SKELETON ECOSYSTEM

SMART CONTRACT AUDIT

CROGETAMA
[$CTC]
BEP 20

`0x6e4cFcA89E356393C6F0FD8A3b46d26594a40d5E`

Table of Contents

Global Disclaimer

This document serves as a disclaimer for the crypto smart contract audit conducted by Skeleton Ecosystem. The purpose of the audit was to review the codebase of the smart contracts for potential vulnerabilities and issues. It is important to note the following:

Limited Scope: The audit is based on the code and information available up to the audit completion date. It does not cover external factors, system interactions, or changes made after the audit. The audit itself can not guarantee 100% safaty and can not detect common scam methods like farming and developer sell-out.

No Guarantee of Security: While we have taken reasonable steps to identify vulnerabilities, it is impossible to guarantee the complete absence of security risks or issues. The audit report provides an assessment of the contract’s security as of the audit date.

Continued Development: Smart contracts and blockchain technology are evolving fields. Updates, forks, or changes to the contract post-audit may introduce new risks that were not present during the audit.

Third-party Code: If the smart contract relies on third-party libraries or code, those components were not thoroughly audited unless explicitly stated. Security of these dependencies is the responsibility of their respective developers.

Non-Exhaustive Testing: The audit involved automated analysis, manual review, and testing under controlled conditions. It is possible that certain vulnerabilities or issues may not have been identified.

Risk Evaluation: The audit report includes a risk assessment for identified vulnerabilities. It is recommended that the development team carefully reviews and addresses these risks to mitigate potential exploits.

Not Financial Advice: This audit report is not intended as financial or investment advice. Decisions regarding the use, deployment, or investment in the smart contract should be made based on a comprehensive assessment of the associated risks.

By accessing and using this audit report, you acknowledge and agree to the limitations outlined above. Skeleton Ecosystem and its auditors shall not be held liable for any direct or indirect damages resulting from the use of the audit report or the smart contract itself.

Please consult with legal, technical, and financial professionals before making any decisions related to the smart contract.

Overview

Contract Name	CROGETAMA
Ticker/Simbol	$CTC
Blockchain	Binance Smart Chain BEP20
Contract Address	0x6e4cFcA89E356393C6F0FD8A3b46d26594a40d5E
Creator Address	0x75ed035F340e6B518e727c2586E50E910E41ad8d
Current Owner Address	0x75ed035F340e6B518e727c2586E50E910E41ad8d
Contract Explorer	https://bscscan.com/token/0x6e4cfca89e356393c6f0fd8a3b46d26594a40d5e
Compiler Version	v0.8.7+commit.e28d00a7
License	MIT
Optimisation	Yes with 200 Runs
Total Supply	100,000,000,000 **$CTC**
Decimals	9

Creation/Audit

Contract Deployed	02 Nov 2023
Audit Created	10 Nov 2023
Audit Update	V 1.0

Verified Socials

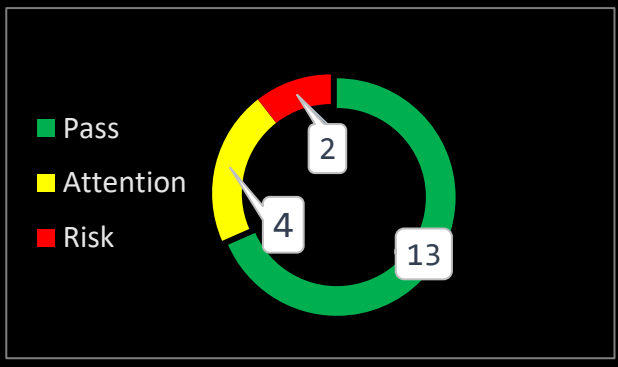
Website	www.crogetama.me
Telegram	https://t.me/CROGETAMABSC
Twitter (X)	https://twitter.com/CROGETAMA

