



# Smart Contract Security Audit

**Project: DogeHeadGold**

May 29, 2022



**Contract Address**

0x1E83342331781f6c4C6EeeB840FE6aC988f8452C

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## Disclaimer

The contents of this report reflect only the CRACKEN TECH audit team's understanding of the current progress and status of the security of the code audited, to verify the integrity of the code provided for the scope of this audit. You agree that your access and/or use, including but not limited to any associated services, products, protocols, platforms, content, and materials, will be at your sole risk. Given the size of the project, the findings detailed here are not to be considered exhaustive, and further testing and audit are recommended after the issues covered are fixed. We do not warrant, endorse, guarantee, or assume responsibility for any product or service advertised or offered by a third party through the product, any open source or third-party software, code, libraries, materials, or information linked to, called by, referenced by or accessible through the report, its content, and the related services and products, any hyperlinked websites, any websites or mobile applications appearing on any advertising, and we will not be a party to or in any way be responsible for monitoring any transaction between you and any third-party providers of products or services.

All information provided in this report does not constitute financial or investment advice, nor should it be used to signal that any persons reading this report should invest their funds without sufficient individual due diligence regardless of the findings presented in this report.

The review does not address the compiler layer, any other areas beyond the programming language, or other programming aspects that could present security risks. If the audited source files are smart contract files, risks or issues introduced by using data feeds from off-chain sources are not extended by this review either.

## Audit Review

The source code of the DogeHeadGold was audited in order to acquire a clear impression of how the project was implemented. The Cracken Tech audit team conducted in-depth research, analysis, and scrutiny, resulting in a series of observations. A detailed list of each issue found, and vulnerabilities in the source code will be included in the audit report. The problems and potential solutions are given in this report, we will identify common sources for such problems and comments for improvement.

The auditing process will follow a routine as special considerations by Cracken:

- Review of the specifications, sources, and instructions provided to Cracken 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 Cracken 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 analyzing 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.

## Project Review

### Token Summary

Parameter	Result
Token Name	DogeHeadGold
Token Symbol	DogeHeadGold
Token Decimal	18
Total Supply	20,000,000,000,000
Platform	BSC
Buy Tax Fee	10%
Sell Tax Fee	12%
Contract Creation Date	May 09, 2022
Liquidity Status	Locked
Liquidity Lockup Time	Lifetime
Compiler Version	v0.8.4+commit.c7e474f2
Optimization	Yes with 200 runs
Contract Address	0x1E83342331781f6c4C6EeeB840FE6aC988f8452C
Deployer Address	0xe3001fCD04021050781e3dDFacA00deBD608Cbf4
Owner Address	0x000000000000000000000000000000000000dead

### Source Code

CRACKEN was commissioned by DogeHeadGold to perform an audit based on the following smart contract:

<https://bscscan.com/address/0x1E83342331781f6c4C6EeeB840FE6aC988f8452C>





## Smart Contract Vulnerability Checks

Vulnerability	Auto-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 Grieving	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
Authorization through tx. origin	Complete	Complete	Low / No Risk
Delegate call to Untrusted Callee	Complete	Complete	Low / No Risk





Vulnerability	Auto-Scan	Manual-Scan	Result
Use of Deprecated Solidity Functions	Complete	Complete	Low / No Risk
Assert Violation	Complete	Complete	Low / No Risk
Reentrancy	Complete	Complete	Low / No Risk
Unprotected SELF-DESTRUCT Instruction	Complete	Complete	Low / No Risk
Unprotected Ether Withdrawal	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

## Manual Code Review

### Classification of Issues

Severity	Description
 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.
 Informational	A vulnerability that has an informational character but is not affecting any of the code.

### Findings

Severity	Found
 High-Risk	0
 Medium-Risk	0
 Low-Risk	1
 Informational	1
Total	2



- **Low-Risk:** Implementation of certain corrective actions or accepting the risk.

## Set Buy / Sell Fees

Description:

Rewards fee, Marketing Fee, and dead Fee are less than 25%.

