



# Smart Contract Security Audit Report

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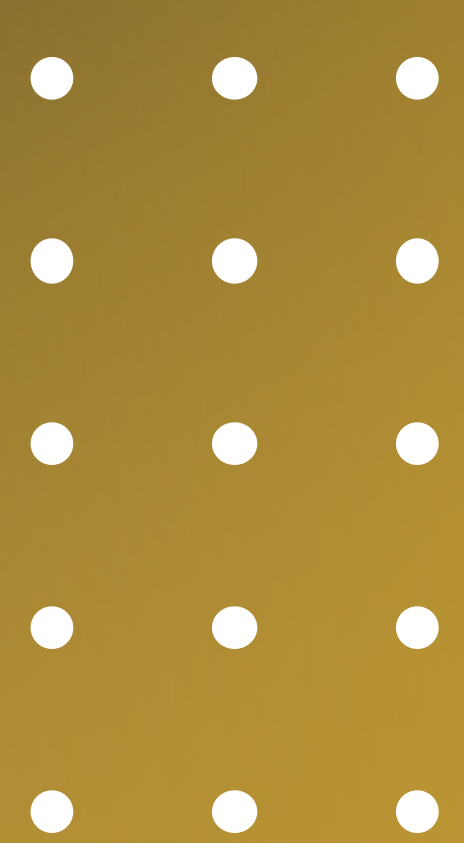
## **ZMINE Token**

December 2022

Security Status



[www.hacksafe.io](https://www.hacksafe.io)

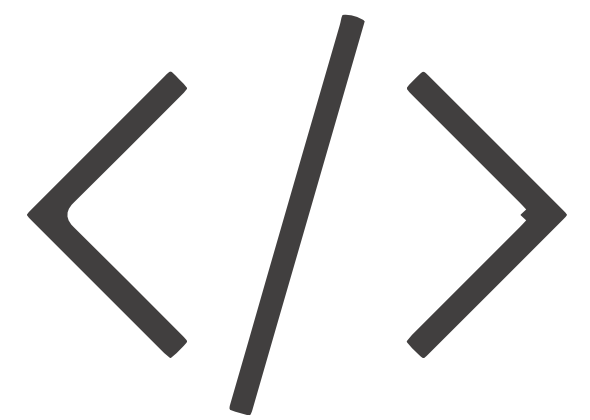


# Audit Details



## Audited project

ZMINE Token



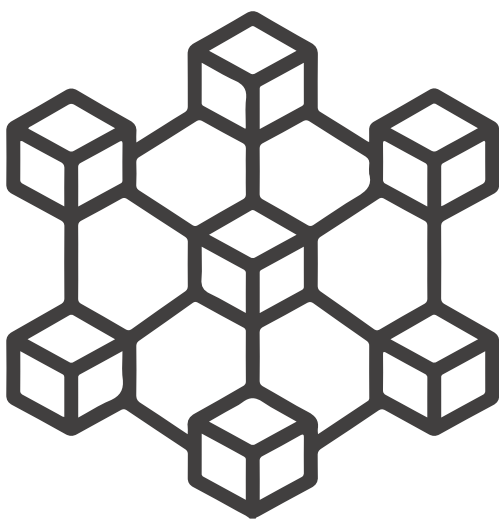
## Deployer address

0x008adda353dbbdc5def9897e0406511af690385b



## Client contacts

ZMINE Token Team



## Blockchain

Ethereum



## Website

<https://www.zmine.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.



# 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 ZMINE Token perform an audit of smart contracts:

- <https://etherscan.io/token/0x554ffc77f4251a9fb3c0e3590a6a205f8d4e067d#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 07.12.2022

Token Type	: DEFI
Contract name	: ZmineToken
Contract address	: 0x554FFc77F4251a9fB3c0E3590a6a205f8d4e067D
Total supply	: 212,705,507.99001929483114252
Token ticker	: ZMN
Decimals	: 18
Token Holders	: 1,187
Transactions count	: 6,727
Compiler version	: v0.4.19+commit.c4cbbb05
Contract deployer address	: 0x008adda353dbbdc5def9897e0406511af690385b
Owner address	: 0x008aDda353DBBDC5Def9897e0406511AF690385B

