



TechRate
AUDIT COMPANY

Smart Contract Security Audit

Audit Details



Audited project

Staking



Deployer address

0xa08be812884c74e0a9c01f0f19e2e70727ab5f36



Client contacts:

Staking team



Blockchain

Binance Smart Chain



Project website:

<https://richquack.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 below 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 Staking to perform an audit of smart contracts:

<https://bscscan.com/address/0xfab0fd2586e287746aaec8397109b5fe6d2ff053#code>

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.

Contracts Details

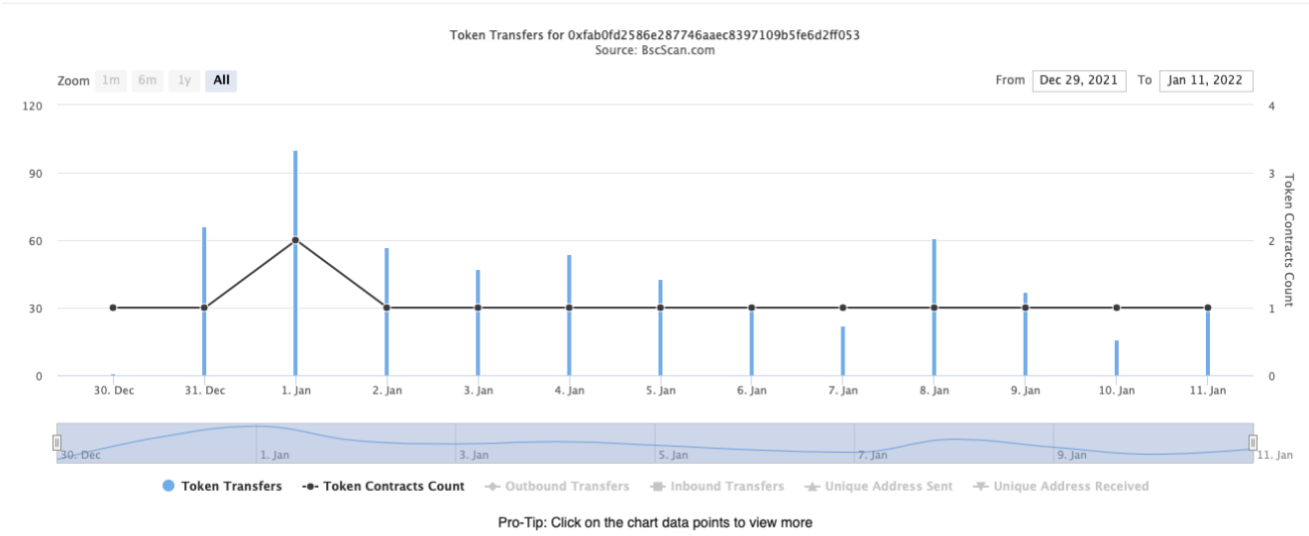
Token contract details for 12.01.2022

Contract name	Staking
Contract address	0xfaB0fD2586e287746aAEC8397109B5FE6D2Ff053
Precision factor	1000000000000000000000
Reward per second denominator	1
Acc token per share	616072073990326500646
Reward per second	964506172839506
QUACK	0xd74b782e05aa25c50e7330af541d46e18f36661c
Fees collected	1206704856905476178328
Pool start time	1640962378
Pool end time	0
Total staked	35310274700692461101031
Contract deployer address	0xa08be812884c74e0a9c01f0f19e2e70727ab5f36
Contract's current owner address	0x2cb65436a0acbc46956c64e34cae045cdbea4b48

Staking Contract Interaction Details

Time Series: Address Token (BEP-20) Transfers

Thu 30, Dec 2021 - Tue 11, Jan 2022



Contract functions details

- + Ownable (Context)
 - [Pub] <Constructor> #
 - [Pub] owner
 - [Pub] renounceOwnership #
 - modifiers: onlyOwner
 - [Pub] transferOwnership #
 - modifiers: onlyOwner
 - [Int] _transferOwnership #
- + ReentrancyGuard
 - [Pub] <Constructor> #
- + [Int] IERC20
 - [Ext] totalSupply
 - [Ext] balanceOf
 - [Ext] transfer #
 - [Ext] allowance
 - [Ext] approve #
 - [Ext] transferFrom #
- + [Lib] SafeERC20
 - [Int] safeTransfer #
 - [Int] safeTransferFrom #
 - [Int] safeApprove #
 - [Int] safeIncreaseAllowance #
 - [Int] safeDecreaseAllowance #
 - [Prv] _callOptionalReturn #
- + [Lib] Address
 - [Int] isContract
 - [Int] sendValue #
 - [Int] functionCall #
 - [Int] functionCall #
 - [Int] functionCallWithValue #
 - [Int] functionCallWithValue #
 - [Int] functionStaticCall
 - [Int] functionStaticCall
 - [Int] functionDelegateCall #
 - [Int] functionDelegateCall #
 - [Int] verifyCallResult
- + Context
 - [Int] _msgSender
 - [Int] _msgData
- + [Int] IStaking
 - [Ext] stakeInfo #
- + Staking (IStaking, Ownable, ReentrancyGuard)
 - [Pub] <Constructor> #
 - [Ext] pendingReward

- [Ext] deposit #
 - modifiers: startedAndNotEnded,nonReentrant
- [Ext] withdraw #
 - modifiers: nonReentrant
- [Ext] emergencyWithdraw #
 - modifiers: nonReentrant
- [Ext] editFees #
 - modifiers: onlyOwner
- [Ext] getFees #
 - modifiers: onlyOwner,nonReentrant
- [Ext] startPool #
 - modifiers: onlyOwner
- [Ext] endPool #
 - modifiers: startedAndNotEnded,onlyOwner
- [Pub] determineDay
- [Prv] _updatePool #
- [Prv] _takeFee #

(\$)= payable function

= non-constant function

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.	Passed
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

No low severity issues found.

Notes:

- Even emergency withdraw function have withdrawal fee.
- Contract balance should have enough tokens to be able to pay reward.
- Stakers' enteredAt value rewrites on every deposit.

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

- Owner can change fees and withdraw collected fees.
- Owner can change pool start time.
- Owner can end pool.

Conclusion

Smart contracts do not contain high severity issues! The further transfers and operations with the funds raise are not related to this particular contract.

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.

