Cyberscope

# Audit Report

# **Candybar**

September 2022

| | |
|---|---|
| Type | BEP20 |
| Network | BSC |
| Address | 0xb483a090252b260f9b5f0a1bd0d90469432aef8f |
| Audited by | © cyberscope |

# Table of Contents

# Contract Review

| | |
|---|---|
| **Contract Name** | CandybarFinance |
| **Compiler Version** | v0.8.8+commit.dddeac2f |
| **Optimization** | 200 runs |
| **Licence** | Unlicense |
| **Explorer** | https://bscscan.com/token/0xb483a090252b260f9B5f0A1BD0d90469432aEF8F |
| **Symbol** | CANDYBAR |
| **Decimals** | 18 |
| **Total Supply** | 10,000,000 |

# Source Files

| **Filename** | **SHA256** |
|---|---|
| **contract.sol** | 91b04de87943bddf985f03304340bcca75b508286def32aeb183280efc8504c4 |

# Audit Updates

| | |
|---|---|
| **Initial Audit** | 30th September 2022 |
| **Corrected** | |

# Contract Analysis

● Critical ● Medium ● Minor / Informative ● Pass

| Severity | Code | Description | Status |
|---|---|---|---|
| ● | ST | Stops Transactions | Passed |
| ● | OCTD | Transfers Contract's Tokens | Passed |
| ● | OTUT | Transfers User's Tokens | Passed |
| ● | ELFM | Exceeds Fees Limit | Passed |
| ● | ULTW | Transfers Liquidity to Team Wallet | Unresolved |
| ● | MT | Mints Tokens | Passed |
| ● | BT | Burns Tokens | Passed |
| ● | BC | Blacklists Addresses | Passed |

# ULTW - Transfers Liquidity to Team Wallet

| | |
|---|---|
| **Criticality** | minor / informative |
| **Location** | contract.sol#L747 |
| **Status** | Unresolved |

## Description

The contract owner has the authority to transfer funds without limit to the team wallet. These funds have been accumulated from fees collected from the contract. The owner may take advantage of it by calling the `rescueBNB` methods.

```
function rescueBNB(uint256 weiAmount) external onlyOwner {
        payable(owner()).transfer(weiAmount);
}
```

## Recommendation

The contract could embody a check for the maximum amount of funds that can be swapped. Since a huge amount may volatile the token's price.

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions. That risk can be prevented by temporarily locking the contract or renouncing ownership.

# Contract Diagnostics

Critical Medium Minor / Informative

| Severity | Code | Description | Status |
|---|---|---|---|
| ● | BLC | Business Logic Concern | Unresolved |
| ● | L01 | Public Function could be Declared External | Unresolved |
| ● | L02 | State Variables could be Declared Constant | Unresolved |
| ● | L03 | Redundant Statements | Unresolved |
| ● | L04 | Conformance to Solidity Naming Conventions | Unresolved |
| ● | L07 | Missing Events Arithmetic | Unresolved |
| ● | L13 | Divide before Multiply Operation | Unresolved |
| ● | L14 | Uninitialized Variables in Local Scope | Unresolved |

# BLC - Business Logic Concern

| | |
|---|---|
| **Criticality** | minor / informative |
| **Location** | contract.sol#L401,738 |
| **Status** | Unresolved |

## Description

Misleading starting limits. The limits are initialised with greater values than the corresponding max limits.

```
    uint256 public maxBuyLimit = 1e5 * 10**18;
    uint256 public maxSellLimit = 1e5 * 10**18;
    uint256 public maxWalletLimit = 1e5 * 10**18;
    //
    function updateMaxTxLimit(uint256 maxBuy, uint256 maxSell, uint256 maxWallet) external
onlyOwner {
        require(maxBuy >= 1e4, "Cannot set max buy amount lower than 0.1%");
        require(maxSell >= 1e4, "Cannot set max sell amount lower than 0.1%");
        require(maxWallet >= 1e5, "Cannot set max wallet amount lower than 1%");
        maxBuyLimit = maxBuy * 10**decimals();
        maxSellLimit = maxSell * 10**decimals();
        maxWalletLimit = maxWallet * 10**decimals();
    }
```

## Recommendation

The team is advised to carefully check if the implementation follows the expected business logic.

