AuditAce
FROM INCEPTION TO SUCCESS

# Smart Contract Audit

FOR

# Crypto PepeMines

DATED : 10 May 23'

# AUDIT SUMMARY

**Project name** – Crypto PepeMines

**Date**: 10 May, 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 | 1 | 2 |
| 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/0x4Bbe7693380942c505856e72371c6a3f784dF4ca

# Token Information

**Token Name** : Crypto PepeMines

**Token Symbol**: CPM

**Decimals**: 18

**Token Supply**:5,000,000

**Token Address:** -

**Checksum:**
bf50ef6934cc5b1dc376c49e6e5ffe496eb329da

**Owner:** -

# TOKEN OVERVIEW

**Fees:**

Buy Fees: 3 %

Sell Fees: 3 %

Transfer Fees: 3%

**Fees Privilige:** owner

**Ownership** : none

**Minting:** No mint function

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

**Blacklist: No**

**Other Priviliges**: modifying fees

# 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

- [x] Return values of low-level calls
- [x] Private modifier
- [x] Multiple Sends
- [x] Using Suicide
- [x] Gas Limitand Loops
- [x] Address hardcoded
- [x] Exception Disorder
- [x] Using inline assembly
- [x] Divide before multiply
- [x] Missing Zero Address Validation
- [x] Compiler version not fixed
- [x] **Gasless Send**
- [x] Using block.timestamp
- [x] Re-entrancy
- [x] Tautology or contradiction
- [x] Timestamp Dependence
- [x] Revert/require functions
- [x] Use of tx.origin
- [x] Integer overflow/underflow
- [x] Dangerous strict equalities
- [x] Using SHA3
- [x] Using throw