- *function setBuyTaxes(uint256 liquidity, uint256 rewardsFee, uint256 marketingFee, uint256 deadFee) external onlyOwner {  
require(rewardsFee.add(liquidity).add(marketingFee).add(deadFee) <= 25, "Total buy fee is over 25%");  
buyTokenRewardsFee = rewardsFee;  
buyLiquidityFee = liquidity;  
buyMarketingFee = marketingFee;  
buyDeadFee = deadFee;  
}*
- *function setSellTaxes(uint256 liquidity, uint256 rewardsFee, uint256 marketingFee, uint256 deadFee) external onlyOwner {  
require(rewardsFee.add(liquidity).add(marketingFee).add(deadFee) <= 25, "Total sel fee is over 25%");  
sellTokenRewardsFee = rewardsFee;  
sellLiquidityFee = liquidity;  
sellMarketingFee = marketingFee;  
sellDeadFee = deadFee;  
}*

**Recommendation: fees are set to a reasonable amount**

- **Informational:** Implementation of certain corrective actions or accepting the risk.

## RewardToken (DOGE)

Description:

Reward Token (DOGE) for holders who hold 2,000,000,000 GTJ Tokens

- ```
function swapAndSendDividends(uint256 tokens) private{
    swapTokensForCake(tokens);
    AmountTokenRewardsFee = AmountTokenRewardsFee - tokens;
    uint256 dividends = IERC20(rewardToken).balanceOf(address(this));
    bool    success    =    IERC20(rewardToken).transfer(address(dividendTracker),
dividends);
    if (success) {
        dividendTracker.distributeCAKEDividends(dividends);
        emit SendDividends(tokens, dividends);
    }
}
```

## Privileged Functions

onlyOwner

| Function Name          | Parameters                                                                   | Visibility |
|------------------------|------------------------------------------------------------------------------|------------|
| decreaseAllowance      | Address spender, uint256 subtractedValue                                     | Public     |
| excludeFromDividends   | address indexed account                                                      | External   |
| excludeFromFees        | _isExcludedFromFees                                                          | Public     |
| increaseAllowance      | Address spender, uint256 addedValue                                          | Public     |
| multipleBotlistAddress | address[] calldata accounts                                                  | Public     |
| processDividendTracker | uint256 gas                                                                  | External   |
| renounceOwnership      | _transferOwnership(address (0))                                              | Public     |
| setBuyTaxes            | uint256 liquidity, uint256 rewardsFee, uint256 marketingFee, uint256 deadFee | External   |
| setSellTaxes           | uint256 liquidity, uint256 rewardsFee, uint256 marketingFee, uint256 deadFee | External   |
| setDeadWallet          | address addr                                                                 | Public     |
| setMarketingWallet     | address payable wallet                                                       | External   |
|                        |                                                                              |            |
|                        |                                                                              |            |

## Contract Ownership

The contract ownership of DogeHeadGold is 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 0x0000000000000000000000000000000000000000dead which can be viewed: [HERE](#)

The owner wallet has the power to call the functions displayed on the privileged functions list above, if the owner wallet is compromised these privileges could be exploited.

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

## Liquidity Overview

### Liquidity Information

| Parameter           | Result                                     |
|---------------------|--------------------------------------------|
| Pair Address        | 0xbbf3db363554b7b219c08118a47ff7d09f533569 |
| GTJ Reserves        | 1,017,315,975,207.03 GTJ                   |
| BNB Reserves        | 408.76 BNB                                 |
| Liquidity Value     | \$122,825 USD                              |
| Liquidity Ownership | Renounced                                  |

