

TechRate
December, 2023



SMART CONTRACTS SECURITY AUDIT REPORT



Techrate_audits



Techrate



Techrate1

Audit Details



Audited project

BANNOCHMOOR



Deployer address

Not deployed



Client contacts:

BANNOCHMOOR team



Blockchain

Not deployed



Project website:

www.bannochmoor.com

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by BANNOCHMOOR to perform an audit of smart contracts:

https://github.com/IngloriousBasterd99/bannochmoor_token/commit/da9fe73457ba4ffc3d17f55376e3682767aced96

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Issues Checking Status

Issue description	Checking status
1. Compiler errors.	Passed
2. Race conditions and Reentrancy. Cross-function race conditions.	Passed
3. Possible delays in data delivery.	Passed
4. Oracle calls.	Passed
5. Front running.	Passed
6. Timestamp dependence.	Passed
7. Integer Overflow and Underflow.	Passed
8. DoS with Revert.	Passed
9. DoS with block gas limit.	Low issues
10. Methods execution permissions.	Passed
11. Economy model of the contract.	Passed
12. The impact of the exchange rate on the logic.	Passed
13. Private user data leaks.	Passed
14. Malicious Event log.	Passed
15. Scoping and Declarations.	Passed
16. Uninitialized storage pointers.	Passed
17. Arithmetic accuracy.	Passed
18. Design Logic.	Passed
19. Cross-function race conditions.	Passed
20. Safe Open Zeppelin contracts implementation and usage.	Passed
21. Fallback function security.	Passed

Security Issues

✓ High Severity Issues

No high severity issues found.

✓ Medium Severity Issues

No medium severity issues found.

✓ Low Severity Issues

1. Out of gas

Issue:

- The function `airdrop()` uses the loop to send tokens to accounts array. Function will be aborted with `OUT_OF_GAS` exception if there will be a long addresses list.
- There is no checking of *recipients* length to be equal to *values* length.

Recommendation:









Check that the array length is not too big.

Owner privileges (In the period when the owner is not renounced)

- Owner can set whether an account is excluded from fees.
- Owner can set the buy, sell, and transfer fees (maximum is 10%).
- Owner can change swapToETH value.
- Owner can exclude addresses from fees.
- Owner can sweep the contingency.
- Owner can sweep external tokens.
- Owner can send tokens to multiple addresses.
- Owner can change numTokensSellToETH.
- Owner can enable trading.

Testnet deployment

Contracts Description Table

Contract	Type	Bases	Visibility	Mutability	Modifiers
L	Function Name				
Bannochmoor	Implementation	Ownable, ERC20			
L	airdrop	External	!		onlyOwner
L	excludeFromFee	External	!		onlyOwner NotZeroAddress
L	setNumTokensToSellToETH	External	!		onlyOwner
L	setSwapToETH	External	!		onlyOwner
L	setTaxes	External	!		onlyOwner
L	setTradingEnabled	External	!		onlyOwner
L	setTreasury	External	!		onlyOwner NotZeroAddress
L	withdrawETH	External	!		onlyOwner

Legend

Symbol Meaning



Function can modify state



Function is payable

Contract: Bannochmoor

- ✓ should deploy the token with the correct name and symbol (1084ms)
- ✓ should assign the initial supply to the deployer (1696ms)
- ✓ should exclude specific addresses from fees (33166ms)
- ✓ should airdrop tokens to multiple recipients (21441ms)
- ✓ should withdraw ETH and tokens only by the owner (19320ms)
- ✓ should allow the owner to set tradingEnabled (8397ms)
- ✓ should allow the owner to set treasury (7704ms)
- ✓ should set numTokensSellToETH (7378ms)
- ✓ should set swapToETH status (16296ms)
- ✓ should set taxes (9040ms)

Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope. The further transfers and operations with the funds raise are not related to this particular contract.

Liquidity locking details are NOT provided by the team.

Security score: 86.

TechRate note:

Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.