# AuditAce

FROM INCEPTION TO SUCCESS

# Smart Contract Audit

FOR

# ZENF

DATED : 28  FEB 23'

# AUDIT SUMMARY

**Project name** – ZENF

**Date**: 28 February, 2023

**Scope of Audit-** Audit Ace was consulted to conduct the smart contract audit of the solidity source codes.

**Audit Status:** **Passed**

## Issues Found

| Status | Critical | High | Medium | Low | Suggestion |
|---|---|---|---|---|---|
| Open | 0 | 0 | 0 | 0 | 0 |
| Acknowledged | 0 | 0 | 0 | 0 | 0 |
| Resolved | 0 | 0 | 0 | 0 | 0 |

# USED TOOLS

## Tools:

### 1- Manual Review:

a line by line code review has been performed by audit ace team.

### 2- BSC Test Network:

all tests were done on BSC Test network, each test has its transaction has attached to it.

### 3- Slither : Static Analysis

**Testnet Link:** all tests were done using this contract, tests are done on BSC Testnet

https://testnet.bscscan.com/token/0x555294564BC7E438718ee9978d0828D3C50131d0

# Token Information

**Token Name** : ZENF Token

**Token Symbol**: ZENF

**Decimals:** 18

**Token Supply**: 200,000,000

**Token Address:**
0xE9b7B5D5e8d2BCC78884F9F9099bfA42A9e5c1A5

**Checksum:**
292b3acaf570123d6edaa5f4c23b941d87084386

**Owner**: Not owned

# TOKEN OVERVIEW

**Fees:**

Buy Fees: 0%

Sell Fees: 0%

Transfer Fees: 0%

**Fees Privilige:** None

**Ownership** : No Owners

**Minting:** No mint function

**Max Tx Amount/ Max Wallet Amount:** No

**Blacklist:** No

**Other Priviliges**: None

# AUDIT METHODOLOGY

The auditing process will follow a routine as special considerations by Auditace:

- Review of the specifications, sources, and instructions provided to Auditace to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.

- Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.

- Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Auditace describe.

- Test coverage analysis determines whether the test cases are covering the code and how much code isexercised when we run the test cases.

- Symbolic execution is analysing a program to determine what inputs cause each part of a program to execute.

- Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.

# VULNERABILITY CHECKLIST

- ✅ Return values of low-level calls
- ✅ Private modifier
- ✅ Multiple Sends
- ✅ Using Suicide
- ✅ Gas Limitand Loops
- ✅ Address hardcoded
- ✅ Exception Disorder
- ✅ Using inline assembly
- ✅ Divide before multiply
- ✅ Missing Zero Address Validation
- ✅ Compiler version not fixed

- ✅ **Gasless Send**
- ✅ Using block.timestamp
- ✅ Re-entrancy
- ✅ Tautology or contradiction
- ✅ Timestamp Dependence
- ✅ Revert/require functions
- ✅ Use of tx.origin
- ✅ Integer overflow/underflow
- ✅ Dangerous strict equalities
- ✅ Using SHA3
- ✅ Using throw

# CLASSIFICATION OF RISK

| Severity | Description |
|---|---|
| ◆ **Critical** | These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away. |
| ◆ **High-Risk** | A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way. |
| ◆ **Medium-Risk** | A vulnerability that could affect the desired outcome of executing the contract in a specific scenario. |
| ◆ **Low-Risk** | A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective. |
| ◆ **Gas Optimization /Suggestion** | A vulnerability that has an informational character but is not affecting any of the code. |

