

The background is a dark navy blue. It features several abstract geometric elements: a green horizontal bar at the top left with white wavy lines above it; a blue vertical bar on the left; a blue circle in the upper right; a green vertical bar on the right; a purple vertical bar on the left; a teal horizontal bar at the bottom; and a green circular arc on the right. White wavy lines also appear at the bottom right.

# KISHIELD

Security Audit

**Billiardo Token**

March 26, 2022



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# Audit Summary

This report has been prepared for Billiardo Token on the Binance Chain network. KISHIELD provides both client-centered and user-centered examination of the smart contracts and their current status when applicable. This report represents the security assessment made to find issues and vulnerabilities on the source code along with the current liquidity and token holder statistics of the protocol.

A comprehensive examination has been performed, utilizing Cross Referencing, Static Analysis, In-House Security Tools, and line-by-line Manual Review.

The auditing process pays special attention to the following considerations:

- Ensuring contract logic meets the specifications and intentions of the client without exposing the user's funds to risk.
- Testing the smart contracts against both common and uncommon attack vectors.
- Inspecting liquidity and holders statistics to inform the current status to both users and client when applicable.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Verifying contract functions that allow trusted and/or untrusted actors to mint, lock, pause, and transfer assets.
- Thorough line-by-line manual review of the entire codebase by industry experts.

# Project Overview

## Token Summary

Parameter	Result
Address	0xB26b94248cADBC9BD4f6f5BFA6ea43Cf18cF8db3
Name	Billiardo
Token Tracker	Billiardo (BLD)
Decimals	18
Supply	1,000,000,000
Platform	Binance Chain
compiler	v0.8.4+commit.c7e474f2
Optimization	Yes with 200 runs
LicenseType	MIT
Language	Solidity
Codebase	<a href="https://bscscan.com/address/0x7edff5c42081ffd3b04def92b8ddcfb532c2d12a">https://bscscan.com/ address/0x7edff5c42081ffd3b04def92b8ddcfb532c2d12a</a>
Url	<a href="https://safe-rocket.net">https://safe-rocket.net</a>

## Main Contract Assessed

Name	Contract	Live
BilliardoGame.sol	0xB26b94248cADBC9BD4f6f5BFA6ea43Cf18cF8db3	Yes

# Smart Contract Vulnerability Checks

Vulnerability	Automatic Scan	Manual Scan	Result
Unencrypted Private Data On-Chain	Complete	Complete	✓ Low / No Risk
Code With No Effects	Complete	Complete	✓ Low / No Risk
Message call with hardcoded gas amount	Complete	Complete	✓ Low / No Risk
Hash Collisions With Multiple Variable Length Arguments	Complete	Complete	✓ Low / No Risk
Unexpected Ether balance	Complete	Complete	✓ Low / No Risk
Presence of unused variables	Complete	Complete	✓ Low / No Risk
Right-To-Left-Override control character (U+202E)	Complete	Complete	✓ Low / No Risk
Typographical Error	Complete	Complete	✓ Low / No Risk
DoS With Block Gas Limit	Complete	Complete	✓ Low / No Risk
Arbitrary Jump with Function Type Variable	Complete	Complete	✓ Low / No Risk
Insufficient Gas Griefing	Complete	Complete	✓ Low / No Risk
Incorrect Inheritance Order	Complete	Complete	✓ Low / No Risk
Write to Arbitrary Storage Location	Complete	Complete	✓ Low / No Risk
Requirement Violation	Complete	Complete	✓ Low / No Risk
Missing Protection against Signature Replay Attacks	Complete	Complete	✓ Low / No Risk
Weak Sources of Randomness from Chain Attributes	Complete	Complete	✓ Low / No Risk

Vulnerability	Automatic Scan	Manual Scan	Result
Authorization through tx.origin	Complete	Complete	✓ Low / No Risk
Delegatecall to Untrusted Callee	Complete	Complete	✓ Low / No Risk
Use of Deprecated Solidity Functions	Complete	Complete	✓ Low / No Risk
Assert Violation	Complete	Complete	✓ Low / No Risk
Reentrancy	Complete	Complete	✓ Low / No Risk
Unprotected SELFDESTRUCT Instruction	Complete	Complete	✓ Low / No Risk
Unprotected Ether Withdrawal	Complete	Complete	✓ Low / No Risk
Unchecked Call Return Value	Complete	Complete	✓ Low / No Risk
Outdated Compiler Version	Complete	Complete	✓ Low / No Risk
Integer Overflow and Underflow	Complete	Complete	✓ Low / No Risk
Function Default Visibility	Complete	Complete	✓ Low / No Risk

## Contract Ownership

The contract ownership of Billiardo is not currently renounced. The ownership of the contract grants special powers to the protocol creators, making them the sole addresses that can call sensible ownable functions that may alter the state of the protocol.