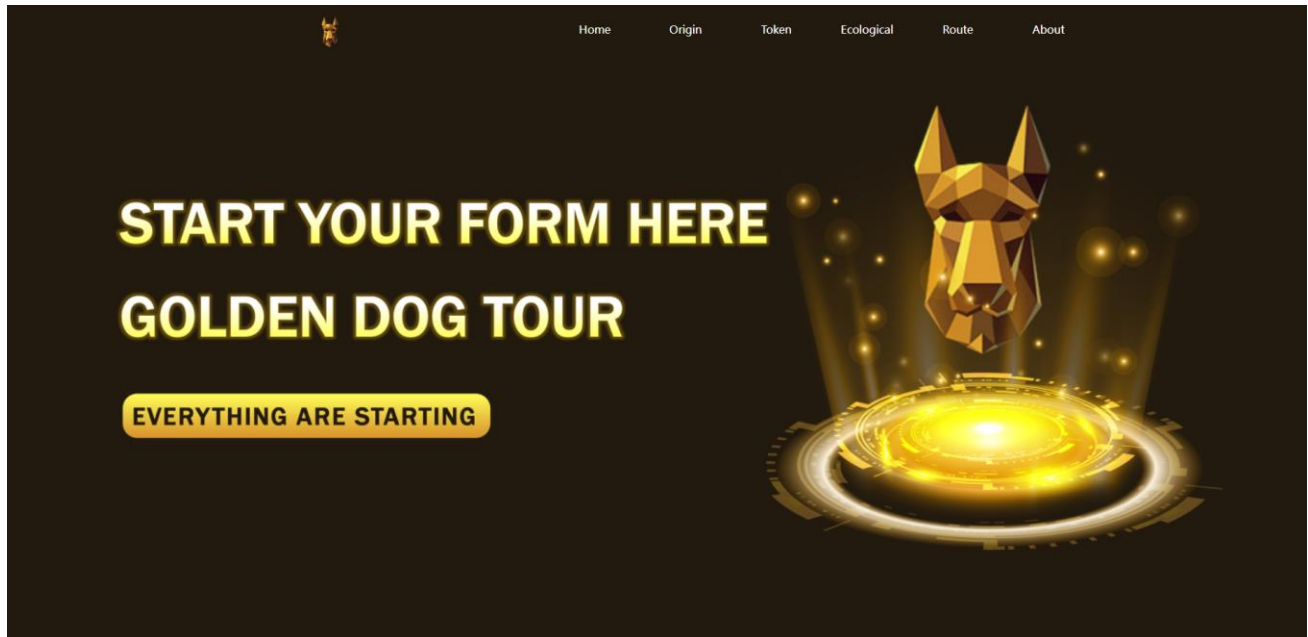
## Tokenomics

| Rank | Address                                    | Quantity (Token)  | Percentage |
|------|--------------------------------------------|-------------------|------------|
| 1    | 0x08510df7887dad3600f297e7eaf02ef5a7db7bf1 | 5,200,000,000,000 | 26.0000%   |
| 2    | PancakeSwap V2: GTJ                        | 1,009,036,697,422 | 5.0452%    |
| 3    | 0x77aaa1cf79878cdcdec4a5897a7c0dcf0674d1d3 | 707,931,392,627   | 3.5397%    |
| 4    | Gate.io                                    | 555,555,555,555   | 2.7778%    |

## Social Media Check

| Social Media Type | Link                                                                            | Result  |
|-------------------|---------------------------------------------------------------------------------|---------|
| Website           | <a href="http://www.gtj.in/">http://www.gtj.in/</a>                             | Checked |
| Twitter           | <a href="https://twitter.com/dogeheadgold">https://twitter.com/dogeheadgold</a> | Checked |
| Telegram          | <a href="https://t.me/GTJ_GS">https://t.me/GTJ_GS</a>                           | Checked |

## Website Review



- Mobile Friendly except for banner
- Contains no code errors
- No SSL certificates
- No major spelling errors

## Audit Conclusion

- The owner cannot mint tokens after the initial deployment
- The owner cannot change the min tx amount
- The owner cannot pause trading
- The owner cannot blacklist users
- The owner cannot set fees higher than 25%
- The owner cannot change the max transaction limit
- Reward Token (DOGE) for holders who hold 2,000,000,000 GTJ Tokens
- Ownership is renounced