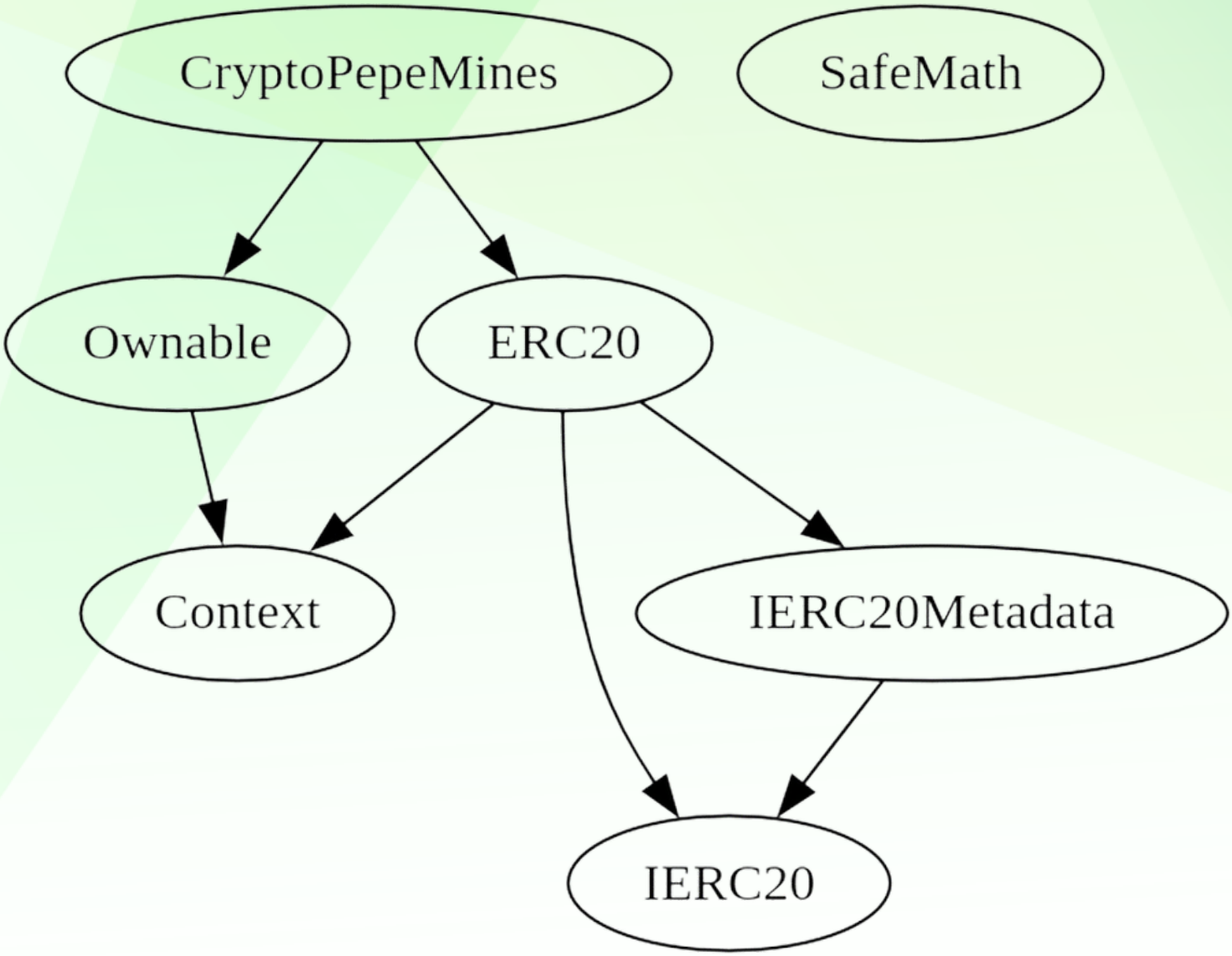
# CLASSIFICATION OF RISK

| 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 | 1 |
| Gas Optimization / Suggestions | 2 |

# INHERITANCE TREE



# POINTS TO NOTE

- Owner is not able to set buy/sell/transfer tax over 3% each
- Owner is not able to set a max buy/transfer/wallet/sell amount
- Owner is not able to blacklist an arbitrary wallet
- Owner is not able to disable trades
- Owner is not able to mint new tokens

