HackSafe

Smart Contract Security Audit Report

Tadpole

January 2023

Security Status

★ ★ ★ ★ ★

www.hacksafe.io

Audit Details

Audited project
Tadpole

Deployer address
0x58305c26337b7ad714e1deb9bb4a94c288b77ec2

Client contacts
Tadpole

Blockchain
Ethereum

Website
https://tadpole.finance/

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.

Procedure

Step 1 - In-Depth Manual Review

Manual line-by-line code reviews to ensure the logic behind each function is sound and safe from various attack vectors. This is the most important and lengthy portion of the audit process (as automated tools often cannot find the nuances that lead to exploits such as flash loan attacks).

Step 2 - Automated Testing

Simulation of a variety of interactions with your Smart Contract on a test blockchain leveraging a combination of automated test tools and manual testing to determine if any security vulnerabilities exist.

Step 3 – Leadership Review

The engineers assigned to the audit will schedule meetings with our leadership team to review the contracts, any comments or findings, and ask questions to further apply adversarial thinking to discuss less common attack vectors.

Step 4 - Resolution of Issues

Consulting with the team to provide our recommendations to ensure the code's security and optimize its gas efficiency, if possible. We assist project team's in resolving any outstanding issues or implementing our recommendations.

Step 5 - Published Audit Report

Boiling down results and findings into an easy-to-read report tailored to the project. Our audit reports highlight resolved issues and any risks that exist to the project or its users, along with any remaining suggested remediation measures. Diagrams are included at the end of each report to help users understand the interactions which occur within the project.

Background

HackSafe was commissioned by Tadpole to perform an audit of smart contracts:

- https://etherscan.io/token/0x9f7229aF0c4b9740e207Ea283b9094983f78ba04#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 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.

Contract Details

Token contract details for 23.01.2023

Token Type	: DEFI
Contract name	: Tad
Contract address	: 0x9f7229aF0c4b9740e207Ea283b9094983f78ba04
Total supply	: 999,050
Token ticker	: TAD
Decimals	: 18
Token Holders	: 920
Transactions count	: 8,443
Compiler version	: v0.5.17+commit.d19bba13
Contract deployer address	: 0x58305c26337b7ad714e1deb9bb4a94c288b77ec2
Owner address	: No owner

Audit Summary

According to the standard audit assessment, Customer`s solidity smart contracts are **“well Secure”**. This token contract does not contain owner control, which do make it fully decentralized.

Insecure	Poor secured	Secure	Well-secured

You are here 

We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the issues checking status.

We found 0 critical, 0 high, 0 medium and 0 low.

