



Smart Contract Audit

FOR
ESCOBAR

DATED : 19 May 23'



AUDIT SUMMARY

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

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/0x1F487970832766ce518d8aD2DbE2F7E10d7dd29D>



Token Information

Token Name : ESCOBAR

Token Symbol: \$ESCOBAR

Decimals: 18

Token Supply:1,000,000,000

Token Address: -

Checksum:

955db480be344842251103209eebcfc7002637d6

Owner: -



TOKEN OVERVIEW

Fees:

Buy Fees: upto 12.5%

Sell Fees: upto 12.5 %

Transfer Fees: 0-5%

Fees Privilige: owner

Ownership : owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

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



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 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.
-

VULNERABILITY CHECKLIST

- | | |
|--|---|
|  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 |
-



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.

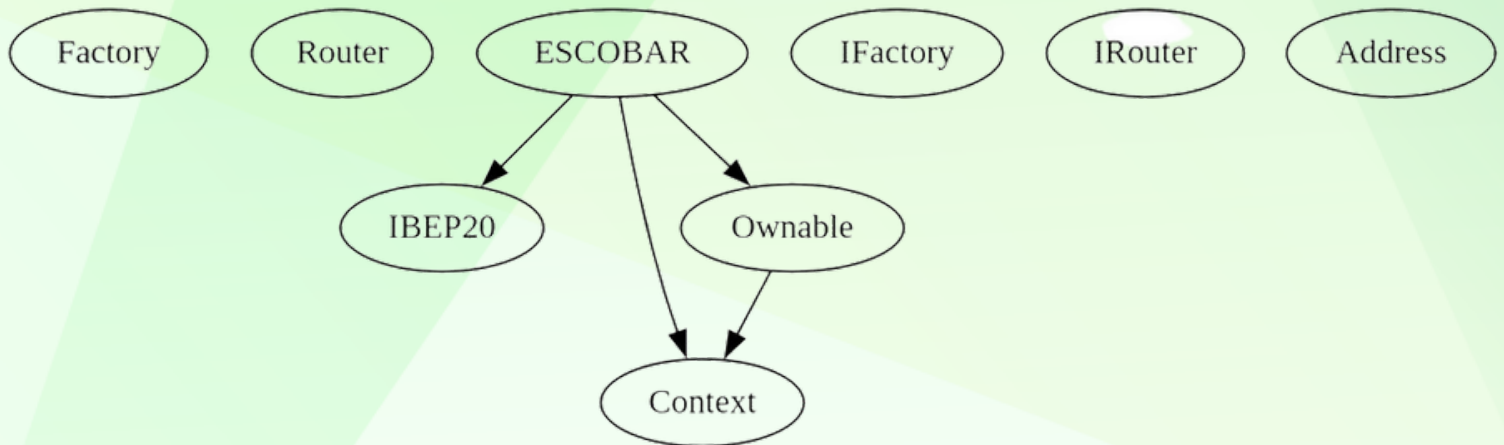
Findings

Severity

Found

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

INHERITANCE TREE



POINTS TO NOTE

- 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
-



CONTRACT ASSESMENT

Contract	Type	Bases			
:-----: :-----: :-----: :-----: :-----:					
L	**Function Name**	**Visibility**	**Mutability**	**Modifiers**	
	Factory	Interface			
L	createPair	External	!	NO !	
	Router	Interface			
L	WETH	External	!	NO !	
L	factory	External	!	NO !	
L	swapExactTokensForETHSupportingFeeOnTransferTokens	External	!	NO !	
	IBEP20	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 !	
	Context	Implementation			
L	_msgSender	Internal			
L	_msgData	Internal			
	Ownable	Implementation	Context		
L	<Constructor>	Public	!	NO !	
L	owner	Public	!	NO !	
L	renounceOwnership	Public	!	onlyOwner	
L	transferOwnership	Public	!	onlyOwner	
L	_setOwner	Private			
	IFactory	Interface			
L	createPair	External	!	NO !	
	IRouter	Interface			
L	factory	External	!	NO !	
L	WETH	External	!	NO !	
L	addLiquidityETH	External	!	NO !	
L	swapExactTokensForETHSupportingFeeOnTransferTokens	External	!	NO !	
	Address	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

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

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/0xe319e337906c6145a63eef90c3d70cd0d77250431fe041009fcdbe6934b8f52c>



FUNCTIONAL TESTING

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>

ISSUES FOUND

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 3rd party in order to guarantee enabling of the trades



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