Token Raven

Token Raven Security Audit

Baby Rebase



Blockchain and Smart Contract

Audit | KYC | Consultancy | Development

Services

Summary

Token Raven has performed a combination of manual and software analysis of the

smart contracts provided by the project team. Each of them has been analyzed for

the most common and exploits, vulnerabilities, and manipulation attacks.

For Baby Rebase we have come to the following conclusion.

→ The solidity source code has Low Severity.

The smart contract has an Active Ownership

The centralization risk is therefore high

The only Owner privileges are changing fees, exclude wallets from fee and

disable trading etc.

All the content provided in the Token Raven audit reports are for general

information and should not be used as financial advice nor a reason to invest in a

project. Whilst the rigorousness of our audit should improve the safety of investing

in a project over an unaudited counterpart, the Token Raven team is not responsible

in the event of a fraud or scam committed by any of our partners. We implore

everyone to always do your own due diligence.

The authenticity of this document can be verified on the Token Raven GitHub

https://github.com/tokenraven

This audit was completed on: 11-05-2022

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Audit Summary

Provided Description

Baby Rebase is the first ever Rebase contract combined with 5% ADA rewards. The rebase contract will be used to push the price through the roof to an pegged price of 1.337.000\$ The sky is the limit.

Website: https://geffenna.wixsite.com/babyrebase

| Project Name | Baby Rebase | |
|------------------|--|--|
| Platform | BNB Chain | |
| Language | Solidity | |
| Contract Address | 0xcldf7fdB9923D3EA30eD6c9BDAfb46a5618191E5 | |
| Compiler Version | 0.7.4 | |
| Token Ticker | BR | |
| Total Supply | 1,358,536,925,812,500 | |
| Decimals | 4 | |
| Tax Fees | 14% | |
| Deployer Address | 0xF8e5d009c35f9F6b292db24378dd420B3E057Ef7 | |
| Current Owner | 0xF8e5d009c35f9F6b292db24378dd420B3E057Ef7 | |

Link to contract:

 $\frac{https://bscscan.com/address/0xc1df7fdb9923d3ea30ed6c9bdafb46a5618191e5\#c}{ode}$



Audit Process

Our rigorous audit process is as follows.

Step1

The smart contract is tested on the Testnet of the corresponding network as well as using software analysis tools to make sure that everything is functioning. If we notice any issues, we will provide recommendations to get these issues resolved.

Step 2

Here we check whether there are functions in the contract that are only for the owner of the contract, which therefore entail privileges. If we find this type of feature, it will be communicated to our partners as we recommend this is to be changed.

Step3

If our partner does not want to make changes to these owner-only functions, we recommend that you verify through a KYC verification with us. We then indicate during the audit that these functions are included in the contract, but that the owner has been verified at Token Raven.

Step 4

Once we check the contract line by line in the auditing process and our recommendations for problem fixes are implemented, this will be communicated to the project team.

Step 5

If everything is in order after the previous 4 steps, the audit report including the certificate will be displayed on our website and GitHub. In the report, all our comments are divided into categories, ranging from low risk to high risk labels.



Common Risks

The cold hard logic of smart contracts allows them to facilitate the most secure and trustworthy kinds of transactions to date. This infallible ability to always execute the provided code does mean however, that the code should be free of errors in order to prevent security hazards.

The top ten Smart Contract Risks (SCR) fall into three categories

Operational Risks

- SCR-1: Super User Account or Privilege Management
- SCR-2: Blacklisting and Burning Functions
- SCR-3: Contract Logic or Asset Configuration can be arbitrarily changed
- SCR-4: Self-Destruct Functions
- SCR-5: Minting Functions

Implementation Risks

- SCR-6: Rolling Your Own Crypto and Unique Contract Logic
- SCR-7: Unauthorized Transfers
- SCR-8: Incorrect Signature Implementation or Arithmetic

Design Risks

- SCR-9: Untrusted Control Flow
- SCR-10: Transaction Order Dependence

All of these risks are checked for either manually or through our software analyses.