# L01 - Public Function could be Declared External

| | |
|---|---|
| **Criticality** | minor / informative |
| **Location** | contract.sol#L207,90,336,163,181,82,133,340,230,146,114 |
| **Status** | Unresolved |

## Description

Public functions that are never called by the contract should be declared external to save gas.

```
increaseAllowance
symbol
renounceOwnership
approve
transferFrom
name
transfer
transferOwnership
decreaseAllowance
...
```

## Recommendation

Use the external attribute for functions never called from the contract.

# L02 - State Variables could be Declared Constant

| | |
|---|---|
| **Criticality** | minor / informative |
| **Location** | contract.sol#L403 |
| **Status** | Unresolved |

## Description

Constant state variables should be declared constant to save gas.

```
launchtax
```

## Recommendation

Add the constant attribute to state variables that never change.

# L03 - Redundant Statements

| | |
|---|---|
| **Criticality** | minor / informative |
| **Location** | contract.sol#L5 |
| **Status** | Unresolved |

## Description

The contract contains statements that are not used and have no effect. As a result, those segments increase the code size of the contract unnecessarily.

Context

## Recommendation

Remove the redundant statements in order to decrease the code size.

# L04 - Conformance to Solidity Naming Conventions

| | |
|---|---|
| **Criticality** | minor / informative |
| **Location** | contract.sol#L673,672,407,675,584,682,684,674,683,359,724,681,56,695,666,702,58,401 |
| **Status** | Unresolved |

## Description

Solidity defines a naming convention that should be followed. Rule exceptions:

- Allow constant variable name/symbol/decimals to be lowercase.
- Allow _ at the beginning of the mixed_case match for private variables and unused parameters.

```
_marketing
SetBuyTaxes
deadWallet
_dev
Liquify
_liquidity
WETH
_address
SetSellTaxes
...
```

## Recommendation

Follow the Solidity naming convention.
https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions.

# L07 - Missing Events Arithmetic

| | |
|---|---|
| **Criticality** | minor / informative |
| **Location** | contract.sol#L718,702,666,734 |
| **Status** | Unresolved |

## Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes.

```
coolDownTime = time * 1
deadline = _deadline
tokenLiquidityThreshold = new_amount * 10 ** decimals()
maxBuyLimit = maxBuy * 10 ** decimals()
```

## Recommendation

Emit an event for critical parameter changes.

# L13 - Divide before Multiply Operation

| | |
|---|---|
| **Criticality** | minor / informative |
| **Location** | contract.sol#L584 |
| **Status** | Unresolved |

## Description

Performing divisions before multiplications may cause lose of prediction.

```
unitBalance = deltaBalance / (denominator - swapTaxes.liquidity)
```

## Recommendation

The multiplications should be prior to the divisions.

# L14 - Uninitialized Variables in Local Scope

| | |
|---|---|
| **Criticality** | minor / informative |
| **Location** | contract.sol#L534,536,533 |
| **Status** | Unresolved |

## Description

The are variables that are defined in the local scope and are not initialized.

```
feesum
currentTaxes
feeswap
```

## Recommendation

All the local scoped variables should be initialized.

