



# Smart Contract Audit

FOR  
**ESCOBAR**

DATED : 19 May 23'



# AUDIT SUMMARY

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**Project name – ESCOBAR**

**Date:** 19 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	1	0	0
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0

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# 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/0x1F487970832766ce518d8aD2DbE2F7E10d7dd29D>

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# Token Information

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**Token Name :** ESCOBAR

**Token Symbol:** \$ESCOBAR

**Decimals:** 18

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

**Token Address:** 0xCeD1ac5ED2003849910AB030f275d6eeD4166639

**Checksum:** 955db480be344842251103209eebcfc7002637d6

**Owner:** - 0xe4631aE2Dc46F2C92A51499D1c2c3a91ec7c7732

**Deployer:** 0xb79aa633C37d795515fF5b98E0d4F3d455d620A0

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# TOKEN OVERVIEW

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## **Fees:**

Buy Fees: upto 12.5%

Sell Fees: upto 12.5 %

Transfer Fees: 0-5%

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**Fees Privilige:** owner

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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:** No

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**Other Privileges:** changing swap threshold - changing fees - modifying swap settings - enabling trades

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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

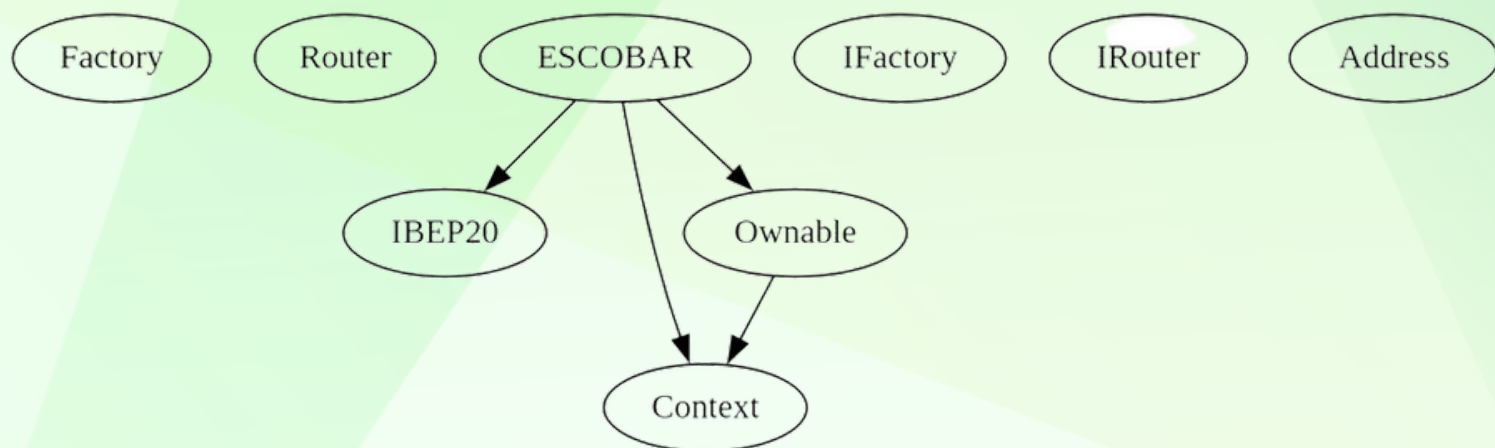
### Found

◆ Critical	0
◆ High-Risk	0
◆ Medium-Risk	1
◆ Low-Risk	0
◆ Gas Optimization / Suggestions	0



# INHERITANCE TREE

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## POINTS TO NOTE

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- Owner is not able to change buy/sell fees over 12.5% and transfer fee over 5%
  - Owner is not able to blacklist an arbitrary address.
  - Owner is not able to disable trades
  - Owner is not able to set max buy/sell/transfer/hold amount to 0
  - Owner is not able to mint new tokens
  - Owner must enable trades manually
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# CONTRACT ASSESMENT