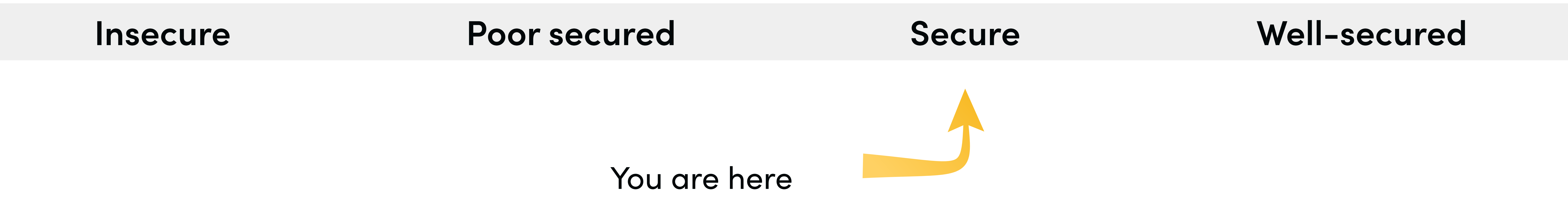


# Social profiles

Facebook profile	: <a href="https://www.facebook.com/zmineofficial">https://www.facebook.com/zmineofficial</a>
Twitter profile	: <a href="https://twitter.com/zmineofficial">https://twitter.com/zmineofficial</a>
Telegram profile	: <a href="https://t.me/zminegroupchat">https://t.me/zminegroupchat</a>
Coinmarketcap profile	: <a href="https://coinmarketcap.com/currencies/zmine/">https://coinmarketcap.com/currencies/zmine/</a>
Coingecko profile	: <a href="https://coingecko.com/en/coins/zmine">https://coingecko.com/en/coins/zmine</a>

# Audit Summary

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



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.

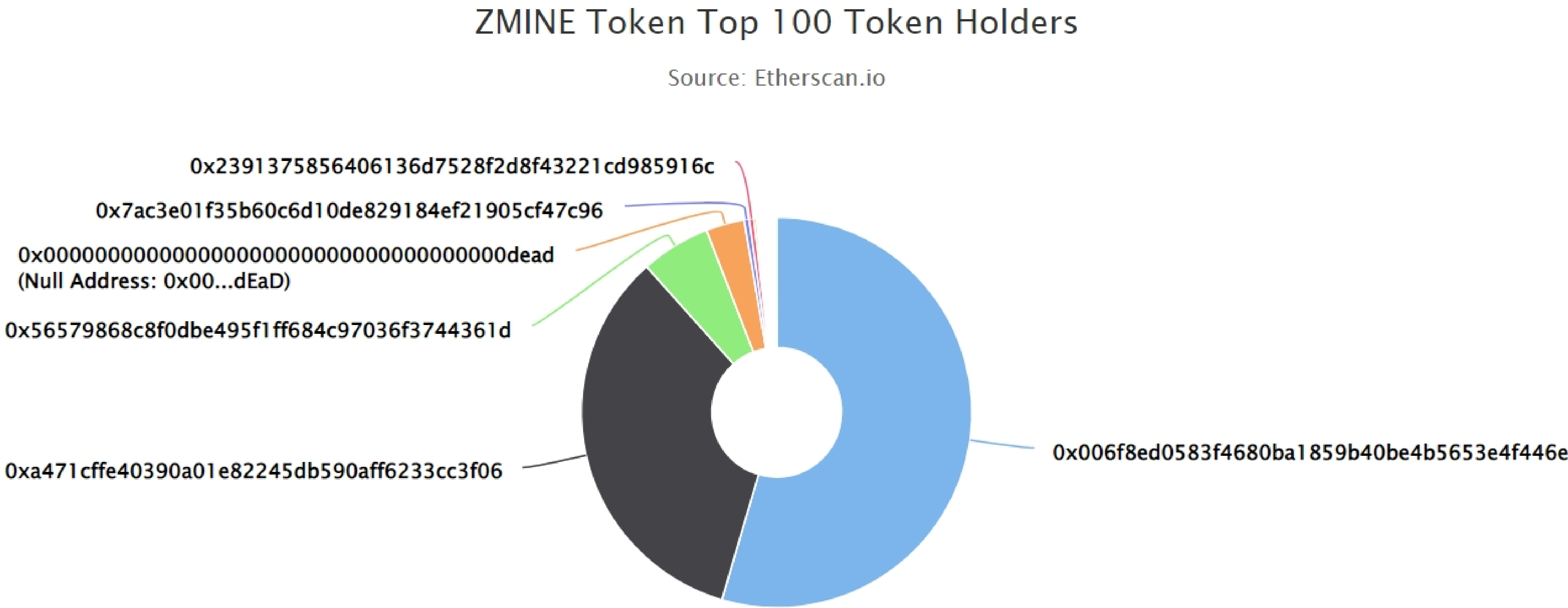
We found 0 critical, 0 high, 0 medium and 2 low.