The current owner is the address 0x79765ba7146973c4Eba4691ca1dC1696CDC122c8 which can be viewed from: [HERE](#)

The owner wallet has the power to call the functions displayed on the privileged functions chart below, if the owner wallet is compromised this privileges could be exploited.

We recommend the team to renounce ownership at the right timing if possible, or gradually migrate to a timelock with governing functionalities in respect of transparency and safety considerations.

## Important Notes To The Users:

- The owner cannot mint tokens after intial deployment.
- The owner cannot stop Trading.
- The transfer function is implemented correctly.
- The owner can change the max tx amount.
- The owner can change the development and liquidity fees amount.
- The owner can add/remove addresses from the rewards and fees.
- No high-risk Exploits/Vulnerabilities Were Found in token Source Code.

## Audit Passed



# Findings Summary

## Classification of Issues

All Issues Found are Informational

Severity	Description
● High	Exploits, vulnerabilities or errors that will certainly or probabilistically lead towards loss of funds, control, or impairment of the contract and its functions. Issues under this classification are recommended to be fixed with utmost urgency
● Medium	Bugs or issues with that may be subject to exploit, though their impact is somewhat limited. Issues under this classification are recommended to be fixed as soon as possible.
● Low	Effects are minimal in isolation and do not pose a significant danger to the project or its users. Issues under this classification are recommended to be fixed nonetheless.
● Info	Consistency, syntax or style best practices. Generally pose a negligible level of risk, if any.

## Findings

Severity	Found
● High	0
● Medium	0
● Low	1
● Info	2
Total	3



# Findings

## Repetitive Code

ID	Severity	Contract	Function
01	● Low	Billiardo	function calculateTaxFee, calculateDevelopmentFee, calculateLiquidityFee

### Description

Gas Optimization. All three functions implement the exact same logic

### Recommendation

Create a single function with the functionality and called as needed for the fee calculations.

## Public function that could be declared external

ID	Severity	Contract	Function
02	● Informational	Billiardo	Functions deliver(), totalFee(), isExcludedFromFee(), etc


### Description

Gas Optimization. Public function that could be declared external

### Recommendation

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

## Variables could be declared as constant

ID	Severity	Contract	Function
03	 Informational	Billiardo	variables name, symbol, decimals, totalSupply

### Description

Gas Optimization. Variables that are never changed could be declared as constant.

### Recommendation

We recommend declaring those variables as constant.

## Privileged Functions (onlyOwner)

Function Name	Parameters	Visibility
renounceOwnership	none	public
transferOwnership	address newOwner	public
excludeFromReward	address account	public
includeInReward	address account	external
excludeFromFee	address account	public
includeInFee	address account	public
setTaxFeePercent	uint256 taxFee	external
setDevelopmentFeePercent	uint256 developmentFee	external
setLiquidityFeePercent	uint256 liquidityFee	external
setMaxTxPercent	uint256 maxTxPercent	external
setSwapAndLiquifyEnabled	bool _enabled	public
swapAndLiquify	none	private

# Statistics

## Liquidity Info

Parameter	Result
Pair Address	0x16744669Af8138a6Bc7829b09B53EE41c2c642a
BLD Reserves	0.00 BLD
BNB Reserves	0.00 BNB
Liquidity Value	\$0 USD

## Token (BLD) Holders Info

Parameter	Result
BLD Percentage Burnt	0.00%
BLD Amount Burnt	0 BLD
Top 10 Percentage Own	100.00%
Top 10 Amount Owned	1,000,000,000 BLD
Top 10 Aprox Value	\$NaN USD

## LP (BLD/BNB) Holders Info

Parameter	Result
BLD/BNB % Burnt	0.00%
BLD/BNB Amount Burnt	0 BLD
Top 10 Percentage Owned	0.00%
Top 10 Amount Owned	0 BLD
Locked Tokens Percentage	0.00%
Locked Tokens Amount	0 BLD

\* All the data displayed above was taken on-chain at block 16405827

\* The tokens on industry-standard burn wallets are not included on the top 10 wallets calculations

## Liquidity Ownership

The token does not have liquidity at the moment of the audit, block 16405827

# KISHIELD



## Disclaimer

KISHIELD has conducted an independent audit to verify the integrity of and highlight any vulnerabilities or errors, intentional or unintentional, that may be present in the codes that were provided for the scope of this audit. This audit report does not constitute agreement, acceptance or advocacy for the Project that was audited, and users relying on this audit report should not consider this as having any merit for financial advice in any shape, form or nature. The contracts audited do not account for any economic developments that may be pursued by the Project in question, and that the veracity of the findings thus presented in this report relate solely to the proficiency, competence, aptitude and discretion of our independent auditors, who make no guarantees nor assurance that the contracts are completely free of exploits, bugs, vulnerabilities or deprecation of technologies.

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