SKELETON ECOSYSTEM
SMART CONTRACT AUDIT REPORT

CROGETAMA BEP20

Contract Function Analysis

Pass Attention Item Risky Item



Contract Verified	✓	The contract source code is uploaded to blockchain explorer and is open source, so everybody can read it.
Contract Ownership		0x75ed035F340e6B518e727c2586E50E910E41ad8d
Buy Tax	10 %	Shows the taxes for purchase transactions. Above 10% may be considered a high tax rate. More than 50% tax rate means may not be tradable. Fee can be set!
Sell Tax	10 %	Shows the taxes for sell transactions. Above 10% may be considered a high tax rate. More than 50% tax rate means may not be tradable. Fee can be set!
Honeypot Analyse	✓	Holder is able to buy and sell. If honeypot: The contract blocks sell transfer from holder wallet. Multiple events may cause honeypot. Trading disabled, extremely high tax
Liqudity Status	✓	LP Lock Status on 10.11.2023: 94.29% Mudra Locker for *388 days*.
Trading Disable Functions	!	Trading suspendable function found. If a suspendable code is included, the token maybe neither be bought or sold (honeypot risk). If contract is renounced this function can't be used
Set Fees function	⚠	Fee Setting function found. The contract owner may contain the authority to modify the transaction tax. If the transaction tax is increased to more than 49%, the tokens may not be able to be traded (honeypot risk).
Proxy Contract	✓	Not a proxy contract!
Mint Function	✓	No Mint Function detected Mint function is transparent or non-existent. Hidden mint functions may increase the amount of tokens in circulation and effect the price of the token. Owner can mint new tokens and sell.

Balance Modifier Function		No Balance Modifier function found. If there is a function for this, the contract owner can have the authority to modify the balance of tokens at other addresses. For example revoke the bought tokens from the holders wallet. Common form of scam: You buy the token, but it's disappearing from your wallet.
Blacklist Function		Blacklist Setting function found. If there is a blacklist, some addresses may not be able to trade normally. Example: you buy the token and right after your Wallet getting blacklisted. Like so you will be unable to sell. Honeypot Risk.
Whitelist Function		No Whitelist Setting function found. If there is a function for this Developer can set zero fee or no max wallet size for adresses (for example team wallets can trade without fee. Can cause farming)
Hidden Owner Analysis		Hidden or multi owner with authorisation For contract with a hidden owner, developer can still manipulate the contract even if the ownership has been abandoned.
Retrieve Ownership Function		No functions found which can retrieve ownership of the contract. If this function exists, it is possible for the project owner to regain ownership even after relinquishing it. Also known as fake renounce.
Self Destruct Function		No Self Destruct function found. If this function exists and is triggered, the contract will be destroyed, all functions will be unavailable, and all related assets will be erased.
Specific Tax Changing Function		No Specific Tax Changing Functions found. If it exists, the contract owner may set a very outrageous tax rate for assigned address to block it from trading. Can assign all wallets at once!
Trading Cooldown Function		No Trading Cooldown Function found. If there is a trading cooldown function, the user will not be able to sell the token within a certain time or block after buying. Like a temporary honeypot.
Max Transaction and Holding Modify Function		Max Transaction and Holding Modify function found. If there is a function for this, the maximum trading amount or maximum position can be modified. Can cause honeypot
Transaction Limiting Function		No Transaction Limiter Function Found. The number of overall token transactions may be limited (honeypot risk)