Contract	Type	Bases			
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L	<b>**Function Name**</b>	<b>**Visibility**</b>	<b>**Mutability**</b>	<b>**Modifiers**</b>	
	<b>**Factory**</b>	Interface			
L	createPair	External	!	NO !	
	<b>**Router**</b>	Interface			
L	WETH	External	!	NO !	
L	factory	External	!	NO !	
L	swapExactTokensForETHSupportingFeeOnTransferTokens	External	!	NO !	
	<b>**IBEP20**</b>	Interface			
L	totalSupply	External	!	NO !	
L	balanceOf	External	!	NO !	
L	transfer	External	!	NO !	
L	allowance	External	!	NO !	
L	approve	External	!	NO !	
L	transferFrom	External	!	NO !	
	<b>**Context**</b>	Implementation			
L	_msgSender	Internal			
L	_msgData	Internal			
	<b>**Ownable**</b>	Implementation	Context		
L	<Constructor>	Public	!	NO !	
L	owner	Public	!	NO !	
L	renounceOwnership	Public	!	onlyOwner	
L	transferOwnership	Public	!	onlyOwner	
L	_setOwner	Private			
	<b>**IFactory**</b>	Interface			
L	createPair	External	!	NO !	
	<b>**IRouter**</b>	Interface			
L	factory	External	!	NO !	
L	WETH	External	!	NO !	
L	addLiquidityETH	External	!	NO !	
L	swapExactTokensForETHSupportingFeeOnTransferTokens	External	!	NO !	
	<b>**Address**</b>	Library			
L	sendValue	Internal			