Software Analysis

Static

This static analysis creates a markdown description report comprising information about the system's files, contracts, and their functions.

| Contract | Туре | Bases | | |
|----------|-------------------|----------------|----------------|---------------|
| L | **Function name** | **Visibility** | **Mutability** | **Modifiers** |

Legend:

| Symbol | Definition |
|-----------|--------------------------|
| | Function can be modified |
| GD | Function is payable |
| | Function is locked |
| | Function can be accessed |
| | Important functionality |

```
**SafeMath** | Library |
L | add | Internal 🦰 |
L | sub | Internal 🦲 |
L | sub | Internal 🦰 |
L | mul | Internal 🦰
L | div | Internal 🦰 |
L | div | Internal 🦰 |
**SafeMathInt** | Library | |||
L | mul | Internal 🦰 |
L | div | Internal 🦰 |
L | sub | Internal 🦰 |
L | add | Internal 🦰 |
L | abs | Internal 🦰 |
**IBEP20** | Interface | |||
L | totalSupply | External | NO! |
L | decimals | External | | NO |
L | symbol | External | | NO | |
   name | External | | NO
```



```
L | getOwner | External | NO | |
 L | balanceOf | External | | NO | |
 L | transfer | External | | O | NO! |
| <sup>L</sup> | allowance | External <mark>|</mark> | | NO<mark>!</mark> |
 L | approve | External | | 🛑 | NO
 | | transferFrom | External | | | | | | | | | | | | | | | | |
**Auth** | Implementation | ||
 L | <Constructor> | Public | | O | NO! |
 💄 | unauthorize | Public 📙 | 🛑 | onlyOwner |
 L | isOwner | Public | | NO
 L | isAuthorized | Public | NO |
 L | transferOwnership | Public | | 🛑 | onlyOwner |
ШШ
 **IDEXFactory** | Interface | |||
| L | createPair | External | | 🛑 | NO! |
**InterfaceLP** | Interface | |||
L | sync | External | | 🛑 | NO! |
**IDEXRouter** | Interface | |||
 L | factory | External | | NO |
L | WETH | External | NO |
 L | addLiquidityETH | External | | 🕮 |NO
| | swapExactTokensForTokensSupportingFeeOnTransferTokens | External
  NO.
 L | swapExactETHForTokensSupportingFeeOnTransferTokens | External | | | | | | |
NO.
| NO! |
111111
**IDividendDistributor** | Interface | |||
👢 | setDistributionCriteria | External 📗 | 🛑 | NO 📗
 L | setShare | External | | 🛑 | NO! |
 L | deposit | External | | 💷 |NO | |
 L | process | External | | O | NO | |
**DividendDistributor** | Implementation | IDividendDistributor |||
 L | <Constructor> | Public | | O | NO |
 📙 | setDistributionCriteria | External 📗 | 🛑 | onlyToken |
 L | setShare | External | | 🛑 | onlyToken |
 L | deposit | External | | 🚥 | onlyToken |
 └ | distributeDividend | Internal 🔒 | 🛑 | |
 L | claimDividend | External | | O | NO | |
```



```
| getUnpaidEarnings | Public |  |  | NO | |
📙 | getCumulativeDividends | Internal 🦰 | | |
└ | addShareholder | Internal 🔒 | 🛑 | |
👢 | removeShareholder | Internal 🦰 | 🧶 | |
**BabyRebase** | Implementation | IBEP20, Auth | | |
l rebase | Public | | 🛑 | onlyMaster |
L | <Constructor> | Public | | 🛑 | Auth |
 | <Receive Ether> | External | | III | NO! |
L | totalSupply | External | NO! |
L | decimals | External | NO |
L | symbol | External | NO! |
L | name | External | NO |
L | getOwner | External | | NO | |
L | balanceOf | Public | |
                    NO.
L | allowance | External | |
                    | NO |
L | approve | Public | | 🛑 | NO
L | transfer | External | | | NO | |
L | transferFrom | External | | 🛑 | NO | |
L | transferFrom | Internal 🔒 | 🧶 | |
L | _basicTransfer | Internal 🦲 | 🛑
L | checkTxLimit | Internal 🔒 |
L | shouldTakeFee | Internal 🔒 | |
L | takeFee | Internal A | O | |
 | shouldSwapBack | Internal 🔒 | | |
📙 | clearStuckBalance | External 📗 | 🛑 | authorized |
L | set_sell_multiplier | External | | 🛑 | onlyOwner |
L | tradingStatus | Public | | 🛑 | onlyOwner |
L | launchStatus | Public | | 🛑 | onlyOwner |
L | set_max_roomrent | Public | | 🛑 | onlyOwner |
L | manage_houseguests | Public | | 🛑 | onlyOwner |
L | cooldownEnabled | Public | | 🛑 | onlyOwner |
L | swapBack | Internal 🔒 | 🛑 | swapping |
L | setTargetLiquidity | External | | 🛑 | authorized |
L | manualSync | External | | 🛑 | NO | |
 | setLP | External | | 🛑 | onlyOwner |
  setMaster | External | | 🛑 | onlyOwner |
```



```
isNotInSwap | External | |
                         NO
                               NO
 | checkSwapThreshold | External |
 | setDistributionCriteria | External | | |
                                    authorized
L | setDistributorSettings | External | | 🛑 | authorized |
 | rescueToken | Public | | 🛑 | onlyOwner |
 | getCirculatingSupply | Public | |
 getLiquidityBacking | Public | |
 | isOverLiquified | Public | | NO |
L | checkMaxWalletToken | External | |
 | checkMaxTxAmount | External | |
                             NO.
📙 | setMaxWalletPercent_base1000 | External 📙 | 🛑 📗 | onlyOwner |
 multiTransfer | External | | 🛑 | onlyOwner |
```

