



# Smart Contract Audit

FOR

# Phoenix Chain

DATED : 26 Mar 23'



# AUDIT SUMMARY

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**Project name** – Phoenix Chain

**Date:** 26 March, 2023

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

**Audit Status:** Passed (Contract is developed by Pinksale safu dev)

## Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	1	0	0	0
Acknowledged	0	0	0	0	0
Resolved	0	1	0	0	0

# USED TOOLS

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## 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/0x00401808da1325d6a5fd2d76a7bc0ccb17a13bc8>

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# Token Information

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**Token Name :** Phoenix Chain

**Token Symbol:** PHX

**Decimals:** 18

**Token Supply:** 1,000,000,000

**Token Address:**

0x9776191F4ebBBa7f358C1663bF82C0a0906c77Fa  
(Not deployed on chain)

**Checksum:**

8fac9d9cc46bb381e5fbd6dab5b11f761e4fdb0e

**Owner:**

0xE275535538dB0C5d5eC244aE736b675e91C080f8

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# TOKEN OVERVIEW

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## **Fees:**

Buy Fees: 1%

Sell Fees: 1%

Transfer Fees: 1%

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**Fees Privilege:** None

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**Ownership :** Owned

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**Minting:** No mint function

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

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**Blacklist:** yes

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**Other Privileges:** updating liquidity threshold -  
excluding from fees - including in fees

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# AUDIT METHODOLOGY

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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 is exercised 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.
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# VULNERABILITY CHECKLIST

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

1 (Resolved)