# CONTRACT ASSESMENT

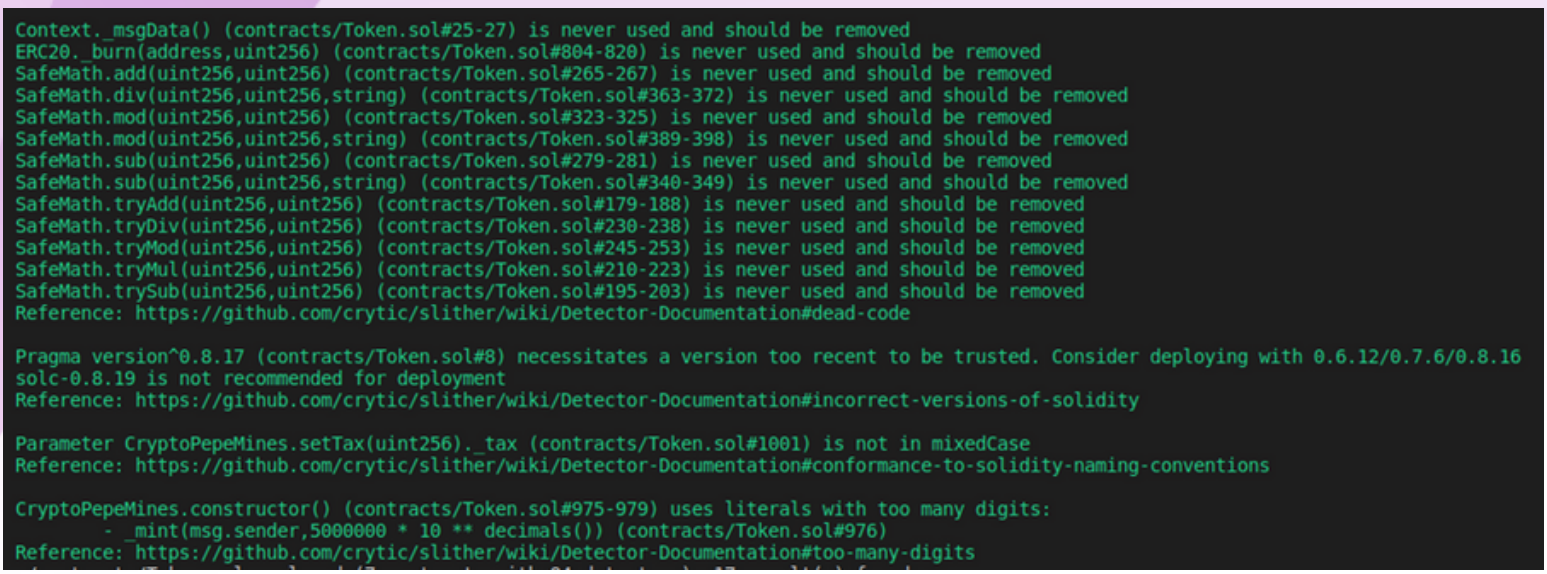
| Contract | Type | Bases | | |
|:---|:---|:---|:---|:---|
| └ | **Function Name** | **Visibility** | **Mutability** | **Modifiers** |
| **CryptoPepeMines** | Implementation | ERC20, Ownable | | |
| └ | <Constructor> | Public ❗ | 🛑 | ERC20 |
| └ | setLiquidityContract | External ❗ | 🛑 | onlyOwner |
| └ | setWalletsExcludedFromFee | External ❗ | 🛑 | onlyOwner |
| └ | setTax | External ❗ | 🛑 | onlyOwner |
| └ | _transfer | Internal 🔒 | 🛑 | |
| | | | | |
| **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❗ |
| └ | symbol | External ❗ | | NO❗ |

# CONTRACT ASSESMENT

| └ | decimals | External ❗ | | |NO❗ |
|||||||
| **Context** | Implementation | |||
| └ | _msgSender | Internal 🔒 | | |
| └ | _msgData | Internal 🔒 | | |
|||||||
| **Ownable** | Implementation | Context |||
| └ | <Constructor> | Public ❗ | 🛑 | |NO❗ |
| └ | owner | Public ❗ | | |NO❗ |
| └ | _checkOwner | Internal 🔒 | | |
| └ | renounceOwnership | Public ❗ | 🛑 | onlyOwner |
| └ | transferOwnership | Public ❗ | 🛑 | onlyOwner |
| └ | _transferOwnership | Internal 🔒 | 🛑 | |
|||||||
| **SafeMath** | Library | |||
| └ | tryAdd | Internal 🔒 | | |
| └ | trySub | Internal 🔒 | | |
| └ | tryMul | Internal 🔒 | | |
| └ | tryDiv | Internal 🔒 | | |
| └ | tryMod | Internal 🔒 | | |
| └ | add | Internal 🔒 | | |
| └ | sub | Internal 🔒 | | |
| └ | mul | Internal 🔒 | | |
| └ | div | Internal 🔒 | | |
| └ | mod | Internal 🔒 | | |
| └ | sub | Internal 🔒 | | |
| └ | div | Internal 🔒 | | |
| └ | mod | Internal 🔒 | | |