Function Signatures

Solidity creates function signatures for the EVM by hashing the function name with keccak256(), which is a hashing function. This function returns a hex which is then converted into bytes4. It thus converts a function from hex to an array of 4, 8 byte numbers.

```
Sighash
              Function Signature
43509138 =>
             div(int256,int256)
771602f7 => add(uint256,uint256)
b67d77c5 => sub(uint256,uint256)
e31bdc0a => sub(uint256,uint256,string)
c8a4ac9c => mul(uint256,uint256)
a391c15b => div(uint256,uint256)
b745d336 => div(uint256,uint256,string)
bbe93d91 => mul(int256,int256)
adefc37b => sub(int256,int256)
a5f3c23b => add(int256,int256)
1b5ac4b5 => abs(int256)
18160ddd => totalSupply()
313ce567 => decimals()
95d89b41 \Rightarrow symbol()
06fdde03 => name()
893d20e8 => getOwner()
70a08231 => balanceOf(address)
a9059cbb => transfer(address,uint256)
dd62ed3e => allowance(address,address)
095ea7b3 => approve(address,uint256)
23b872dd => transferFrom(address,address,uint256)
```



```
b6a5d7de => authorize(address)
f0b37c04 => unauthorize(address)
2f54bf6e => isOwner(address)
fe9fbb80 => isAuthorized(address)
f2fde38b => transferOwnership(address)
c9c65396 => createPair(address,address)
fff6cae9 => sync()
c45a0155 => factory()
ad5c4648 => WETH()
e8e33700 => addLiquidity(address,address,uint256,uint256,uint256,add
ress,uint256)
f305d719 => addLiquidityETH(address,uint256,uint256,uint256,address,uint256)
5c11d795 => swapExactTokensForTokensSupportingFeeOnTransferTokens(uint256,ui
nt256,address[],address,uint256)
b6f9de95 => swapExactETHForTokensSupportingFeeOnTransferTokens(uint256,addre
ss[],address,uint256)
791ac947 => swapExactTokensForETHSupportingFeeOnTransferTokens(uint256,uint2
56,address[],address,uint256)
2d48e896 => setDistributionCriteria(uint256,uint256)
14b6ca96 => setShare(address,uint256)
d0e30db0 => deposit()
ffb2c479 => process(uint256)
8c21cd52 => shouldDistribute(address)
5319504a => distributeDividend(address)
f0fc6bca => claimDividend()
28fd3198 => getUnpaidEarnings(address)
e68af3ac => getCumulativeDividends(uint256)
db29fe12 => addShareholder(address)
9babdad6 => removeShareholder(address)
93028afd => rebase_percentage(uint256,bool)
7a43e23f => rebase(uint256,int256)
571ac8b0 => approveMax(address)
cb712535 => _transferFrom(address,address,uint256)
f0774e71 => _basicTransfer(address,address,uint256)
4afa518a => checkTxLimit(address,uint256)
e7c44c69 => shouldTakeFee(address)
a7dd4bbc => takeFee(address,uint256,bool)
0d5c6cea => shouldSwapBack()
1da1db5e => clearStuckBalance(uint256)
44a33fd2 => clearStuckBalance_sender(uint256)
ec72d65f => set_sell_multiplier(uint256)
26e353b8 => tradingStatus(bool, uint256)
9ba1fc4c => launchStatus(uint256)
ff7da74e => enable_hotel_CaliforniaMode(bool)