# ZmineToken Distribution


 The top 100 holders collectively own 99.88% (212,446,195.75 Tokens) of ZMINE Token

 Token Total Supply: 212,705,507.99 Token | Total Token Holders: 1,187



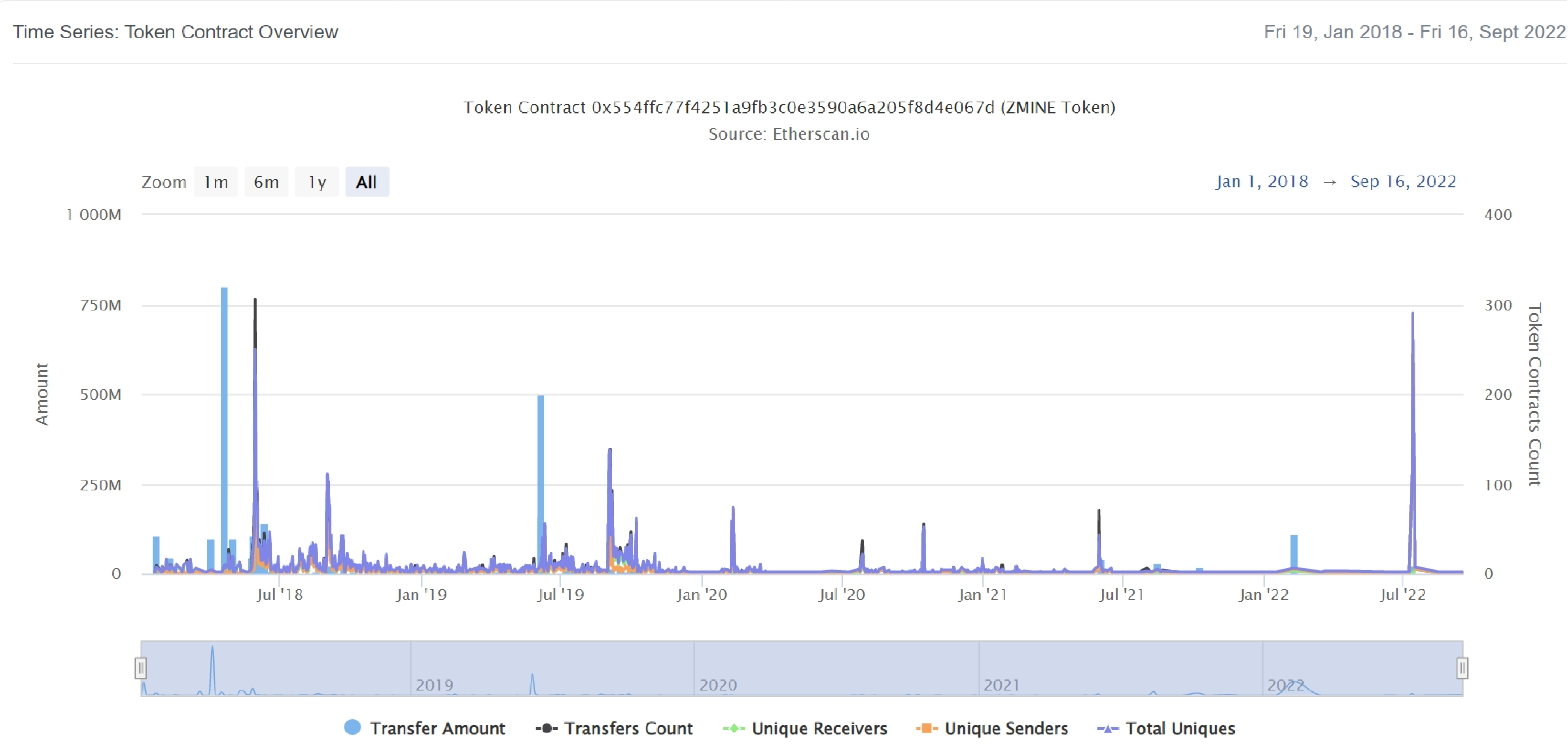
## ZmineToken Top 20 Token Holders

(A total of 212,446,195.75 tokens held by the top 100 accounts from the total supply of 212,705,507.99 token)