Details of Risk - Attention Items

⚠ Set Fee

The contract owner may contain the authority to modify the transaction tax. If the transaction tax is increased to more than 49%, the tokens may not be able to be traded

```
ftrace | funcSig
534     function setCorrectFees(bool isSell↑) internal {
535         if(isSell↑){
536             liquidityFee = liquidityFeeSell;
537             buybackFee = buybackFeeSell;
538             reflectionFee = reflectionFeeSell;
539             marketingFee = marketingFeeSell;
540             devFee = devFeeSell;
541             totalFee = totalFeeSell;
542         } else {
543             liquidityFee = liquidityFeeBuy;
544             buybackFee = buybackFeeBuy;
545             reflectionFee = reflectionFeeBuy;
546             marketingFee = marketingFeeBuy;
547             devFee = devFeeBuy;
548             totalFee = totalFeeBuy;
549         }
550     }
```

```
ftrace | funcSig
807 ction setSellFees(uint256 _liquidityFeeSell↑, uint256 _buybackFeeSell↑, uint256 _reflectionFeeSell↑, uint256 _marketingFeeSell↑, uint256 _
808     liquidityFeeSell = _liquidityFeeSell↑;
809     buybackFeeSell = _buybackFeeSell↑;
810     reflectionFeeSell = _reflectionFeeSell↑;
811     marketingFeeSell = _marketingFeeSell↑;
812     devFeeSell = _devFeeSell↑;
813     totalFeeSell = _liquidityFeeSell↑.add(_buybackFeeSell↑).add(_reflectionFeeSell↑).add(_marketingFeeSell↑).add(_devFeeSell↑);
814     feeDenominator = _feeDenominator↑;
815
816
```

Max Transaction and Holding Modify Function

If there is a function for this, the maximum trading amount or maximum position can be modified.

```
ftrace | funcSig
771  unction setSellTxLimitInPercent(uint256 maxSellTxPercent!) external authorized {
772      _maxSellTxAmount = _totalSupply.mul(maxSellTxPercent!).div(10000);
773
774
```

```
ftrace | funcSig
60   unction checkTxLimit(address sender!, uint256 amount!, address recipient!, bool isSell!) internal view {
61       if (recipient! != owner){
62           if(isSell!){
63               require(amount! <= _maxSellTxAmount || isTxLimitExempt[sender!] || isTxLimitExempt[recipient!], "TX Limit Exceeded");
64           } else {
65               require(amount! <= _maxBuyTxAmount || isTxLimitExempt[sender!] || isTxLimitExempt[recipient!], "TX Limit Exceeded");
66           }
```

Trading Suspendable Function

If a suspendable code is included, the token maybe neither be bought or sold (honeypot risk). If contract is renounced this function can't be used

```
ftrace | funcSig
628  unction tradingStatus(bool _status!) public onlyOwner {
629      tradingOpen = _status!;
630      launch();
631
632
```

Blacklist Function

If there is a blacklist, some addresses may not be able to trade normally. Example: you buy the token and right after your Wallet getting blacklisted. Like so you will be unable to sell. Honeypot Risk.

```
ftrace | funcSig
647  unction blacklistAddress(address _address!, bool _value!) public authorized{
648      isBlacklisted[_address!] = _value!;
649
650
```

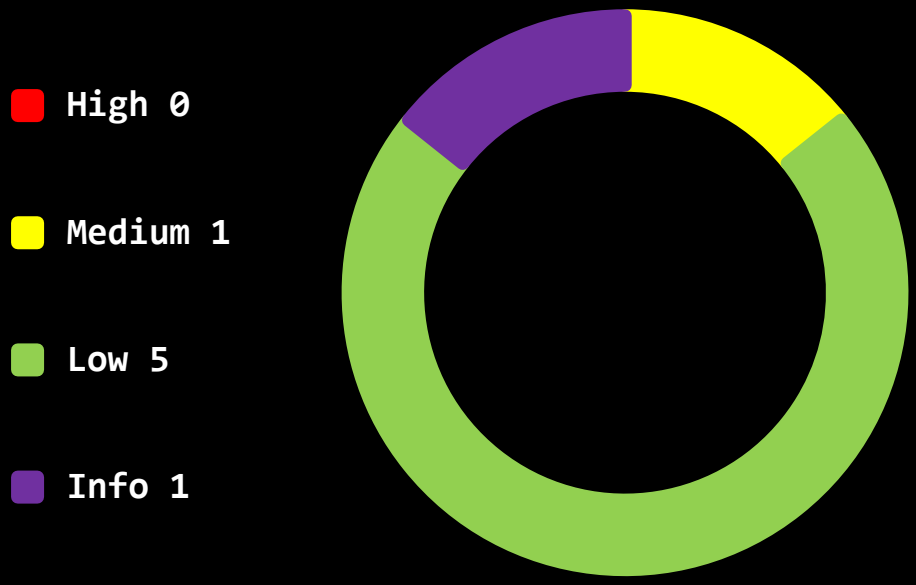
Multi Owner Contract (Creator authorisation live even after renouncing the contract)