### ◆ Medium-Risk

0

### ◆ Low-Risk

0

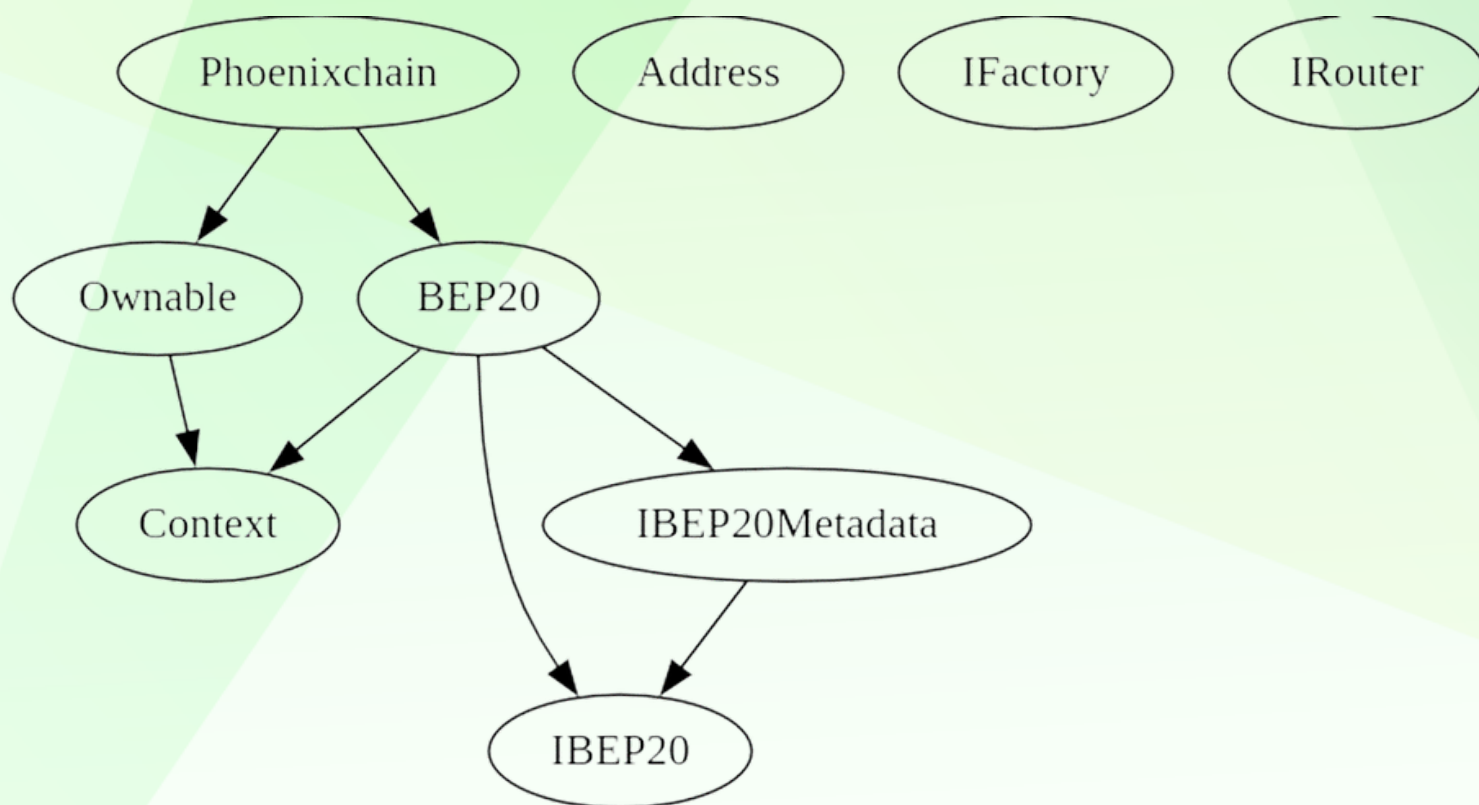
### ◆ Gas Optimization / Suggestions

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# INHERITANCE TREE

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# POINTS TO NOTE

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- **Owner is not able to modify fees (1% for buy/sell/transfer)**
  - **Owner must enable trading for investors to be able to trade**
  - **Owner is not able to disable trades**
  - **Owner is not able to blacklist an arbitrary wallet**
  - **Owner is not able to mint new tokens**
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# Token Distribution

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**it should be noted that the owner currently holds 100% of the total supply. However, information about the distribution of these tokens is not available, and it is recommended that investors exercise caution when considering this aspect**

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# CONTRACT ASSESMENT

Contract	Type	Bases			
:-----: :-----: :-----: :-----: :-----:					
└	<b>**Function Name**</b>	<b>**Visibility**</b>	<b>**Mutability**</b>	<b>**Modifiers**</b>	
<b>**Context**</b>   Implementation					
└	_msgSender	Internal	🔒		
└	_msgData	Internal	🔒		
<b>**IBEP20**</b>   Interface					
└	totalSupply	External	!		NO!
└	balanceOf	External	!		NO!
└	transfer	External	!	🛑	NO!
└	allowance	External	!		NO!
└	approve	External	!	🛑	NO!
└	transferFrom	External	!	🛑	NO!
<b>**IBEP20Metadata**</b>   Interface   IBEP20					
└	name	External	!		NO!
└	symbol	External	!		NO!
└	decimals	External	!		NO!
<b>**BEP20**</b>   Implementation   Context, IBEP20, IBEP20Metadata					
└	<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	🔒	🛑	
└	_tokengeneration	Internal	🔒	🛑	
└	_approve	Internal	🔒	🛑	
<b>**Address**</b>   Library					
└	sendValue	Internal	🔒	🛑	
<b>**Ownable**</b>   Implementation   Context					

# CONTRACT ASSESMENT

```

|  | <Constructor> | Public ! |  | NO! |
|  | owner | Public ! | | NO! |
|  | renounceOwnership | Public ! |  | onlyOwner |
|  | transferOwnership | Public ! |  | onlyOwner |
|  | _setOwner | Private  |  | |
|  |  |  |  |  |
| **IFactory** | Interface | | |
|  | createPair | External ! |  | NO! |
|  |  |  |  |  |
| **IRouter** | Interface | | |
|  | factory | External ! | | NO! |
|  | WETH | External ! | | NO! |
|  | addLiquidityETH | External ! |  | NO! |
|  | swapExactTokensForETHSupportingFeeOnTransferTokens | External ! |  | NO! |
|  |  |  |  |  |
| **Phoenixchain** | Implementation | BEP20, Ownable | | |
|  | <Constructor> | Public ! |  | BEP20 |
|  | approve | Public ! |  | NO! |
|  | transferFrom | Public ! |  | NO! |
|  | increaseAllowance | Public ! |  | NO! |
|  | decreaseAllowance | Public ! |  | NO! |
|  | transfer | Public ! |  | NO! |
|  | _transfer | Internal  |  | |
|  | Liquify | Private  |  | lockTheSwap |
|  | swapTokensForETH | Private  |  | |
|  | addLiquidity | Private  |  | |
|  | updateLiquidityProvide | External ! |  | onlyOwner |
|  | updateLiquidityTreshhold | External ! |  | onlyOwner |
|  | EnableTrading | External ! |  | onlyOwner |
|  | updatedeadline | External ! |  | onlyOwner |
|  | updateMarketingWallet | External ! |  | onlyOwner |
|  | updateExemptFee | External ! |  | onlyOwner |
|  | bulkExemptFee | External ! |  | onlyOwner |
|  | rescueBNB | External ! |  | onlyOwner |
|  | rescueBSC20 | External ! |  | onlyOwner |
|  | <Receive Ether> | External ! |  | NO! |
| Symbol | Meaning |
|:-----:|-----|
|  | Function can modify state |
|  | Function is payable |

