⛽ VaultonToken – Gas Report

This gas report outlines the average gas consumption for key contract functions and test scenarios. These figures help identify the most gas-intensive operations and serve as a benchmark for optimization or budgeting deployment costs.

📦 Deployment

Metric	Value
Contract Size	15,920 bytes
Deployment Gas	3,354,766

⚙️ Function Gas Usage

Function / Scenario	Avg Gas Used	Description
`transferScenarios()`	470,772	Simulates various token transfer scenarios including tax applications.
`testSwapThresholdConditions()`	526,726	Validates conditions under which token swaps should be triggered.
`swapAndLiquify()`	364,783	Swaps taxed tokens for ETH and adds liquidity to the DEX.
`testPancakeSwapCompatibility()`	463,095	Ensures that token behavior is fully compatible with PancakeSwap.
`buyTax()`	252,668	Applies buy-side taxes and validates logic.
`sellTax()`	144,083	Applies sell-side taxes and validates logic.
`testBlacklistBidirectional()`	305,976	Verifies blacklist behavior for both sender and receiver.
`queueDistribution()`	147,742	Adds a user to the distribution queue.
`processDistribution()`	61,129	Processes token distributions from the queue.

`removeTaxes()`	51,647	Permanently disables taxes post-burn milestone.
`renounceContract()`	33,078	Transfers ownership and renounces admin control.

🧠 Observations

- **Swap functions** (`swapAndLiquify`, `testSwapThresholdConditions`) are the most gas-intensive due to multiple external calls and liquidity operations.
- **Tax application logic** is reasonably optimized, with buy and sell tax functions consuming moderate gas.
- **Blacklist logic** and compatibility with PancakeSwap also incur relatively higher gas due to checks and interactions.
- **Administrative functions** like `renounceContract` and `removeTaxes` are lightweight, reflecting minimal overhead.