

Advanced Manual **Smart Contract Audit**

January 8, 2024

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Audit requested by



Golden Bamboo

0xb0d22255889850F41D3ffA5BA4152f8865AAAAAA

Global Overview

Manual Code Review

In this audit report we will highlight the following issues:

Vulnerability Level	Total	Pending	Acknowledged	Resolved
Informational	0	0	0	0
Low-Risk	4	4	0	0
Medium-Risk	2	0	2	0
High-Risk	0	0	0	0

Table of Contents

1. Audit Summary

- 1.1 Audit scope
- 1.2 Tokenomics
- 1.3 Source Code

2. Disclaimer

3. Global Overview

- 3.1 Informational issues
- 3.2 Low-risk issues
- 3.3 Medium-risk issues
- 3.4 High-risk issues

4. Vulnerabilities Findings

5. Contract Privileges

- 5.1 Maximum Fee Limit Check
- 5.2 Contract Pausability Check
- 5.3 Max Transaction Amount Check
- 5.4 Exclude From Fees Check
- 5.5 Ability to Mint Check
- 5.6 Ability to Blacklist Check
- 5.7 Owner Privileges Check

6. Notes

- 6.1 Notes by Coinsult
- 6.2 Notes by Golden Bamboo

7. Contract Snapshot

8. Website Review

9. Certificate of Proof

Audit Summary

Project Name	Golden Bamboo
Website	https://gbt.gold/#/
Blockchain	Binance Smart Chain
Smart Contract Language	Solidity
Contract Address	0xb0d22255889850F41D3ffA5BA4152f8865AAAAAA
Audit Method	Static Analysis, Manual Review
Date of Audit	8 January 2024

This audit report has been prepared by Coinsult's experts at the request of the client. In this audit, the results of the static analysis and the manual code review will be presented. The purpose of the audit is to see if the functions work as intended, and to identify potential security issues within the smart contract.

The information in this report should be used to understand the risks associated with the smart contract. This report can be used as a guide for the development team on how the contract could possibly be improved by remediating the issues that were identified.

Audit Scope

Coinsult was commissioned by Golden Bamboo to perform an audit based on the following code:

<https://bscscan.com/token/0xb0d22255889850f41d3ffa5ba4152f8865AAAAAA#code>

Note that we only audited the code available to us on this URL at the time of the audit. If the URL is not from any block explorer (main net), it may be subject to change. Always check the contract address on this audit report and compare it to the token you are doing research for.

Audit Method

Coinsult's manual smart contract audit is an extensive methodical examination and analysis of the smart contract's code that is used to interact with the blockchain. This process is conducted to discover errors, issues and security vulnerabilities in the code in order to suggest improvements and ways to fix them.

Automated Vulnerability Check

Coinsult uses software that checks for common vulnerability issues within smart contracts. We use automated tools that scan the contract for security vulnerabilities such as integer-overflow, integer-underflow, out-of-gas-situations, unchecked transfers, etc.

Manual Code Review

Coinsult's manual code review involves a human looking at source code, line by line, to find vulnerabilities. Manual code review helps to clarify the context of coding decisions. Automated tools are faster but they cannot take the developer's intentions and general business logic into consideration.

Used tools

- Slither: Solidity static analysis framework
- Remix: IDE Developer Tool
- CWE: Common Weakness Enumeration
- SWC: Smart Contract Weakness Classification and Test Cases
- DEX: Testnet Blockchains

Risk Classification

Coinsult uses certain vulnerability levels, these indicate how bad a certain issue is. The higher the risk, the more strictly it is recommended to correct the error before using the contract.

Vulnerability Level	Description
● Informational	Does not compromise the functionality of the contract in any way
● Low-Risk	Won't cause any problems, but can be adjusted for improvement
● Medium-Risk	Will likely cause problems and it is recommended to adjust
● High-Risk	Will definitely cause problems, this needs to be adjusted

Coinsult has four statuses that are used for each risk level. Below we explain them briefly.