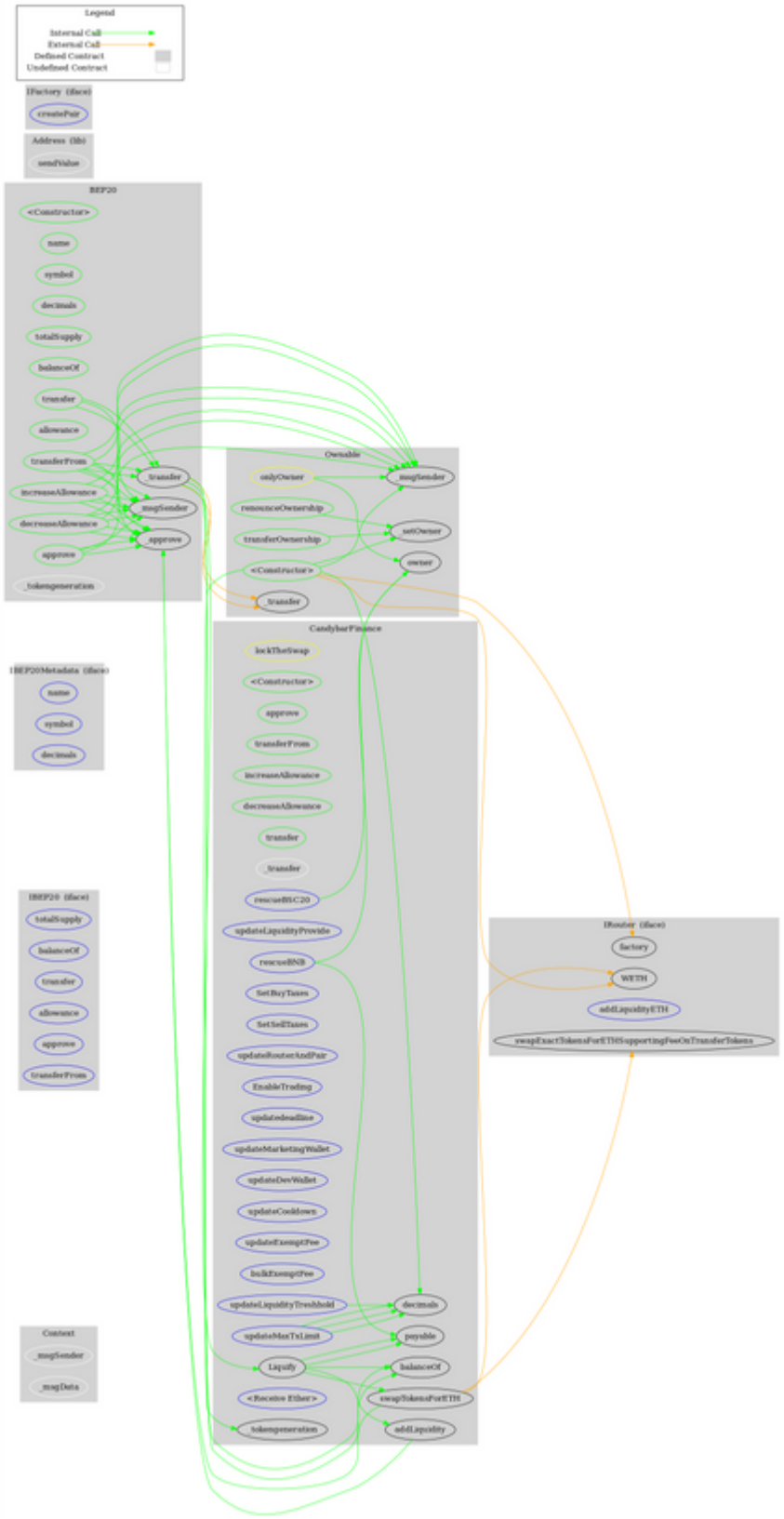
# Contract Functions

| Contract | Type | Bases | | |
|---|---|---|---|---|
| | Function Name | Visibility | Mutability | Modifiers |
| | | | | |
| **Context** | Implementation | | | |
| | _msgSender | Internal | | |
| | _msgData | Internal | | |
| | | | | |
| **IBEP20** | Interface | | | |
| | totalSupply | External | | - |
| | balanceOf | External | | - |
| | transfer | External | ✓ | - |
| | allowance | External | | - |
| | approve | External | ✓ | - |
| | transferFrom | External | ✓ | - |
| | | | | |
| **IBEP20Metadata** | Interface | IBEP20 | | |
| | name | External | | - |
| | symbol | External | | - |
| | decimals | External | | - |
| | | | | |
| **BEP20** | Implementation | Context, IBEP20, IBEP20Metadata | | |
| | <Constructor> | Public | ✓ | - |
| | name | Public | | - |
| | symbol | Public | | - |
| | decimals | Public | | - |
| | totalSupply | Public | | - |
| | balanceOf | Public | | - |
| | transfer | Public | ✓ | - |
| | allowance | Public | | - |

