



# Smart Contract Security Audit Report

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**Grizzly**

February 2023

Security Status



[www.hacksafe.io](http://www.hacksafe.io)



# Audit Details



## Audited project

Grizzly



## Deployer address

0x8aa42bd7dceef29a366e148e25e1906ad9283b2d



## Client contacts

Grizzly Team



## Blockchain

Binance smart chain



## Website

Not Provided



# Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.



# Procedure

## **Step 1 - In-Depth Manual Review**

Manual line-by-line code reviews to ensure the logic behind each function is sound and safe from various attack vectors. This is the most important and lengthy portion of the audit process (as automated tools often cannot find the nuances that lead to exploits such as flash loan attacks).

## **Step 2 - Automated Testing**

Simulation of a variety of interactions with your Smart Contract on a test blockchain leveraging a combination of automated test tools and manual testing to determine if any security vulnerabilities exist.

## **Step 3 – Leadership Review**

The engineers assigned to the audit will schedule meetings with our leadership team to review the contracts, any comments or findings, and ask questions to further apply adversarial thinking to discuss less common attack vectors.

## **Step 4 - Resolution of Issues**

Consulting with the team to provide our recommendations to ensure the code's security and optimize its gas efficiency, if possible. We assist project team's in resolving any outstanding issues or implementing our recommendations.

## **Step 5 - Published Audit Report**

Boiling down results and findings into an easy-to-read report tailored to the project. Our audit reports highlight resolved issues and any risks that exist to the project or its users, along with any remaining suggested remediation measures. Diagrams are included at the end of each report to help users understand the interactions which occur within the project.

# Background

HackSafe was commissioned by Grizzly to perform an audit of smart contracts:

- <https://bscscan.com/token/0xDf5a096D33dE84b11041A7FF78E7008c328184ab#code>

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be understood to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

# Contract Details

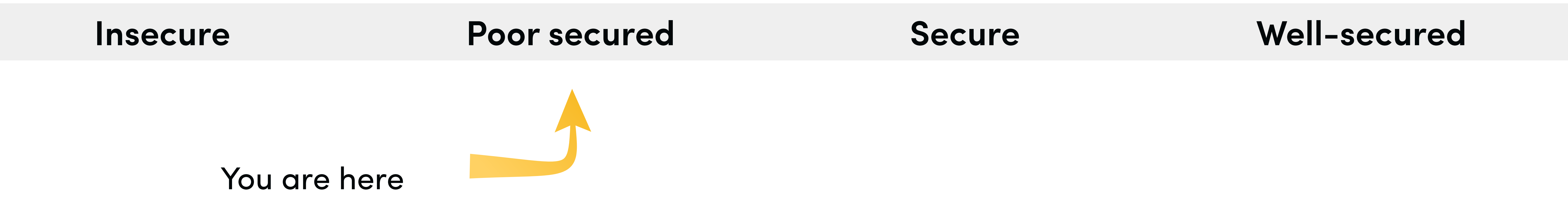
## Token contract details for 16.02.2023

Token Type	: DEFI
Contract name	: GrizzlyToken
Contract address	: 0xDf5a096D33dE84b11041A7FF78E7008c328184ab
Total supply	: 4,409,932.911043
Token ticker	: GRZ
Decimals	: 18
Token Holders	: 1,782
Transactions count	: 146,606
Compiler version	: v0.6.12+commit.27d51765
Contract deployer address	: 0x8aa42bd7dceef29a366e148e25e1906ad9283b2d
Owner address	: 0x6ad77aeb7fc86751f375ea1711dc2cb25c9d4d16



# Audit Summary


According to the standard audit assessment, Customer`s solidity smart contracts are “**poor Secure**”. This token contract does contain owner control, which do not make it fully decentralized.




We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the issues checking status.

We found 0 critical, 0 high, 2 medium and 1 low.