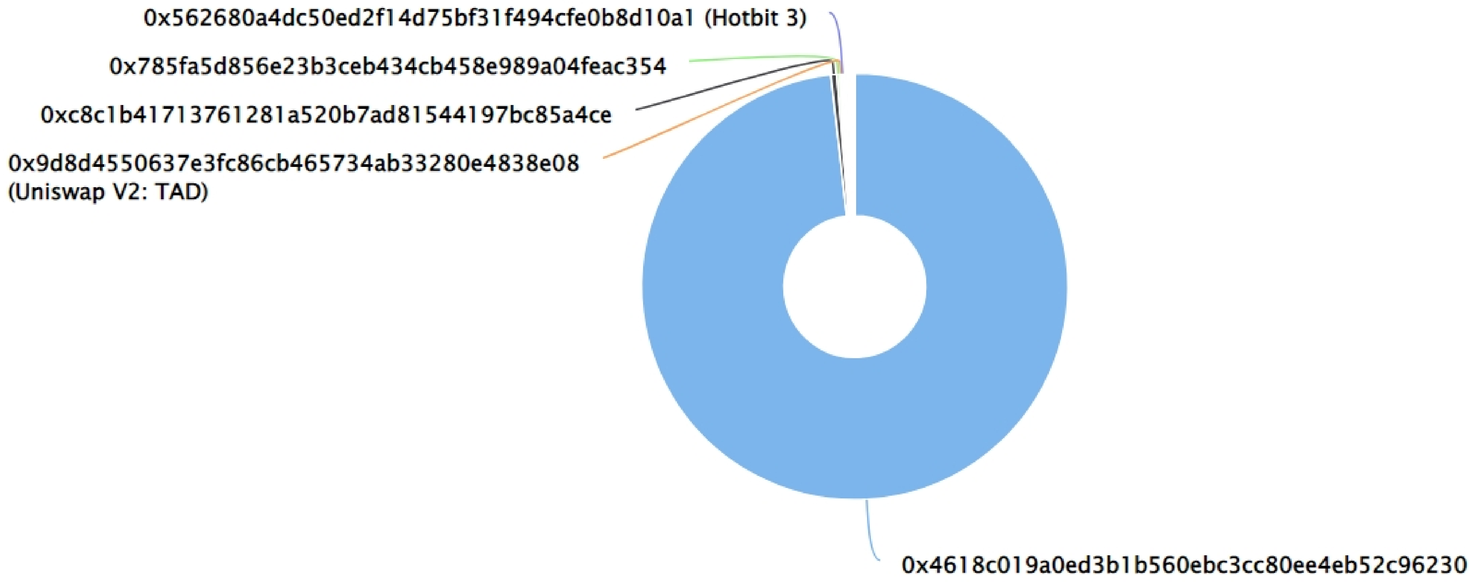
Tadpole Token Distribution

The top 100 holders collectively own 99.97% (998,784.35 Tokens) of Tadpole

Token Total Supply: 999,050.00 Token | Total Token Holders: 920

Tadpole Top 100 Token Holders

Source: Etherscan.io



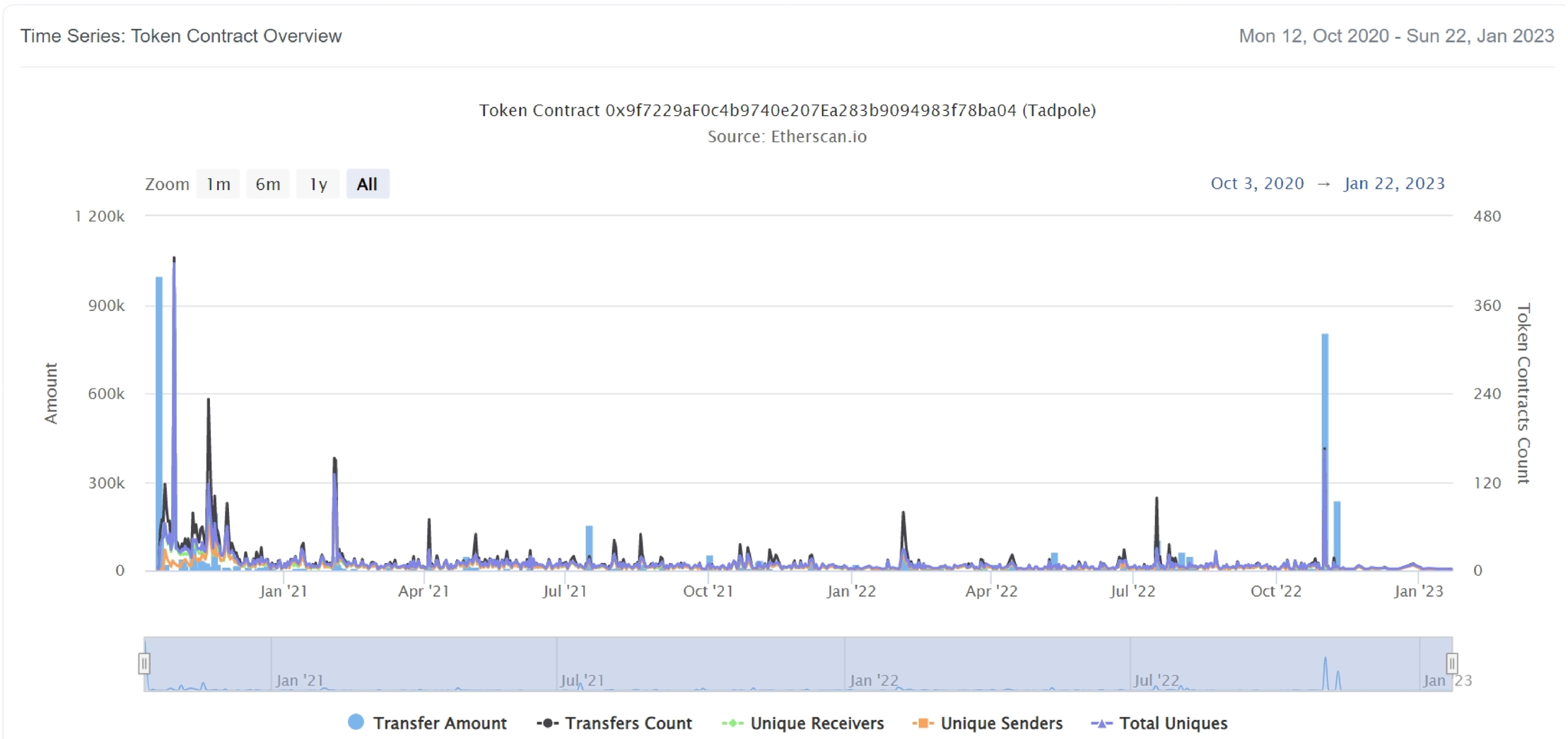
Tadpole Top 20 Token Holders

(A total of 998,784.35 tokens held by the top 100 accounts from the total supply of 999,050.00 token)

