane LLC ADR 6 Response Supplement" along with supporting documentation in folder "ADR 6". Section 1.1 of the methodology defines "Orphaned Wells" in relevant part as follows: wells without a solvent operator, which are not plugged or have been poorly plugged and require additional plugging measures to prevent emissions. These wells may appear on a jurisdiction's "orphaned well list" or they may be unknown orphans that were drilled and poorly plugged or simply abandoned prior to the promulgation of plugging regulation and tracking requirements. The Oklahoma Corporation Commission Oil and Gas Conservation Division is the regulatory body in the state of Oklahoma that oversees oil and gas activities in the state. The Division administers and maintains the Oklahoma orphan well list. The project well (Fourtner 1-22 API #35-039-20644) was a well without a solvent operator that was added to the Oklahoma orphan well list on September 18, 2023. The Division maintains the current orphan well list here: https://oklahoma.gov/occ/divisions/oil-gas/oil-gas-data.html Below is an excerpt of the May 9, 2024 version of the Oklahoma orphan well list confirming the orphan status of the project well (yellow highlight): "OR" status in the third column is defined by the Division as follows: Orphaned Wells—wells with no known or viable Operator The Division provides a Data Dictionary for Orphan Well List which is available at the link referenced above and which has also been provided (see tab "Well_Status_Ref_Codes in provided file orphan-wells-data-dictionary.xlsx). Also provided is the full file for the May 9, 2024 orphan well list referenced above (see provided file orphan-well-list 5.9.2024.xlsx).	1/24/2025. See ADR5 for more details.	Closed
ADR 7	10/2/2024. Please provide the Methane Measurement Specialist approval from ACR.	Methodology Section 4	2/3/2025. An email from Jessica Bede at ACR confirmed that the approval is now visible to TÜV SÜD on the ACR website		Closed
ADR 8	10/2/2024. Please provide the Methane Measurement Method approval from ACR.	Methodology Section 4.1	2/3/2025. An email from Jessica Bede at ACR confirmed that the approval is now visible to TÜV SÜD on the ACR website		Closed
ADR 9	10/2/2024. During the site visit, it was mentioned that reports, including photos, were prepared whenever the equipment was used. Please provide the reports from both measurements.	Methodology Section 5.2	1/17/2025. See provided file "Zefiro Methane LLC ADR 9 Response Supplement" along with supporting documentation in folder "ADR 9".		Closed
ADR 10	10/2/2024. Please provide the background measurement, along with the report referred to in ADR9.	Methodology Section 5.2	2/7/2025. A report was provided.		Closed
ADR 11	1/24/2025. Please provide verifiable evidence that the well was found to be emitting methane (e.g. attestation).	EC 9/13/24 #6 Methodology Section 4	2/6/2025. An attestation was provided.		Closed
ADR 12	1/24/2025. Please provide emission reductions calculations.	Methodology Section 4.8	2/6/2025. A calculation spreadsheet was provided.	2/7/2025. An updated set of calculations was requested based on ADR2 and CAR 1. Refer to ADR 2 and CAR1.	Closed

ADR 13	1/24/2025. Please provide the Environmental and Social Impact Assessment and include the reference to the GHG Project Plan.	ACR Standard V8 Section 8.A	2/19/2025.A file was provided.		Closed
ADR 14	1/24/2025. Please provide dated logs of the fuel consumption during the plugging process, including the type of equipment used, the quantity of fuel consumed, and the fuel type.	Methodology Section 5.2	2/4/2025. A fuel consumption & Emissions Report from Plants & Goodwin.		Closed
ADR 15	1/24/2025. Please provide a screenshot or photo from the RMLD device taken during the post-plugging measurements, clearly showing the ppm readings, GPS location, and date stamp.	EC 9/13/2024 # 16b	2/5/2025. Provided under CAR 2.	2/7/2025.See CAR 2 for more details.	Closed
ADR 16	1/24/2025. Please provide evidence that well is officially classified as plugged in the OCC well records.	GHG Project Plan A7.	2/7/2025. A form 1003 (Plugging Record) was provided including the signature of the District Manager and Field Inspector, it was received directly from Lora Baker (lora.baker@occ.ok.gov) at the Oklahoma Corporate Commission. The form indicates that the well was plugged on October 24, 2024.		Closed
ADR 17	1/24/2025. Please provide the Sustainable Development Goals (SDGs) Contribution Report.	ACR Standard V8 Section 8.B	3/6/2025. A file was provided.		Closed