For contract with a hidden owner, developer can still manipulate the contract even if the ownership has been abandoned, renounced.

```
ftrace | funcSig
93  function isAuthorized(address account1) public view returns (bool) {
94      return authorizations[account1];
95  }
96
ftrace | funcSig
97  function transferOwnership(address payable account1) public onlyOwner {
98      owner = account1;
99      authorizations[account1] = true;
100     emit OwnershipTransferred(account1);
101 }
102
103 event OwnershipTransferred(address owner);
```

Contract Security

Total Findings: 7



High Severity Issues: High possibility to cause problems, need to be resolved.

Medium Severity Issue: Will likely cause problems, recommended to resolve.

Low Severity Issues: Won’t cause problems, but for improvement purposes could be adjusted.

Informational Severity Issues: Not harmful in any way, information for the developer team.

Contract Security

List of Found Issues

High severity Issues: (0)

Medium severity issues: (1)

- Unchecked Array Lenght

Low severity issues: (5)

- Missing Events
- Long Number Literals
- Floating Pragma
- Outdated Compiler Version
- Function return type and no return

Informational severity issues: (1)

- Public Functions Should be Declared External

Contract Weakness Classisication

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	AI	Manual	Result
SWC-100	Function Default Visibility	Passed	Passed	Passed
SWC-101	Integer Overflow and Underflow	Passed	Passed	Passed
SWC-102	Outdated Compiler Version	Low	Passed	Passed
SWC-103	Floating Pragma	Low	Passed	Passed
SWC-104	Unchecked Call Return Value	Passed	Passed	Passed
SWC-105	Unprotected Ether Withdrawal	Passed	Passed	Passed
SWC-106	Unprotected SELFDESTRUCT Instruction	Passed	Passed	Passed
SWC-107	Reentrancy	Passed	Passed	Passed
SWC-108	State Variable Default Visibility	Passed	Passed	Passed
SWC-109	Uninitialized Storage Pointer	Passed	Passed	Passed
SWC-110	Assert Violation	Passed	Passed	Passed
SWC-111	Use of Deprecated Solidity Functions	Passed	Passed	Passed
SWC-112	Delegatecall to Untrusted Callee	Passed	Passed	Passed
SWC-113	DoS with Failed Call	Passed	Passed	Passed
SWC-114	Transaction Order Dependence	Passed	Passed	Passed
SWC-115	Authorization through tx.origin	Passed	Passed	Passed
SWC-116	Block values as a proxy for time	Passed	Passed	Passed
SWC-117	Signature Malleability	Passed	Passed	Passed
SWC-118	Incorrect Constructor Name	Passed	Passed	Passed
SWC-119	Shadowing State Variables	Passed	Passed	Passed
SWC-120	Weak Sources of Randomness from Chain Attributes	Passed	Passed	Passed