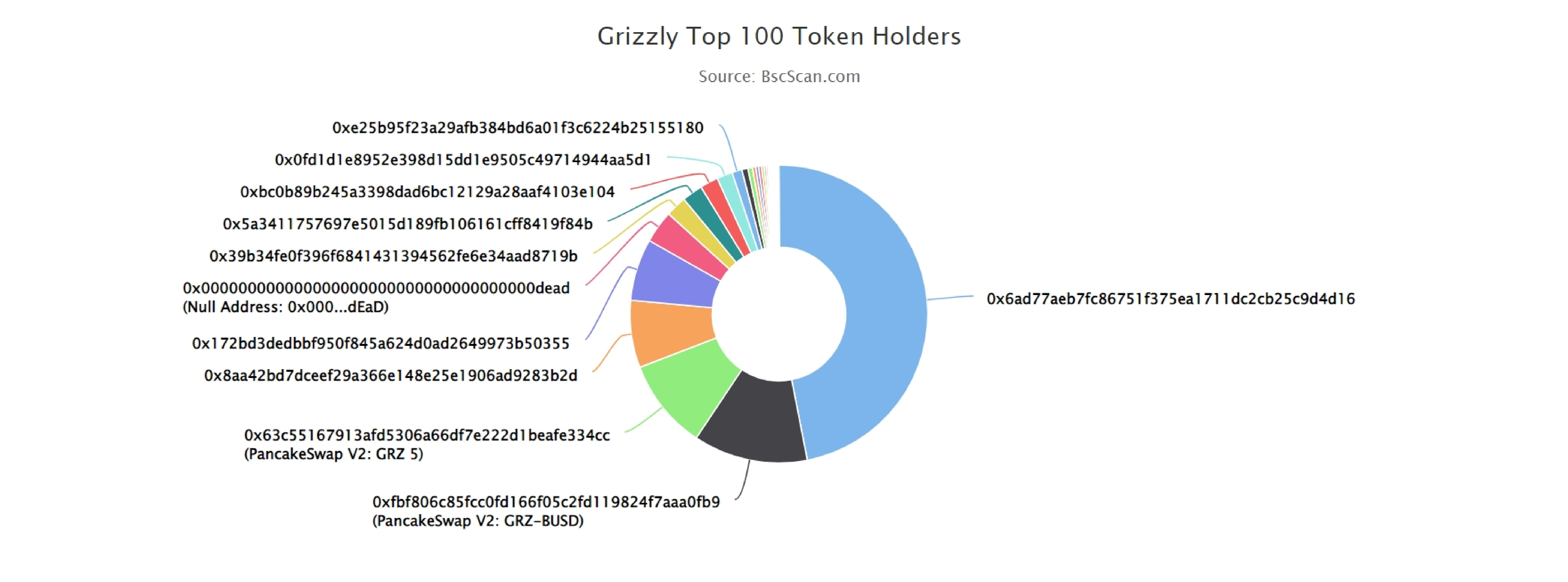
# Grizzly Token Distribution

 The top 100 holders collectively own 99.98% (4,409,033.74 Tokens) of Grizzly

 Token Total Supply: 4,409,932.91 Token






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Total Token Holders: 1,782



## Grizzly TOKEN Top 20 Token Holders

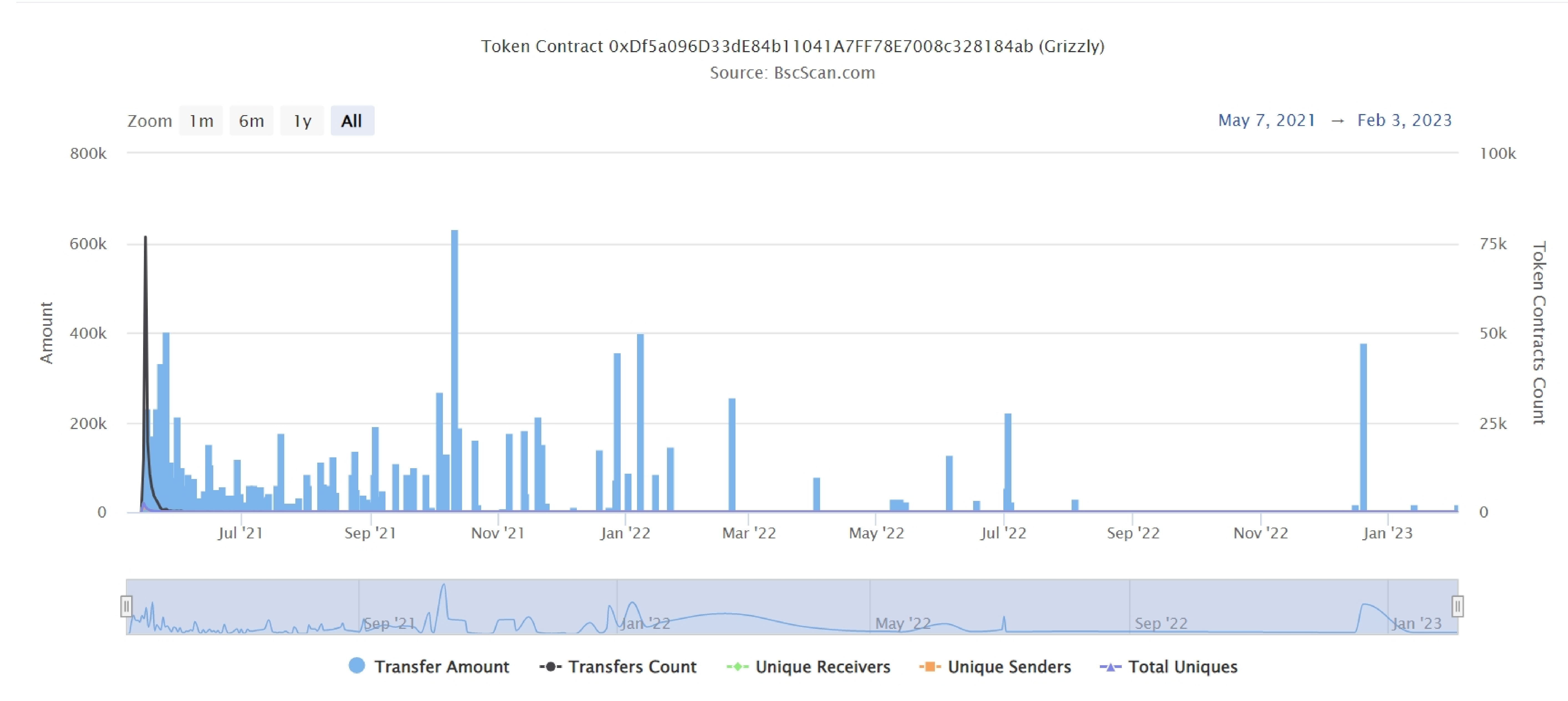
(A total of 4,409,033.74 tokens held by the top 100 accounts from the total supply of 4,409,932.91 token)