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

# STATIC ANALYSIS



```
Context._msgData() (contracts/Token.sol#25-27) is never used and should be removed
ERC20._burn(address,uint256) (contracts/Token.sol#804-820) is never used and should be removed
SafeMath.add(uint256,uint256) (contracts/Token.sol#265-267) is never used and should be removed
SafeMath.div(uint256,uint256,string) (contracts/Token.sol#363-372) is never used and should be removed
SafeMath.mod(uint256,uint256) (contracts/Token.sol#323-325) is never used and should be removed
SafeMath.mod(uint256,uint256,string) (contracts/Token.sol#389-398) is never used and should be removed
SafeMath.sub(uint256,uint256) (contracts/Token.sol#279-281) is never used and should be removed
SafeMath.sub(uint256,uint256,string) (contracts/Token.sol#340-349) is never used and should be removed
SafeMath.tryAdd(uint256,uint256) (contracts/Token.sol#179-188) is never used and should be removed
SafeMath.tryDiv(uint256,uint256) (contracts/Token.sol#230-238) is never used and should be removed
SafeMath.tryMod(uint256,uint256) (contracts/Token.sol#245-253) is never used and should be removed
SafeMath.tryMul(uint256,uint256) (contracts/Token.sol#210-223) is never used and should be removed
SafeMath.trySub(uint256,uint256) (contracts/Token.sol#195-203) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

Pragma version^0.8.17 (contracts/Token.sol#8) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
solc-0.8.19 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity

Parameter CryptoPepeMines.setTax(uint256)._tax (contracts/Token.sol#1001) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

CryptoPepeMines.constructor() (contracts/Token.sol#975-979) uses literals with too many digits:
        - _mint(msg.sender,5000000 * 10 ** decimals()) (contracts/Token.sol#976)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#too-many-digits
```

**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

All the functionalities have been tested, no issues were found

**1- Adding liquidity (passed):**
https://testnet.bscscan.com/tx/0x971b9dbfdda14a38a5f2ee9009c5c8bc82858b49dcc245a9a41d7be0c9723381

**2- Buying when excluded (0% tax) (passed):**
https://testnet.bscscan.com/tx/0xed6f8a8ab913c9636143e99da63a9f39f4a0a9c1cbdf51377b11976f6ff1ede8

**3- Selling when excluded (0% tax) (passed):**
https://testnet.bscscan.com/tx/0x66a40fa8cbeb864175168e40263f23569405a47b77911b3e8c2ffd46c876e951

**4- Transferring when excluded (0% tax) (passed):**
https://testnet.bscscan.com/tx/0x19ee4889846f047d74c5c6343a6cf34ccacbd2aec42f4d12900c6d77f786a1bb

**5- Buying when not excluded (3% tax) (passed):**
https://testnet.bscscan.com/tx/0x6bbe8a2d92f6be8fb8ed858f8454519727c83903ef28c6aad68b087bcd568a19

**6- Selling when not excluded (3% tax) (passed):**
https://testnet.bscscan.com/tx/0xe41fb967be70440fcbdb414d765fde6634836b3b419b62e03843647 1ffdc0798

# FUNCTIONAL TESTING

**7- Transferring when not excluded (3% tax) (passed):**
https://testnet.bscscan.com/tx/0x01bc353e07640965bb52d6bce7dd520d25ec9910782e7c59e51b81aa31ee1ea4

# MANUAL TESTING

## Logical – Fee whitlist

**Severity**: Low

**function:** setExcludedFromFee

**Status:** Not Resolved

**Overview:**

if a wallet is excluded from fees, it can not be unexcluded again.

```
function setWalletsExcludedFromFee(address wallet) external onlyOwner {
    require(
        wallet != address(0),
        "address variable can not be zero address"
    );
    require(!isExcludedFromFee[wallet], "This wallet is excluded");
    isExcludedFromFee[wallet] = true;
    emit WalletsExcludedFromFee(wallet);
}
```

**Suggestion**

To mitigate this issue, implement a way to unexclude a wallet from fees

# MANUAL TESTING

## Informational – Stuck ETH

**Status:** Not Resolved

**Overview:**

Currently there is no way to withdraw ETH from the contract

**Suggestion:**

implement a function to be able to withraw ETH from the contract

## Informational – Stuck ERC20 tokens

**Status:** Not Resolved

**Overview:**

ERC20 tokens sent to contract can not be rescued.

**Suggestion:**

implement a function to be able to withraw ERC20 tokens from the contract

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