SWC-121	Missing Protection against Signature Replay Attacks	**Passed**	**Passed**	**Passed**
SWC-122	Lack of Proper Signature Verification	**Passed**	**Passed**	**Passed**
SWC-123	Requirement Violation	**Passed**	**Passed**	**Passed**
SWC-124	Write to Arbitrary Storage Location	**Passed**	**Passed**	**Passed**
SWC-125	Incorrect Inheritance Order	**Passed**	**Passed**	**Passed**
SWC-126	Insufficient Gas Griefing	**Passed**	**Passed**	**Passed**
SWC-127	Arbitrary Jump with Function Type Variable	**Passed**	**Passed**	**Passed**
SWC-128	DoS With Block Gas Limit	**Passed**	**Passed**	**Passed**
SWC-129	Typographical Error	**low**	**Passed**	**Passed**
SWC-130	Right-To-Left-Override control character (U+202E)	**Passed**	**Passed**	**Passed**
SWC-131	Presence of unused variables	**Passed**	**Passed**	**Passed**
SWC-132	Unexpected Ether balance	**Passed**	**Passed**	**Passed**
SWC-133	Hash Collisions With Multiple Variable Length Arguments	**Passed**	**Passed**	**Passed**
SWC-134	Message call with hardcoded gas amount	**Passed**	**Passed**	**Passed**
SWC-135	Code With No Effects	**Passed**	**Passed**	**Passed**
SWC-136	Unencrypted Private Data On-Chain	**Passed**	**Passed**	**Passed**

Detected High and Medium Severity Vulnerability Description.

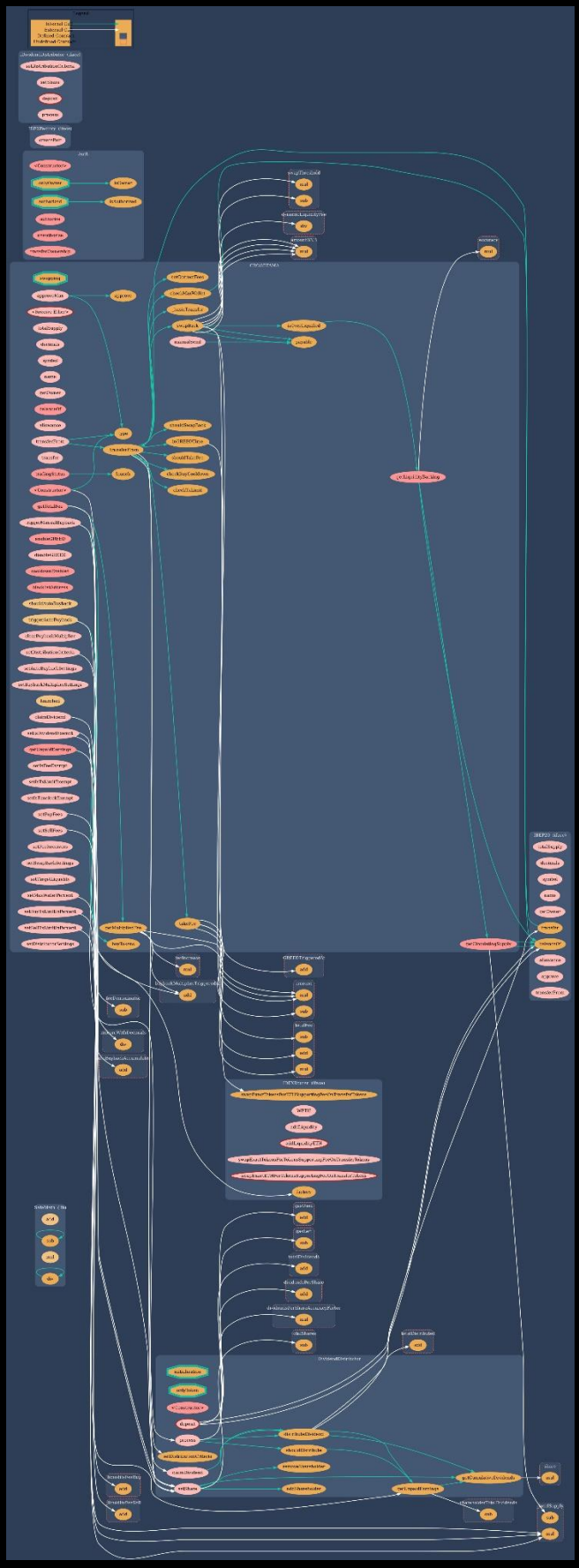
⚠ Unchecked Array Lenght (1 Item)