Rank	Address	Quantity (Token)	Percentage
1	 0x6ad77aeb7fc86751f375ea1711dc2cb25c9d4d16	2,070,523.503477048520124332	46.9514%
2	 PancakeSwap V2: GRZ-BUSD	547,720.324589699039880843	12.4202%
3	 PancakeSwap V2: GRZ 5	432,956.381568785475717793	9.8178%
4	0x8aa42bd7dceef29a366e148e25e1906ad9283b2d	321,560.729570663527808755	7.2917%
5	0x172bd3dedbbf950f845a624d0ad2649973b50355	296,337.097329342854105089	6.7198%
6	Null Address: 0x000...dEaD	155,064.428250551571860345	3.5163%
7	0x39b34fe0f396f6841431394562fe6e34aad8719b	100,263.860745109565242564	2.2736%
8	0x5a3411757697e5015d189fb106161cff8419f84b	98,995.140671599238737033	2.2448%
9	0xbc0b89b245a3398dad6bc12129a28aaf4103e104	87,021.041088492170320991	1.9733%
10	0x0fd1d1e8952e398d15dd1e9505c49714944aa5d1	75,208.614289323875966434	1.7054%
11	0xe25b95f23a29afb384bd6a01f3c6224b25155180	47,534.929575391640980356	1.0779%
12	 0x8817da1e67eef5f8c469c08d8ecf205f98f6a414	29,289.631125910163303966	0.6642%
13	0x01c247f6012b8a1f177e98e7229b32de5d3db360	21,206.500842993161139073	0.4809%
14	 0x3fb35fed7c5b2a53c33f34b858b72cc5f68df0f4	16,568.471929521659962183	0.3757%
15	0x3ef3dd2d5a3d8dae664fb94445b7ebdff099da18	13,869.861614305093533072	0.3145%
16	0x32ad908de31555180f2a9e8fa774ba7b8cd76a58	13,276.34767167454537819	0.3011%
17	0x8cc7bc33f5188b1fb683bedc4dbffa77b136833b	12,931.036246843697658189	0.2932%
18	0x364f69287b499490255c269d157754a52d76537b	9,221.192623747350854341	0.2091%
19	0xbcf3cd6d52c6ced18f5330a86911aaa4c9d69546	8,105.819912383563651623	0.1838%
20	0x3ba522235c85d4d295ae045cd1372db59f34680a	7,344.689312371713437667	0.1665%



# Grizzly Token Distribution

## Grizzly Contract overview



# Contract functions details

## Context.sol

### +Context

- [Int] \_msgSender
- [Int] \_msgData

## Address.sol

### +**[Lib]** Address

- [Int] isContract
- [Int] sendValue #
- [Int] functionCall #
- [Int] functionCall #
- [Int] functionCallWithValue #
- [Int] functionCallWithValue #
- [Int] functionStaticCall
- [Int] functionStaticCall
- [Int] functionDelegateCall #
- [Int] functionDelegateCall #
- **[Pvt]** \_verifyCallResult