Rank	Address	Quantity (Token)	Percentage
1	0x4618c019a0ed3b1b560ebc3cc80ee4eb52c96230	981,203.809460429998998528	98.2137%
2	0xc8c1b41713761281a520b7ad81544197bc85a4ce	4,403.398819786298473777	0.4408%
3	0x785fa5d856e23b3ceb434cb458e989a04feac354	2,056.08534472	0.2058%
4	Uniswap V2: TAD	1,591.414182801676715706	0.1593%
5	Hotbit 3	1,323.166005953320977633	0.1324%
6	0xf40e2d4f122674140fdbd9e847dee6a08541025c	1,211	0.1212%
7	0x330cdc250b02cbda1462d1618445fb93ccff4878	1,052.1564663	0.1053%
8	Tadpole Finance: DEX Mining Contract	500.38886635827681404	0.0501%
9	0xaeac7b054c1d0ee95826abf907c723862e0096f8	400	0.0400%
10	Tadpole Finance: Genesis Mining	337.516089249708392117	0.0338%
11	0xb42580481e4f25f33360dea2e9ad435edc7a8e85	238	0.0238%
12	0xa23fc1543c1895e8d4e336d9e1df2b11fa5ecd7a	229	0.0229%
13	0x644cd7a437c507634bb0ddb6478c1c4e9eed7418	221.233984214375159576	0.0221%
14	0x2c867377e4216a859be86cafa138283a28f6a166	206.3079387354820598	0.0207%
15	0x14fbd7dfa8d940b5b87abb4559d07b72d52b4698	198.92081038385566533	0.0199%
16	0x102a4732ce6af7784ee456c9350f7cd463b7b092	161.096	0.0161%
17	0xeb64722b64a4c025c2f77f056e918c2da4e4849f	160.938535346035246893	0.0161%
18	0x21dd5c13925407e5bcec3f27ab11a355a9dafbe3	157.71266016	0.0158%
19	0xb3e4b47cb00ca9bbafc66b42df81dde4c1ea9993	139.79660413504236458	0.0140%
20	0x3c9dbb008048babb8ee84c5d3dda8695fe46bfe3	118.896612606619418684	0.0119%

Tadpole Token Distribution

Tadpole Contract Overview



Contract functions details

+Tad

-[Pub] <constructor> #

-[Ext] allowance

-[Ext] approve #

-[Ext] balanceOf

-[Ext] transfer #

-[Ext] transferFrom #

-[Pub] delegate

-[Pub] delegateBySig #

-[Pub] getCurrentVotes

-[Pub] getPriorVotes #

-[int] _delegate #

-[int] _transferTokens #

-[int] _moveDelegates #

-[int] _writeCheckpoint #

-[int] safe32

-[int] safe96

-[int] add96

($) = payable function

= non-constant function

Issues Checking Status

No.	Title	Status
1.	Compiler error	Passed
2.	Missing Input Validation	Passed
3.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
4.	Possible delays in data delivery	Passed
5.	Oracle calls.	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.	Private use data leaks.	Passed
13.	Malicious Event log.	Passed
14.	Scoping and Declarations.	Passed
15.	Uninitialized storage pointers.	Passed
16.	Arithmetic accuracy.	Passed
17.	Design Logic.	Passed
18.	Safe Open Zeppelin contracts implementation and usage.	Passed
19.	Incorrect Naming State Variable	Passed
20.	Too old version	Passed

Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to assets loss or data manipulations.
High	High-level vulnerabilities are difficult to exploit; however, they also have a significant impact on smart contract execution, e.g., public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can't lead to assets loss or data manipulations.
Low	Low-level vulnerabilities are mostly related to outdated, unused, etc. code snippets that can't have a significant impact on execution.

Security Issues

- **Critical Severity Issues**
  No critical severity issue found.
- **High Severity Issues**
  No high severity issue found.
- **Medium Severity Issues**
  No medium severity issue found.
- **Low Severity Issues**
  No low severity issue found.

Conclusion

Smart contract contains no low severity issues! The further transfer and operations with the fund raised are not related to this particular contract.

HackSafe 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.