ADR 18	1/24/2025. Please provide documentation that the sampler (Zefiro Methane) has rights to access the well.	Methodology Section 5.2	2/18/2025. A Wellbore Assignment, Bill of Sale and Conveyance and a Binding Term Sheet was provided.	2/18/2025. The wellbore assignment for the FOURTNER 1-22 well, effective November 1, 2023, was executed from Formation Resources Field Services, LLC to H2OK, LLC. Additionally, a binding term sheet between Zefiro Methane, LLC, USA Cool Face LLC dba Reclaim Well Solutions, LLC, and H2OK, LLC (with Reclaim Well Solutions and H2OK collectively referred to as "Reclaim") was signed on March 14, 2024. Section 7 of this agreement confirms that the FOURTNER 1-22 well will continue to be accessible for environmental measurements and any other activities related to Phase I—a pilot program covering carbon credits generated from up to four wells currently owned or controlled by Reclaim. At the time of signing, ownership of the well had already transferred to H2OK, LLC.	Closed
ADR 19	1/24/2025 Please provide a copy of license of pipe pulling and well plugging company approved by the appropriate state agency -Company name -Company address -Expert experience -Counties were company can operate within the state	Methodology Section 5.2	1/31/2025. The application for Casing Pulling and Well Plugging License approved by OCC on 8/13/2024 with license number 976, document shared.		Closed
ADR 20	1/14/2025. Please provide a copy of timely Intend to Plug notification to all applicable agencies prior cementing operations so that Field Inspectors may have the opportunity to witness plugging procedures Copy of plugging record given by the appropriate regulatory agency	Methodology Section 5.2	1/31/2025. A Notification of Intention to Plug the well was provided under form 1001 dated 10/02/2024.		Closed
ADR 21	2/5/2025. Please provide the Monitoring Report.	ACR Standard V8 Section 6.E	4/24/2025. A file was provided.		Closed
CR 1	10/2/2024. Please clarify whether both measurements were conducted with the inlet vent positioned at the bottom of the system, or if they were taken without the inlet vent, as observed during the site visit. If the measurements were done with an inlet vent, please explain how you confirmed that it does not affect the leakage flow measured by the Hi-Flow 2 equipment.	Methodology Section 4.1	1/17/2025. See provided file "Zefiro Methane LLC CR 1 Response Supplement".	2/4/2025. Based on Zefiro' s response and ACR's comments on the methodology, no further clarifications are needed.	Closed
CR 2	10/2/2024. How do you ensure that your measurement method achieves a confidence level of at least 95%?	Methodology Section 4.1	1/17/2025. Please refer to the provided files for response to ADR 8 containing the ACR approved details for calibration schedule for utilized equipment and confirmation of same for the equipment used for Measurement #1 and Measurement #2 showing compliance with the approved calibration schedule (see files in folders /Equipment Documentation - Measurement #1 (3.12.24) and /Equipment Documentation - Measurement #2 (8.26.24))	3/6/2025. Although the SEMTECH HIGH-FLOW 2 has a methane leak rate detection accuracy of <10% of the absolute value and <5% of full scale or 20% of the measured point (whichever is lower), TÜV SÜD verified that the calibration certificate results demonstrate a flow variation and methane concentration error of less than ±5%, aligning with the 95% confidence level required by the Methodology. TÜV SÜD also considered the bump tests with 2.5% CH_4 performed by Zefiro, which showed that the equipment readings remained within a 5% margin of difference, confirming the accuracy of the measurements.	Closed
CR 3	1/24/2025. What is the process for extracting data from the device? Additionally, how can we verify that the device used on-site is accurately represented in the raw data provided?	Methodology Section 4.1	2/4/2025. A file with the process description was provided.	2/5/2025. Refer to ADR21 for more details.	Closed
CR 4	1/24/2025. Could you please clarify whether the HI-FLOW 2 device measured methane concentration and flow on a wet basis or a dry basis?	EC 9/13/24 #15	2/5/2025. The HI-FLOW 2 device measured methane concentration and flow on a wet basis. Wet basis measurement occurs when the measurement is performed directly on the well gas flow, or well gas leak in this instance, as opposed to having fluid removed from the flow prior to conducting measurement.		Closed