# CONTRACT ASSESMENT

| **\*\*ESCOBAR\*\*** | Implementation | Context, IBEP20, Ownable |||

| L | <Constructor> | Public ! |  | NO! |

| L | name | Public ! | | NO! |

| L | symbol | Public ! | | NO! |

| L | decimals | Public ! | | NO! |

| L | totalSupply | Public ! | | NO! |

| L | balanceOf | Public ! | | NO! |

| L | allowance | Public ! | | NO! |

| L | approve | Public ! |  | NO! |

| L | transferFrom | Public ! |  | NO! |

| L | increaseAllowance | Public ! |  | NO! |

| L | decreaseAllowance | Public ! |  | NO! |

| L | transfer | Public ! |  | NO! |

| L | isExcludedFromReward | Public ! | | NO! |

| L | reflectionFromToken | Public ! | | NO! |

| L | EnableTrading | External ! |  | onlyOwner |

| L | updateBuyTaxes | Public ! |  | onlyOwner |

| L | updateSellTaxes | Public ! |  | onlyOwner |

| L | updateTransferTaxes | Public ! |  | onlyOwner |

| L | tokenFromReflection | Public ! | | NO! |

| L | excludeFromReward | Public ! |  | onlyOwner |

| L | includeInReward | External ! |  | onlyOwner |

| L | excludeFromFee | Public ! |  | onlyOwner |

| L | includeInFee | Public ! |  | onlyOwner |

| L | isExcludedFromFee | Public ! | | NO! |

| L | \_reflectRfi | Private  |  | |

| L | \_takeMarketing | Private  |  | |

| L | \_getValues | Private  | | |

| L | \_getTValues | Private  | | |

| L | \_getRValues1 | Private  | | |

| L | \_getRate | Private  | | |

| L | \_getCurrentSupply | Private  | | |

| L | \_approve | Private  |  | |

| L | \_transfer | Private  |  | |

| L | \_tokenTransfer | Private  |  | |

| L | InternalSwap | Internal  |  | LockSwap |

| L | bulkExcludeFee | External ! |  | onlyOwner |

| L | rescueBNB | External ! |  | onlyOwner |

| L | rescueAnyBEP20Tokens | Public ! |  | onlyOwner |

| L | <Receive Ether> | External ! |  | NO! |



# CONTRACT ASSESMENT

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## Legend

| Symbol | Meaning |

|:-----:|-----|

|  | Function can modify state |

|  | Function is payable |



# STATIC ANALYSIS

```
ESCOBAR.includeInReward(address) (contracts/Token.sol#412-423) has costly operations inside a loop:
- _excluded.pop() (contracts/Token.sol#419)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#costly-operations-inside-a-loop

Address.sendValue(address,uint256) (contracts/Token.sol#143-153) is never used and should be removed
Context._msgData() (contracts/Token.sol#63-66) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

ESCOBAR._rTotal (contracts/Token.sol#173) is set pre-construction with a non-constant function or state variable:
- (MAX - (MAX % tTotal))
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#function-initializing-state

Pragma version^0.8.17 (contracts/Token.sol#3) 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#143-153):
- (success) = recipient.call{value: amount}() (contracts/Token.sol#148)
Low level call in ESCOBAR.InternalSwap() (contracts/Token.sol#598-618):
- (success) = address(marketingWallet).call{value: address(this).balance}() (contracts/Token.sol#615-617)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Function Router.WETH() (contracts/Token.sol#13) is not in mixedCase
Function IRouter.WETH() (contracts/Token.sol#119) is not in mixedCase
Struct ESCOBAR.valuesFromGetValues (contracts/Token.sol#196-204) is not in CapWords
Function ESCOBAR.EnableTrading() (contracts/Token.sol#357-360) is not in mixedCase
Function ESCOBAR.InternalSwap() (contracts/Token.sol#598-618) is not in mixedCase
Parameter ESCOBAR.rescueAnyBEP20Tokens(address,address,uint256)._tokenAddr (contracts/Token.sol#634) is not in mixedCase
Parameter ESCOBAR.rescueAnyBEP20Tokens(address,address,uint256)._to (contracts/Token.sol#635) is not in mixedCase
Parameter ESCOBAR.rescueAnyBEP20Tokens(address,address,uint256)._amount (contracts/Token.sol#636) is not in mixedCase
Constant ESCOBAR._decimals (contracts/Token.sol#169) is not in UPPER_CASE_WITH_UNDERSCORES
Constant ESCOBAR._name (contracts/Token.sol#177) is not in UPPER_CASE_WITH_UNDERSCORES
Constant ESCOBAR._symbol (contracts/Token.sol#178) is not in UPPER_CASE_WITH_UNDERSCORES
Modifier ESCOBAR.LockSwap() (contracts/Token.sol#211-215) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

Redundant expression "this (contracts/Token.sol#64)" inContext (contracts/Token.sol#58-67)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements

ESCOBAR._getTValues(uint256,bool,address,address) (contracts/Token.sol#473-495) uses literals with too many digits:
- s.tRfi = (tAmount * temp.rfi) / 100000 (contracts/Token.sol#491)
ESCOBAR._getTValues(uint256,bool,address,address) (contracts/Token.sol#473-495) uses literals with too many digits:
- s.tMarketing = (tAmount * temp.marketing) / 100000 (contracts/Token.sol#492)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#too-many-digits

ESCOBAR._tTotal (contracts/Token.sol#172) should be constant
ESCOBAR.marketingWallet (contracts/Token.sol#175) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant

ESCOBAR.pair (contracts/Token.sol#217) should be immutable
ESCOBAR.swapRouter (contracts/Token.sol#218) 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/0x836dc7cd09df7c33ea09117ae74b39adf36a1bc66eb8aec3d5d9c7e1e492d391>

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

<https://testnet.bscscan.com/tx/0x27acfd954a4f3022cb6e1f37ccf59a1d480d37c0299da8aa53d242c4d29484fa>

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

<https://testnet.bscscan.com/tx/0x0ce27a133a73e0f70246103f82b459718b447192c00893c5f1c0dfa42e740860>

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

<https://testnet.bscscan.com/tx/0x78a52dc8c239d237767df714b72a3d8c3840b7d01039822c4a9db445f9a742b1>

### **5- Buying when not excluded (0-12.5% tax) (passed):**

<https://testnet.bscscan.com/tx/0x450b8dd53568e314097488e541601fd61811f9b088a20472a98fd137f6a50581>

### **6- Selling when not excluded (0-12.5% tax) (passed):**

<https://testnet.bscscan.com/tx/0xe319e337906c6145a63eef90c3d70cd0d77250431fe041009fcdb6934b8f52c>

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# FUNCTIONAL TESTING

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## **7- Transferring when not excluded (0-5% tax) (passed):**

<https://testnet.bscscan.com/tx/0x93c0d50d945401d54a294fa47b2e6ac244f629b1b9e43c0592c2f23db61218a4>

## **8- Internal swap (marketing ) (passed):**

<https://testnet.bscscan.com/tx/0xe319e337906c6145a63eef90c3d70cd0d77250431fe041009fcdbe6934b8f52c>

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# ISSUES FOUND

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## Centralization – Trades must be enabled

Severity: **Medium**

function: EnableTrading

Status: Not Resolved

### Overview:

The smart contract owner must enable trades for holders. If trading remain disabled, no one would be able to buy/sell/transfer tokens.

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

### Suggestion

To mitigate this centralization issue, we propose the following options:

1. Renounce Ownership: Consider relinquishing control of the smart contract by renouncing ownership. This would remove the ability for a single entity to manipulate the router, reducing centralization risks.
2. Multi-signature Wallet: Transfer ownership to a multi-signature wallet. This would require multiple approvals for any changes to the mainRouter, adding an additional layer of security and reducing the centralization risk.
3. Transfer ownership to a trusted and valid 3<sup>rd</sup> party in order to guarantee enabling of the trades



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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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