```



# STATIC ANALYSIS

```
Reentrancy in Phoenixchain.transferFrom(address,address,uint256) (contracts/Token.sol#505-520):
  External calls:
    - _transfer(sender,recipient,amount) (contracts/Token.sol#510)
    - router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (contracts/Token.sol#676-683)
    - (success) = recipient.call{value: amount}() (contracts/Token.sol#358)
    - router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (contracts/Token.sol#662-668)
    - address(marketingWallet).sendValue(marketingAmt) (contracts/Token.sol#648)
  External calls sending eth:
    - _transfer(sender,recipient,amount) (contracts/Token.sol#510)
    - router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (contracts/Token.sol#676-683)
    - (success) = recipient.call{value: amount}() (contracts/Token.sol#358)
  Event emitted after the call(s):
    - Approval(owner,spender,amount) (contracts/Token.sol#347)
    - approve(sender,msgSender(),currentAllowance - amount) (contracts/Token.sol#517)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-3

Context._msgData() (contracts/Token.sol#28-31) 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#21) 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

Low level call in Address.sendValue(address,uint256) (contracts/Token.sol#352-363):
  - (success) = recipient.call{value: amount}() (contracts/Token.sol#358)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Variable BEP20._balances (contracts/Token.sol#84) is not in mixedCase
Variable BEP20._allowances (contracts/Token.sol#86) is not in mixedCase
Function IRouter.WETH() (contracts/Token.sol#416) is not in mixedCase
Function Phoenixchain.Liquify(uint256,Phoenixchain.Taxes) (contracts/Token.sol#612-651) is not in mixedCase
Parameter Phoenixchain.updateLiquidityTreshhold(uint256).new amount (contracts/Token.sol#691) is not in mixedCase
Function Phoenixchain.EnableTrading() (contracts/Token.sol#700-705) is not in mixedCase
Parameter Phoenixchain.updatedeadline(uint256).deadline (contracts/Token.sol#707) is not in mixedCase
Parameter Phoenixchain.updateExemptFee(address,bool).address (contracts/Token.sol#718) is not in mixedCase
Variable Phoenixchain.genesis_block (contracts/Token.sol#451) is not in mixedCase
Constant Phoenixchain.deadWallet (contracts/Token.sol#456-457) is not in UPPER_CASE_WITH_UNDERSCORES
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

Redundant expression "this (contracts/Token.sol#29)" inContext (contracts/Token.sol#23-32)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements

Phoenixchain.launchtax (contracts/Token.sol#453) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant

Phoenixchain.pair (contracts/Token.sol#443) should be immutable
Phoenixchain.router (contracts/Token.sol#442) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
```

**Result => A static analysis of contract's source code has been performed using slither,**

**No major issues were found in the output**



# FUNCTIONAL TESTING

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## **Router (PCS V2):**

0xD99D1c33F9fC3444f8101754aBC46c52416550D1

All the functionalities have been tested, no issues were found

### **1- Adding liquidity (passed):**

<https://testnet.bscscan.com/tx/0xcc7323b612dfdaf6b97359830b86e97ed769d2573d70ca084dc2bdb3d24950c3>

### **2- Buying when excluded (0% tax) (passed):**

<https://testnet.bscscan.com/tx/0x0a0fd11948542240d7eaf7e1d6140cf02768e3e2de2e3ef323667f5fbf40f960>

### **3- Selling when excluded (0% tax) (passed):**

<https://testnet.bscscan.com/tx/0xf5b33b673859b77ff7c9787aa00858ce7496bf718cfbf3993d448553a8361a17>

### **4- Transferring when excluded (0% tax) (passed):**

<https://testnet.bscscan.com/tx/0xc8c7f483a308bce33637f4c4c6c4e2528be614ff7b99f26cfc98ad81c3301735>

### **5- Buying when not excluded (1% tax) (passed):**

<https://testnet.bscscan.com/tx/0x16aa896a05a88b62a4afc0835825cdcbac434e2d621b1eb4129c98bf16c0eb02>

### **6- Selling when not excluded (1% tax) (passed):**

<https://testnet.bscscan.com/tx/0x32131458929a0a65dd8f4fe658c933fdcaab2afce40fab93211f970834aba662>

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# FUNCTIONAL TESTING

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## 7- Transferring when not excluded (1% tax) (passed):

<https://testnet.bscscan.com/tx/0x2cc64244504d6efe669d824e5df0f10193647f57cb968c2dc1f1cf8642325cbf>

## 8- Internal swap (passed):

Marketing wallet received ETH

<https://testnet.bscscan.com/address/0x4d150dafe944ed0c917a739dcf5a0432f8791cbf#internaltx>

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# MANUAL TESTING

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## Centralization - Owner must enable trading

Severity: **High**

Function: EnableTrading

Lines: 718

Status: **Resolved**

Overview:

The owner must activate trading for investors to buy, sell, or transfer tokens. If trading remains disabled, token holders will be unable to trade their tokens.

```
function EnableTrading() external onlyOwner {  
    require(!tradingEnabled, "Cannot re-enable trading");  
    tradingEnabled = true;  
    providingLiquidity = true;  
    genesis_block = block.number;  
}
```

Since contract is owned by safu dev, enabling trades is guaranteed.





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# ABOUT AUDITACE

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We specialize 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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