# Findings

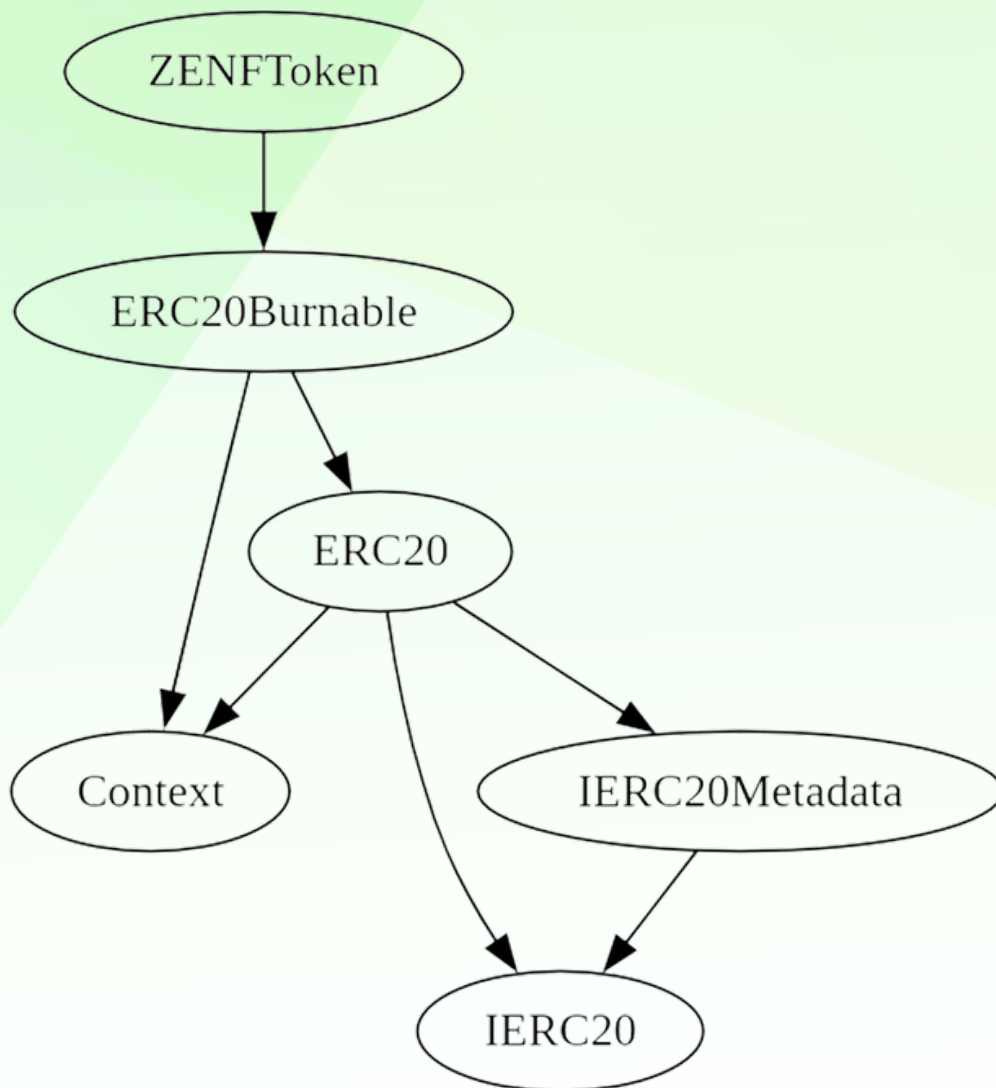| Severity | Found |
|---|---|
| ◆ **Critical** | 0 |
| ◆ **High-Risk** | 0 |
| ◆ **Medium-Risk** | 0 |
| ◆ **Low-Risk** | 0 |
| ◆ **Gas Optimization / Suggestions** | 0 |