Risk Status	Description
Total	Total amount of issues within this category
Pending	Risks that have yet to be addressed by the team
Acknowledged	The team is aware of the risks but does not resolve them
Resolved	The team has resolved and remedied the risk

SWC Attack Analysis

The Smart Contract Weakness Classification Registry (SWC Registry) is an implementation of the weakness classification scheme proposed in EIP-1470. It is loosely aligned to the terminologies and structure used in the Common Weakness Enumeration (CWE) while overlaying a wide range of weakness variants that are specific to smart contracts.

ID	Description	Status
SWC-100	Function Default Visibility	Passed
SWC-101	Integer Overflow and Underflow	Passed
SWC-102	Outdated Compiler Version	Passed
SWC-103	Floating Pragma	Passed
SWC-104	Unchecked Call Return Value	Passed
SWC-105	Unprotected Ether Withdrawal	Passed
SWC-106	Unprotected SELFDESTRUCT Instruction	Passed
SWC-107	Reentrancy	Passed
SWC-108	State Variable Default Visibility	Failed
SWC-109	Uninitialized Storage Pointer	Passed
SWC-110	Assert Violation	Passed
SWC-111	Use of Deprecated Solidity Functions	Passed
SWC-112	Delegatecall to Untrusted Callee	Passed
SWC-113	DoS with Failed Call	Passed
SWC-114	Transaction Order Dependence	Passed
SWC-115	Authorization through tx.origin	Passed

SWC-116	Block values as a proxy for time	Passed
SWC-117	Signature Malleability	Passed
SWC-118	Incorrect Constructor Name	Passed
SWC-119	Shadowing State Variables	Passed
SWC-120	Weak Sources of Randomness from Chain Attributes	Passed
SWC-121	Missing Protection against Signature Replay Attacks	Passed
SWC-122	Lack of Proper Signature Verification	Passed
SWC-123	Requirement Violation	Passed
SWC-124	Write to Arbitrary Storage Location	Passed
SWC-125	Incorrect Inheritance Order	Passed
SWC-126	Insufficient Gas Griefing	Passed
SWC-127	Arbitrary Jump with Function Type Variable	Passed
SWC-128	DoS With Block Gas Limit	Passed
SWC-129	Typographical Error	Passed
SWC-130	Right-To-Left-Override control character (U+202E)	Passed
SWC-131	Presence of unused variables	Passed
SWC-132	Unexpected Ether balance	Passed
SWC-133	Hash Collisions With Multiple Variable Length Arguments	Passed
SWC-134	Message call with hardcoded gas amount	Passed
SWC-135	Code With No Effects	Passed
SWC-136	Unencrypted Private Data On-Chain	Passed

Error Code	Description
SWC: 108	State variable visibility is not set.

● **Low-Risk:** Could be fixed, will not bring problems.

State Variable Default Visibility

Labeling the visibility explicitly makes it easier to catch incorrect assumptions about who can access the variable.

```
bool _swapping;
```

Recommendation

Variables can be specified as being `public`, `internal` or `private`. Explicitly define visibility for all state variables.

Error Code	Description
CS: 071	Using safemath in Solidity 0.8.0+

● **Low-Risk:** Could be fixed, will not bring problems.

Using safemath in Solidity 0.8.0+

SafeMath is generally not needed starting with Solidity 0.8, since the compiler now has built in overflow checking.


```
library SafeMath {
/**
 * @dev Returns the addition of two unsigned integers, with an overflow flag.
 *
 * _Available since v3.4._
 */
function tryAdd(uint256 a, uint256 b) internal pure returns (bool, uint256) {
    unchecked {
        uint256 c = a + b;
        if (c < a) return (false, 0);
        return (true, c);
    }
}

/**
 * @dev Returns the subtraction of two unsigned integers, with an overflow flag.
```

Recommendation

Check if you really need SafeMath and consider removing it.

Error Code	Description
CS: 016	Initial Supply

 **Low-Risk:** Could be fixed, will not bring problems.


Initial Supply

When the contract is deployed, the contract deployer receives all of the initially created assets. Since the deployer and/or contract owner can distribute tokens without consulting the community, this could be a problem.

Recommendation

Private keys belonging to the employer and/or contract owner should be stored properly. The initial asset allocation procedure should involve consultation with the community.