## SafeMath.sol

### +**[Lib]** SafeMath

- [Int] tryAdd
- [Int] trySub
- [Int] tryMul
- [Int] tryDiv
- [Int] tryMod
- [Int] add
- [Int] sub
- [Int] mul
- [Int] div
- [Int] mod
- [Int] sub
- [Int] div
- [Int] mod

## Ownable.sol

### +Ownable (Context)

- [Int] <constructor>
- **[Pub]** owner
- **[Pub]** renounceOwnership #



# Contract functions details

- modifiers: onlyOwner
- [Pub] transferOwnership #
- modifiers: onlyOwner

## + [Lib] SafeBEP20

- [Int] safeTransfer #
- [Int] safeTransferFrom #
- [Int] safeApprove #
- [Int] safeIncreaseAllowance #
- [Int] safeDecreaseAllowance #
- [Pvt] \_callOptionalReturn #

## IBEP20.sol

### + [Int] IBEP20

- [Ext] totalSupply
- [Ext] decimals
- [Ext] symbol
- [Ext] name
- [Ext] getOwner
- [Ext] balanceOf
- [Ext] transfer #
- [Ext] allowance
- [Ext] approve #
- [Ext] transferFrom #

## BEP20.sol

### + BEP20 (Context, IBEP20, Ownable) + [Int] IBEP20

- [Pub] <Constructor > #
- [Ext] getOwner
- [Pub] name
- [Pub] decimals
- [Pub] symbol
- [Pub] totalSupply
- [Pub] balanceOf
- [Pub] transfer #
- [Pub] allowance
- [Pub] approve #
- [Pub] transferFrom #
- [Pub] increaseAllowance #
- [Pub] decreaseAllowance #

# Contract functions details

- [Pub] mint #
  - modifiers: onlyOwner
- [Int] \_transfer #
- [Int] \_mint #
- [Int] \_burn #
- [Int] \_approve #
- [Int] \_burnFrom #

GrizzlyToken.sol

+ GrizzlyToken (BEP20)

- [Pub] mint #
  - modifiers: onlyOwner
- [Int] \_transfer #
- [Ext] delegates
- [Ext] delegate #
- [Ext] delegateBySig #
- [Ext] getCurrentVotes
- [Ext] getPriorVotes
- [Int] \_delegate #
- [Int] \_moveDelegates #
- [Int] \_writeCheckpoint #
- [Int] safe32
- [Int] getChainId

(\$) = payable function

# = non-constant function



# Issues Checking Status

No.	Title	Status
1.	Compiler error	Passed
2.	Missing Input Validation	Passed
3.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
4.	Possible delays in data delivery	Passed
5.	Oracle calls.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Medium Issue
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
12.	Private use data leaks.	Passed
13.	Malicious Event log.	Passed
14.	Scoping and Declarations.	Passed
15.	Uninitialized storage pointers.	Passed
16.	Arithmetic accuracy.	Passed
17.	Design Logic.	Passed
18.	Safe Open Zeppelin contracts implementation and usage.	Medium issue
19.	Incorrect Naming State Variable	Passed
20.	Too old version	Low issue

# Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to assets loss or data manipulations.
High	High-level vulnerabilities are difficult to exploit; however, they also have a significant impact on smart contract execution, e.g., public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can't lead to assets loss or data manipulations.
Low	Low-level vulnerabilities are mostly related to outdated, unused, etc. code snippets that can't have a significant impact on execution.



# Security Issues

## ✓ Critical Severity Issues

No critical severity issue found.

## ✓ High Severity Issues

No high severity issue found.

## ✓ Medium Severity Issues

Two medium severity issue found.

### 1. Wrong burning

- **Issue:**

There is sending tokens to the dead address in overridden `_transfer` functions, instead of burning them in the token contract.

- **Recommendation:**

There should be a burn instead of sending to the dead address.

### 2. Safe Open Zeppelin contracts implementation and usage.

- **Issue:**

BEP20.sol contract have direct imported open Zeppelin contract any changes in that can affect this smart contracts too.

- **Recommendation:**

it is advisable to not to direct import any contracts from any repository.

## ✓ Low Severity Issues

One low severity issue found.

### 1. Old compiler version

- **Description**

Contract has been deployed using too old solidity version.

- **Recommendation**

It is advisable to deploy contract using any of the latest version of solidity.

# Centralization

## Owner privileges :

- Grizzly Contract:
  - Owner can mint tokens.

This smart contract has some functions which can be executed by the admin (Owner) only. If the admin wallet private key would be compromised, then it would create trouble as smart contract ownership has not been renounced.



# Conclusion

Smart contract contains medium severity issues! The further transfer and operations with the fund raised are not related to this particular contract.

HackSafe note: Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.