fe2840e4 => set_max_roomrent(uint256)
ca1d908c => manage_houseguests(address[],bool)
2d594567 => cooldownEnabled(bool,uint8)
6ac5eeee => swapBack()
```



```
f708a64f =>
             setIsDividendExempt(address, bool)
658d4b7f =>
             setIsFeeExempt(address,bool)
f84ba65d => setIsTxLimitExempt(address,bool)
50db71fb =>
             setIsTimelockExempt(address, bool)
04a66b48 => setFees(uint256,uint256,uint256,uint256)
d7c01032 => setFeeReceivers(address,address,address)
df20fd49 => setSwapBackSettings(bool,uint256)
201e7991 => setTargetLiquidity(uint256,uint256)
753d02a1 => manualSync()
2f34d282 => setLP(address)
26fae0d3 => setMaster(address)
83b4ac68 => isNotInSwap()
6d351d1a => checkSwapThreshold()
9d1944f5 => setDistributorSettings(uint256)
33f3d628 => rescueToken(address,uint256)
2b112e49 => getCirculatingSupply()
d51ed1c8 =>
             getLiquidityBacking(uint256)
1161ae39 => isOverLiquified(uint256,uint256)
b43b7835 => checkMaxWalletToken()
6149a20a => checkMaxTxAmount()
09302dc6 => setMaxWalletPercent_base1000(uint256)
bd9ab537 => setMaxTxPercent base1000(uint256)
1ca0a28d =>
             multiTransfer(address, address[], uint256[])
335f6a43 => multiTransfer_fixed(address,address[],uint256)
```

SWC Attacks

Part of the software analysis is the check for smart contract vulnerabilities. These vulnerabilities are registered at the SWC Registry which is an implementation of the weakness classification scheme proposed in EIP-1470. The goals of the SWC Registry are:

- Providing a straightforward way to classify security issues in smart contract systems
- → Define a common language for describing security issues in smart contract systems' architecture, design, or code
- Serve as a way to train and increase performance for smart contract security analysis tools



Token Raven uses Consensys software tools to analyze smart contracts on SWC attacks.

| ID | Title | Status |
|---------|---|--------|
| SWC-136 | Unencrypted Private Data On-Chain | Passed |
| SWC-135 | Code With No Effects | Passed |
| SWC-134 | Message call with hardcoded gas amount | Passed |
| SWC-133 | Hash Collisions With Multiple Variable Length Arguments | Passed |
| SWC-132 | Unexpected Ether balance | Passed |
| SWC-131 | Presence of unused variables | Passed |
| SWC-130 | Right-To-Left-Override control character (U+202E) | Passed |
| SWC-129 | Typographical Error | Passed |
| SWC-128 | DoS With Block Gas Limit | Passed |
| SWC-127 | Arbitrary Jump with Function Type Variable | Passed |
| SWC-126 | Insufficient Gas Griefing | Passed |
| SWC-125 | Incorrect Inheritance Order | Passed |
| SWC-124 | Write to Arbitrary Storage Location | Passed |
| SWC-123 | Requirement Violation | Passed |
| SWC-122 | Lack of Proper Signature Verification | Passed |