Error Code	Description
CS: 017	Reliance on third-parties

 **Low-Risk:** Could be fixed, will not bring problems.

Reliance on third-parties

Interaction between smart contracts with third-party protocols like Uniswap and Pancakeswap. The audit's scope presupposes that third party entities will perform as intended and treats them as if they were black boxes. In the real world, third parties can be hacked and used against you. Additionally, improvements made by third parties may have negative effects, such as higher transaction costs or the deprecation of older routers.

Recommendation

Regularly check third-party dependencies, and when required, reduce severe effects.

Error Code	Description
CSM-01	Contract uses a backstop principle (✅ Noted by owner)

● **Medium-Risk:** Should be fixed, could bring problems.

Contract uses a backstop principle (✅ Noted by owner)

```
// backstop
function _backstop() internal returns (bool) {
    uint uAmount = IERC20(_usdt).balanceOf(address(this));
    if (uAmount == 0) return false;
    (uint reserves0, uint reserves1,) = IUniswapV2Pair(_uniswapV2Pair).getReserves();
    if (IUniswapV2Pair(_uniswapV2Pair).token0() != address(this)) {
        uint temp;
        temp = reserves1;
        reserves1 = reserves0;
        reserves0 = temp;
    }
    uint price = reserves1.mul(1 * 10 ** uint(_decimals)).div(reserves0);
    uint _backstopPrice = backstopPrice();

    if (price > 0 && price < _backstopPrice) {
        // Below the backstop price

        (, uint newReserves1) = _targetPrice(_backstopPrice, reserves0, reserves1);
        if (newReserves1 > 0) {
            needPay = needPay.mul(10025).div(10000);
            if (needPay >= uAmount) {
```

Recommendation

When the market price (DEX price) falls below the backstop price, it triggers the backstop fund to purchase a certain amount of GBT tokens on the DEX, raising the market price to match the backstop price, ensuring the market price of GBT always remains above the backstop price.

This action involves a lot of 3rd party reliance, which for the scope of the audit is not possible to fully approve.

Note by owner: Backstop price = Backstop fund/circulation volume, this means that the Backstop fund can completely cover all circulating volume at the current backstop price.

Error Code	Description
CSM-02	Dead address set to the zero address (✅ Acknowledged)

● **Medium-Risk:** Should be fixed, could bring problems.

Dead address set to the zero address (✅ Acknowledged)

```
_dead = 0x0000000000000000000000000000000000000000000000000000000000000000;
```

Recommendation

This can cause some issues because some tokens cannot transfer to or from the zero address.

Note from owner: GBT can transfer to the zero address so this is not an issue.

Other Owner Privileges Check

Error Code	Description
CEN-100	Centralization: Operator Privileges

Coinsult lists all important contract methods which the owner can interact with.

✅ No other important owner privileges to mention.

Notes

Notes by Golden Bamboo

No notes provided by the team.