| | | | | |
|---|---|---|---|---|
| | approve | Public | ✓ | - |
| | transferFrom | Public | ✓ | - |
| | increaseAllowance | Public | ✓ | - |
| | decreaseAllowance | Public | ✓ | - |
| | _transfer | Internal | ✓ | |
| | _tokengeneration | Internal | ✓ | |
| | _approve | Internal | ✓ | |
| | | | | |
| **Address** | Library | | | |
| | sendValue | Internal | ✓ | |
| | | | | |
| **Ownable** | Implementation | Context | | |
| | <Constructor> | Public | ✓ | - |
| | owner | Public | | - |
| | renounceOwnership | Public | ✓ | onlyOwner |
| | transferOwnership | Public | ✓ | onlyOwner |
| | _setOwner | Private | ✓ | |
| | | | | |
| **IFactory** | Interface | | | |
| | createPair | External | ✓ | - |
| | | | | |
| **IRouter** | Interface | | | |
| | factory | External | | - |
| | WETH | External | | - |
| | addLiquidityETH | External | Payable | - |
| | swapExactTokensForETHSupportingFeeOnTransferTokens | External | ✓ | - |
| | | | | |
| **CandybarFinance** | Implementation | BEP20, Ownable | | |
| | <Constructor> | Public | ✓ | BEP20 |
| | approve | Public | ✓ | - |
| | transferFrom | Public | ✓ | - |
| | increaseAllowance | Public | ✓ | - |
| | decreaseAllowance | Public | ✓ | - |

| | | | | |
|---|---|---|---|---|
| | transfer | Public | ✓ | - |
| | _transfer | Internal | ✓ | |
| | Liquify | Private | ✓ | lockTheSwap |
| | swapTokensForETH | Private | ✓ | |
| | addLiquidity | Private | ✓ | |
| | updateLiquidityProvide | External | ✓ | onlyOwner |
| | updateLiquidityTreshhold | External | ✓ | onlyOwner |
| | SetBuyTaxes | External | ✓ | onlyOwner |
| | SetSellTaxes | External | ✓ | onlyOwner |
| | updateRouterAndPair | External | ✓ | onlyOwner |
| | EnableTrading | External | ✓ | onlyOwner |
| | updatedeadline | External | ✓ | onlyOwner |
| | updateMarketingWallet | External | ✓ | onlyOwner |
| | updateDevWallet | External | ✓ | onlyOwner |
| | updateCooldown | External | ✓ | onlyOwner |
| | updateExemptFee | External | ✓ | onlyOwner |
| | bulkExemptFee | External | ✓ | onlyOwner |
| | updateMaxTxLimit | External | ✓ | onlyOwner |
| | rescueBNB | External | ✓ | onlyOwner |
| | rescueBSC20 | External | ✓ | onlyOwner |
| | <Receive Ether> | External | Payable | - |

# Contract Flow



# Summary

The Smart Contract analysis reported one minor severity issue. The contract owner has the authority to transfer funds to the team's wallet. The contract has the ability to prevent sales with a frequency of fewer than 5 minutes. In addition, the contract applies a launch tax of 99% up to the first 5 blocks. Other than that, the contract owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions. There is also a limit of max 10% fees.

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Cyberscope and Coinscope are aiming to make crypto discoverable and efficient globally. They provide all the essential tools to assist users draw their own conclusions.

The Cyberscope team

https://www.cyberscope.io