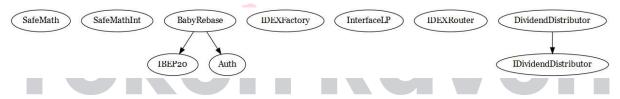
| SWC-121 | Missing Protection against Signature Replay Attacks | Passed |
|---|--|------------------------------------|
| SWC-120 | Weak Sources of Randomness from Chain Attributes | Passed |
| SWC-119 | Shadowing State Variables | Passed |
| SWC-118 | Incorrect Constructor Name | Passed |
| SWC-117 | Signature Malleability | Passed |
| SWC-116 | Block values as a proxy for time | Passed |
| SWC-115 | Authorization through tx.origin | Passed |
| SWC-114 | Transaction Order Dependence | Passed |
| | | |
| SWC-113 | DoS with Failed Call | Passed |
| SWC-113 SWC-112 | DoS with Failed Call Delegatecall to Untrusted Callee | Passed Passed |
| | Delegatecall to Untrusted | |
| SWC-112 | Delegatecall to Untrusted Callee Use of Deprecated | Passed |
| SWC-112 SWC-111 | Delegatecall to Untrusted Callee Use of Deprecated Solidity Functions | Passed |
| SWC-112 SWC-111 SWC-110 | Delegatecall to Untrusted Callee Use of Deprecated Solidity Functions Assert Violation Uninitialized Storage | Passed Passed Passed |
| SWC-112 SWC-111 SWC-110 SWC-109 | Delegatecall to Untrusted Callee Use of Deprecated Solidity Functions Assert Violation Uninitialized Storage Pointer State Variable Default | Passed Passed Passed Passed |
| SWC-112 SWC-111 SWC-110 SWC-109 SWC-108 | Delegatecall to Untrusted Callee Use of Deprecated Solidity Functions Assert Violation Uninitialized Storage Pointer State Variable Default Visibility | Passed Passed Passed Passed Passed |



| SWC-104 | Unchecked Call Return Value | Passed |
|---------|-----------------------------------|--------|
| SWC-103 | Floating Pragma | Passed |
| SWC-102 | Outdated Compiler Version | Passed |
| SWC-101 | Integer Overflow and Underflow | Passed |
| SWC-100 | Function Default Visibility | Passed |

Inheritance graph

Inheritance is the procedure in which one class inherits the attributes and methods of another class. The class whose properties and methods are inherited is known as the Parent class.



Call Graph

A call graph is a control-flow graph which represents calling relationships between subroutines in a smart contract. Each node represents a procedure, and each edge (f, g) indicates that procedure f call procedure g.

Link:

https://github.com/TokenRaven/Audits/blob/main/BabyRebase/babyrebase%20call%20graph.png

Manual Analysis

Our manual analysis is focused on attributes that can not be verified or assessed through software analysis.

Owner Privileges

Owner can set fees higher than 25%

Owner can exclude wallets from fee. Owner can exclude wallet from reflections.

Recommendation:

We advise the project owner to lower the maximum fee settings to at most 25%. This to protect the holders and investors.

Owner can exclude wallets from rewards and fees

Owner can exclude wallets from fee. Owner can exclude wallet from dividend.

```
function setIsDividendExempt(address holder, bool exempt) external authorized
{
    require(holder != address(this) && holder != pair);
    isDividendExempt[holder] = exempt;
    if(exempt){
        distributor.setShare(holder, 0);
    }else{
        distributor.setShare(holder, balanceOf(holder));
    }
}
```



```
function setIsFeeExempt(address holder, bool exempt) external authorized {
   isFeeExempt[holder] = exempt;
}
```

Recommendation:

We recommend the project owner to be fully transparent about which wallets are excluded from fees. We also recommend the project owner to be fully transparent about which wallets are excluded from dividends. Or even better, remove this feature from the contract. And otherwise conduct an official KYC at Token Raven to gain trust of the community.