# INHERITANCE TREE

# POINTS TO NOTE

- **Owner is not able to set buy/sell/transfer taxes (0% static)**

- **Owner is not able to blacklist an arbitrary wallet**

- **Owner is not able to set max buy/sell/transfer amounts**

- **Owner is not able to disable trades**

- **Owner is not able to mint new tokens**

# CONTRACT ASSESMENT

| Contract | Type | Bases | | |
|:----------:|:------------------:|:----------------:|:----------------:|:----------------:|
| └ | **Function Name** | **Visibility** | **Mutability** | **Modifiers** |
| | | | | |
| **ZENFToken** | Implementation | ERC20Burnable | | |
| └ | <Constructor> | Public ❗ | 🛑 | ERC20 |
| | | | | |
| **ERC20Burnable** | Implementation | Context, ERC20 | | |
| └ | burn | Public ❗ | 🛑 | NO❗ |
| └ | burnFrom | Public ❗ | 🛑 | NO❗ |
| | | | | |
| **ERC20** | Implementation | Context, IERC20, IERC20Metadata | | |
| └ | <Constructor> | Public ❗ | 🛑 | NO❗ |
| └ | name | Public ❗ | | NO❗ |
| └ | symbol | Public ❗ | | NO❗ |
| └ | decimals | Public ❗ | | NO❗ |
| └ | totalSupply | Public ❗ | | NO❗ |
| └ | balanceOf | Public ❗ | | NO❗ |
| └ | transfer | Public ❗ | 🛑 | NO❗ |
| └ | allowance | Public ❗ | | NO❗ |
| └ | approve | Public ❗ | 🛑 | NO❗ |
| └ | transferFrom | Public ❗ | 🛑 | NO❗ |
| └ | increaseAllowance | Public ❗ | 🛑 | NO❗ |
| └ | decreaseAllowance | Public ❗ | 🛑 | NO❗ |
| └ | _transfer | Internal 🔐 | 🛑 | |
| └ | _mint | Internal 🔐 | 🛑 | |
| └ | _burn | Internal 🔐 | 🛑 | |
| └ | _approve | Internal 🔐 | 🛑 | |
| └ | _spendAllowance | Internal 🔐 | 🛑 | |
| └ | _beforeTokenTransfer | Internal 🔐 | 🛑 | |
| └ | _afterTokenTransfer | Internal 🔐 | 🛑 | |
| | | | | |
| **IERC20** | Interface | | | |
| └ | totalSupply | External ❗ | | NO❗ |
| └ | balanceOf | External ❗ | | NO❗ |
| └ | transfer | External ❗ | 🛑 | NO❗ |
| └ | allowance | External ❗ | | NO❗ |
| └ | approve | External ❗ | 🛑 | NO❗ |
| └ | transferFrom | External ❗ | 🛑 | NO❗ |
| | | | | |
| **IERC20Metadata** | Interface | IERC20 | | |
| └ | name | External ❗ | | NO❗ |

# CONTRACT ASSESMENT

| └ | symbol | External ❗ |   |NO❗ |
| └ | decimals | External ❗ |   |NO❗ |
| | | | | |
| **Context** | Implementation |   | | |
| └ | _msgSender | Internal 🔒 |   | |
| └ | _msgData | Internal 🔒 |   | |


| Symbol | Meaning |
|:--------:|-----------|
| 🛑 | Function can modify state |
| 🎴 | Function is payable |

# STATIC ANALYSIS

```
Pragma version^0.8.17 (contracts/Token.sol#5) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
solc-0.8.18 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity
```

**Result => A static analysis of contract's source code has been performed using slither,**
**No major issues were found in the output**

# FUNCTIONAL TESTING

**Router (PCS V2):**
0xD99D1c33F9fC3444f8101754aBC46c52416550D1

**1- Adding Liquidity (Passed):**
**liquidity added on Pancakeswap V2:**

https://testnet.bscscan.com/tx/0x7577d9d495e054e2b8a4361447
84402d3cf49356fb88081a3a0ce7d6c9b3c7b0

**no issue were found on adding liquidity.**

**2- Buying  (0% Tax) (Passed):**

https://testnet.bscscan.com/tx/0xb0c259efc4db2814c155450b9b
2cc4a8928adb51a99c9d6645fde36bd52bc9b7

**3- Selling  (0% Tax) (Passed):**

https://testnet.bscscan.com/tx/0x9969e52cbacf7a15069899de00
d168920f317f2baf0784059ecd70b1d771f060

**4-Transferring  (0% tax )(Passed):**

https://testnet.bscscan.com/tx/0xdbf57d315a722a883b6d6cc3efb
c3ec3dfb72a098657fd923f8ec264255e8964

**5-Burning (0% tax )(Passed):**

https://testnet.bscscan.com/tx/0xfe0a4cef61a2d476a45a643e192
560220d4b3a12f121d201190d5a702e0824ca

# MANUAL TESTING

## NO ISSUES FOUND

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# ABOUT AUDITACE

We specializes in providing thorough and reliable audits for Web3 projects. With a team of experienced professionals, we use cutting-edge technology and rigorous methodologies to evaluate the security and integrity of blockchain systems. We are committed to helping our clients ensure the safety and transparency of their digital assets and transactions.

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