Rank	Address	Quantity (Token)	Percentage
1	0x006f8ed0583f4680ba1859b40be4b5653e4f446e	116,000,000	54.5355%
2	0xa471cffe40390a01e82245db590aff6233cc3f06	72,044,759.163355567435384619	33.8707%
3	0x56579868c8f0dbe495f1ff684c97036f3744361d	12,211,826.264433684469801508	5.7412%
4	Null Address: 0x00...dEaD	6,774,849.9131	3.1851%
5	0x7ac3e01f35b60c6d10de829184ef21905cf47c96	903,450.85626997	0.4247%
6	0x2391375856406136d7528f2d8f43221cd985916c	789,051.50392714	0.3710%
7	0xfaf4ab0a808888e5f53fc6914fae3eba20a007e9	478,241.22045916	0.2248%
8	0xa3bb7df9f0d06029296e216e00647e2cb1a153cb	332,788.65684952	0.1565%
9	0xd7acc13f02f25e3bb7d2356a814d6eccba0f86f	211,133.31	0.0993%
10	 0xf07692c6fab376a231c2e0e28a0dbd96c46c412e	158,288.79754973427	0.0744%
11	0x822f183e48fb347163739a53350a41158e9132f9	150,000	0.0705%
12	0x24ae98adcbbeae8af6f60c13a2f1f4205abdc5f0	134,021.48309930990825688	0.0630%
13	0x4512ab171274213d7201d8b0aaf8519e658ddbec	133,333.479	0.0627%
14	0x0082b7158feca093e8729fe7d2b65324745023db	133,333.33	0.0627%
15	0xaf9b9fb4f66233208e8f7269a96e75f447350a3	123,304.5352666667	0.0580%
16	0x39dbc04184fed3217221f8fd1ad767ac2e81d3ef	115,903.9671072	0.0545%
17	0x72ba5b1997fea6de5c06207367c4f818d26d7665	107,666	0.0506%
18	0x75eaea1f597749151f7503a16623d9684232d306	100,000	0.0470%
19	0x5e748a53c40d8fa2149d43df42286d432dd688f5	100,000	0.0470%
20	0x9cd5114e93d37a4b73386e5ac2217b02a6830597	74,139.0156859	0.0349%

# ZmineToken Distribution

## ZmineToken Overview





# Contract functions details

+[Lib] SafeMath

-[Int] mul

-[Int] div

-[Int] sub

-[Int] add

+Ownable

-[Pub] Ownable

-[Pub] transferOwnership #

-modifiers: onlyOwner

+ERC20Basic

-[Pub] balanceOf

-[Pub] transfer

+ERC20 (ERC20Basic)

-[Pub] allowance

-[Pub] transferFrom

-[Pub] approve

+BasicToken (ERC20Basic)

-[Pub] transfer #

-[Pub] balanceOf

+StandardToken (ERC20, BasicToken)

-[Pub] transferFrom #

-[Pub] approve #

-[Pub] allowance

-[Pub] increaseApproval #

-[Pub] decreaseApproval #

+ZmineToken (StandardToken, Ownable)

-[Pub] ZmineToken #

-[Pub] burn #

-modifiers: onlyOwner

(\$) = payable function

# = non-constant function

# Issues Checking Status

No.	Title	Status
1.	Unlocked Compiler Version	Low issue
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	Low issue



# 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

Two low severity issue found.

### 1. Unlocked Compiler Version.

#### • Description

The contract utilizes an unlocked compiler version. An unlocked compiler version in the contract's source code permits the user to compile it at or above a particular version. This, in turn, leads to differences in the generated bytecode between compilations due to differing compiler version numbers. This can lead to ambiguity when debugging as compiler-specific bugs may occur in the codebase that would be difficult to identify over a span of multiple compiler versions rather than a specific one.

#### • Recommendation

It is advisable that the compiler version is alternatively locked at the lowest version possible so that the contract can be compiled. For example, for version ^0.4.18 the contract should contain the following line:

```
pragma solidity 0.4.19;
```

### 2. Old compiler version

#### • Description

Contract has been deployed using too old solidity version.

#### • Recommendation

It is advisable to deploy contract using any of the latest version of solidity.



# Centralization

## Owner privileges :

- ZMINE Token Contract:
  - Owner can transfer ownership.
  - Owner can burn.

This smart contract has some functions which can be executed by the admin (Owner) only. If the admin wallet private key would be compromised, then it would create trouble, as smart contract ownership has not been renounced. Following are Admin functions:

- transferOwnership
- burn

# Conclusion

Smart contract contains 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.