Owner can disable trading

Owner can disable trading.

```
function tradingStatus(bool _status, uint256 _deadBlocks) public onlyOwner {
         tradingOpen = _status;
         if(tradingOpen && launchedAt == 0){
              launchedAt = block.number;
              deadBlocks = _deadBlocks;
        }
    }
}
```

Recommendation:

We recommend finding another way to start trading after launch as this function allows the owner not only to open trading after launch but also disable it.

Use of block.timestamp

Contract makes use of block.timestamp, timestamp can be manipulated by miners.

```
if(amountToLiquify > 0){
    router.addLiquidityETH{value: amountBNBLiquidity}(
        address(this),
        amountToLiquify,
        0,
        0,
        autoLiquidityReceiver,
        block.timestamp
);
```



emit AutoLiquify(amountBNBLiquidity, amountToLiquify.div(rate));

Recommendation:

We recommend to avoid relying on the block timestamp.

| Issue | Category | Risk | Status |
|--|------------------------|--------|------------|
| Owner can set tax fee percentage higher than 25% | Owner privileges | Medium | Unresolved |
| Owner can exclude wallets from rewards and fees | Owner privileges | Low | Unresolved |
| Use of block.timestamp | Use of block.timestamp | Low | Unresolved |
| Owner can disable trading | Disable trading | Medium | Unresolved |

Risk Summary

| Vulnerability level | Number of Issues | Issues resolved |
|---------------------|------------------|-----------------|
| High-risk | 0 | 0 |
| Medium-risk | 2 | 0 |
| Low-risk | 2 | 0 |

Conclusion

Token Raven has performed a combination of manual and software analysis of the smart contracts provided by the project team. Each of them has been analyzed for the most common and exploits, vulnerabilities, and manipulation attacks.

For Baby Rebase we have come to the following conclusion.

- → The solidity source code has Low Severity
- The smart contract has an Active Ownership
- The centralization risk is therefore high
- → The only Owner privileges are changing fees, exclude wallets from fee and disable trading etc.

Disclaimer

The audits provided by Token Raven provide projects with a comprehensive analysis regarding all possible vulnerabilities in their smart contracts. This includes for example, warnings, typos, unused functions & variables, compiler version, centralization check and any other hazard. As such our report and recommendations can be used to remedy vulnerabilities.

The Token Raven audit service is sure to improve the trustworthiness and safety of any legitimate project.

However, all the content provided in the Token Raven audit reports are for general information and should not be used as financial advice nor a reason to invest in a project. The Token Raven team is not responsible in the event of a fraud or scam committed by any of our partners. We implore everyone to always do your own due diligence.

In the event of a scam

If a project that we have KYC verified commits illegal or scam activities, it will be reported to the proper authorities (i.e., law enforcement etc.) After reporting the scam, we will conduct a thorough investigation into its activities and may release the KYC information to the public and on our website if it turns out that the reported project is confirmed to be a scam. This to prevent individuals with malicious intent from committing further frauds in the future.

To report a scam project, you can contact us on telegram and provide us with the following information:

- Presale link (if available)
- Smart contract address
- Proof of scam activities
- Audit and KYC certificate

Token Raven

About

We provide your blockchain project with KYC, Audit & Consultancy services on a daily timeframe. Thus far we have assisted over 50 projects to launch successfully.

Why Token Raven?

The cold hard logic of smart contracts allows them to facilitate the most secure and trustworthy kinds of transactions to date. This infallible ability to always execute the provided code does mean however, that the code should be free of errors to prevent security hazards.

TR takes pride in the fact that our audits stand for a secure smart contract. Not only do we provide a seal of approval, before publishing any audit we also provide developer teams with detailed insights as to how they can resolve potential security issues. The track record at Token Raven means that our audits provide legitimacy and security to any legitimate project.