Notes by Coinconsult

No notes provided by Coinconsult

Contract Snapshot

This is how the constructor of the contract looked at the time of auditing the smart contract.

```
contract GoldenBambooToken is IERC20, Context, Ownable {
    using SafeMath for uint256;
    using SafeERC20 for IERC20;

    string public Website = "https://gbt.gold";
    string public Telegram = "https://t.me/gbt_gold";
    string public Twitter = "https://twitter.com/gbt_gold";
    string public X = "https://twitter.com/gbt_gold";
    string public Email = "gbt@gbt.im";

    mapping(address => uint256) private _balances;
    mapping(address => mapping(address => uint256)) private _allowances;
    mapping(address => bool[4]) public _whites;

    IUniswapV2Router02 public _uniswapV2Router;
    address public _uniswapV2Pair;

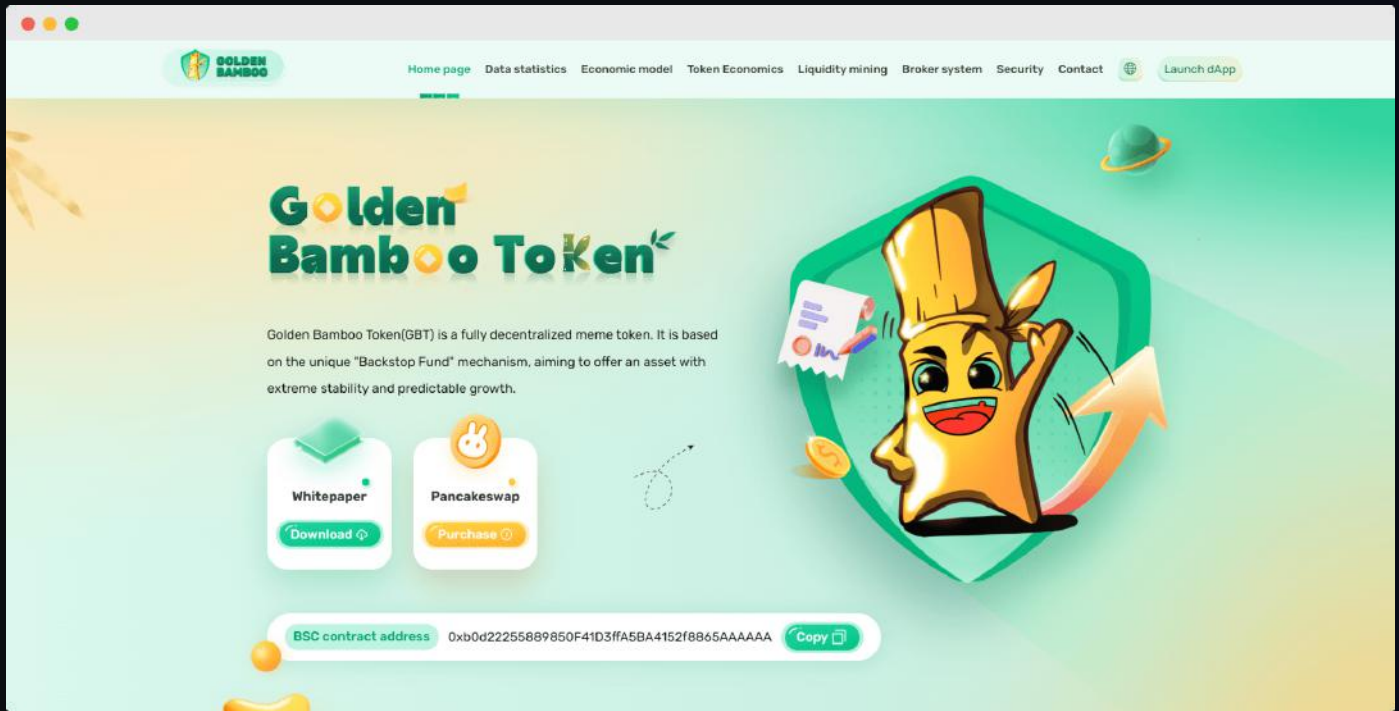
    uint[3] public _fees;
    uint[3] public _scales;
    address public _marketing;
    address public _liquidity;
    address public _issuance;
    uint public _absolutePrice;
    uint public _discountMultiple;
    uint public _discountProportion;
    uint public _minFee;

    TokenDistributor private _tokenDistributor;

    uint256 private _totalSupply;
    uint8 public _decimals;
    string public _symbol;
    string public _name;
    address public _usdt;
    address public _dead;
    bool _swapping;
    uint public _startSwapTime;
```

Website Review

Coinsult checks the website completely manually and looks for visual, technical and textual errors. We also look at the security, speed and accessibility of the website. In short, a complete check to see if the website meets the current standard of the web development industry.



Type of check	Description
Mobile friendly?	● The website is mobile friendly
Contains jQuery errors?	● The website does not contain jQuery errors
Is SSL secured?	● The website is SSL secured
Contains spelling errors?	● The website does not contain spelling errors

Certificate of Proof

● Not KYC verified by Coinsult

Golden Bamboo

Audited by Coinsult.net



Date: 8 January 2024

✓ Advanced Manual Smart Contract Audit

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Coinsult is not responsible if a project turns out to be a scam, rug-pull or honeypot. We only provide a detailed analysis for your own research.


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End of report

Smart Contract Audit

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 info@coinsult.net

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