Item: 1	Location:	Line 266	Severity:	Medium

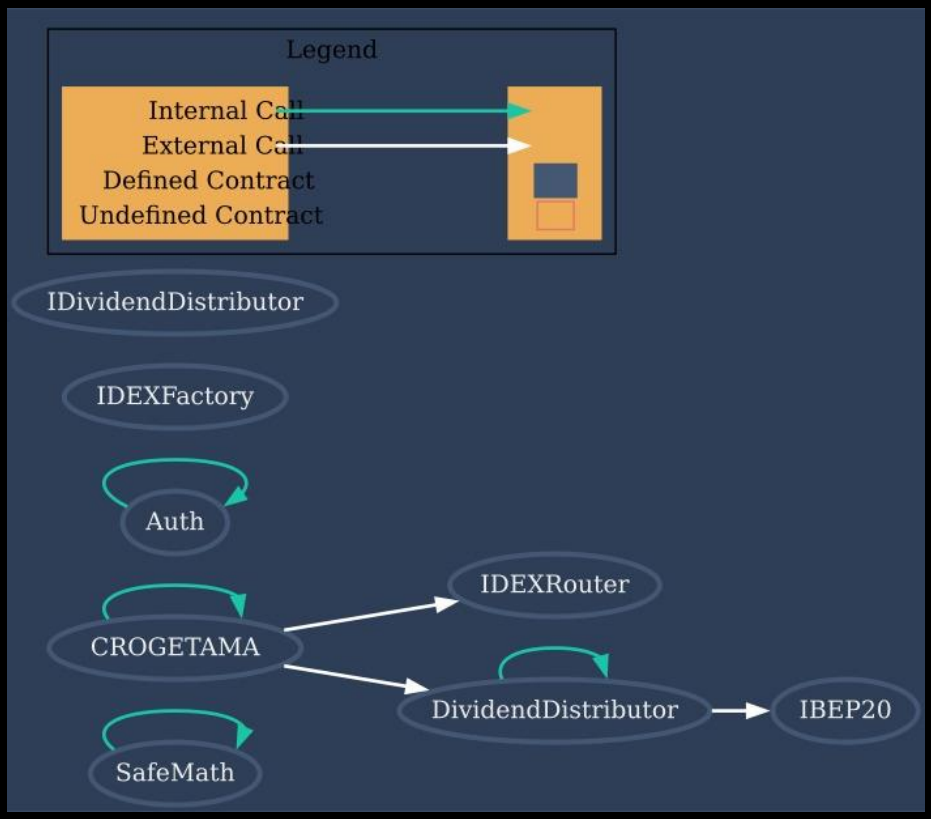
Function	Ethereum is a very resource-constrained environment. Prices per computational step are orders of magnitude higher than with centralized providers. Moreover, Ethereum miners impose a limit on the total number of Gas consumed in a block. If array.length is large enough, the function exceeds the block gas limit, and transactions calling it will never be confirmed. for (uint256 i = 0; i < array.length ; i++) { coslty Func(); } This becomes a security issue if an external actor influences array.length. E.g., if an array enumerates all registered addresses, an adversary can register many addresses, causing the problem described above.
Remedation	Either explicitly or just due to normal operation, the number of iterations in a loop can grow beyond the block gas limit, which can cause the complete contract to be stalled at a certain point. Therefore, loops with a bigger or unknown number of steps should always be avoided.

```
265
266     while(gasUsed < gas! && iterations < shareholderCount) {
267         if(currentIndex >= shareholderCount){
```

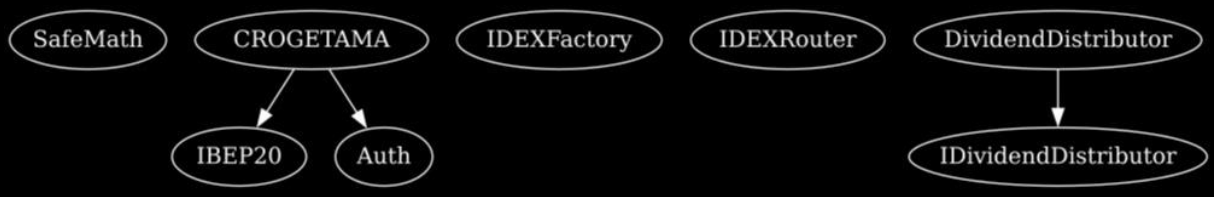
Contract Flow Graph



Contract Interaction Graph



Inheritance Graph



Contract Functions

Contract	Type	Bases		
L	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
SafeMath	Library			
L	add	Internal 🔒		
L	sub	Internal 🔒		
L	sub	Internal 🔒		
L	mul	Internal 🔒		
L	div	Internal 🔒		
L	div	Internal 🔒		
IBEP20	Interface			
L	totalSupply	External ❗		NO❗
L	decimals	External ❗		NO❗
L	symbol	External ❗		NO❗
L	name	External ❗		NO❗
L	getOwner	External ❗		NO❗
L	balanceOf	External ❗		NO❗
L	transfer	External ❗	🛑	NO❗
L	allowance	External ❗		NO❗
L	approve	External ❗	🛑	NO❗
L	transferFrom	External ❗	🛑	NO❗

Contract	Type	Bases		
Auth	Implementation			
L		Public ❗	🛑	NO❗
L	authorize	Public ❗	🛑	onlyOwner
L	unauthorize	Public ❗	🛑	onlyOwner
L	isOwner	Public ❗		NO❗
L	isAuthorized	Public ❗		NO❗
L	transferOwnership	Public ❗	🛑	onlyOwner
IDEXFactory	Interface			
L	createPair	External ❗	🛑	NO❗
IDEXRouter	Interface			
L	factory	External ❗		NO❗
L	WETH	External ❗		NO❗
L	addLiquidity	External ❗	🛑	NO❗
L	addLiquidityETH	External ❗	💵	NO❗
L	swapExactTokensForTokensSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
L	swapExactETHForTokensSupportingFeeOnTransferTokens	External ❗	💵	NO❗
L	swapExactTokensForETHSupportingFeeOnTransferTokens	External ❗	🛑	NO❗

Contract	Type	Bases		
IDividendDistributor	Interface			
L	setDistributionCriteria	External ❗	🛑	NO❗
L	setShare	External ❗	🛑	NO❗
L	deposit	External ❗	💸	NO❗
L	process	External ❗	🛑	NO❗
DividendDistributor	Implementation	IDividendDistributor		
L		Public ❗	🛑	NO❗
L	setDistributionCriteria	External ❗	🛑	onlyToken
L	setShare	External ❗	🛑	onlyToken
L	deposit	External ❗	💸	onlyToken
L	process	External ❗	🛑	onlyToken
L	shouldDistribute	Internal 🔒		
L	distributeDividend	Internal 🔒	🛑	
L	claimDividend	External ❗	🛑	onlyToken
L	getUnpaidEarnings	Public ❗		NO❗
L	getCumulativeDividends	Internal 🔒		
L	addShareholder	Internal 🔒	🛑	
L	removeShareholder	Internal 🔒	🛑	

Contract	Type	Bases		
CROGETAMA	Implementation	IBEP20, Auth		
L		Public ❗	🛑	Auth
L		External ❗	💳	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	approveMax	External ❗	🛑	NO❗
L	transfer	External ❗	🛑	NO❗
L	transferFrom	External ❗	🛑	NO❗
L	setMaxWalletPercent	External ❗	🛑	onlyOwner
L	_transferFrom	Internal 🔒	🛑	
L	_basicTransfer	Internal 🔒	🛑	
L	setCorrectFees	Internal 🔒	🛑	
L	inGREEDTime	Public ❗		NO❗
L	checkTxLimit	Internal 🔒		
L	checkBuyCoolddown	Internal 🔒	🛑	

Contract	Type	Bases		
L	checkMaxWallet	Internal 🔒		
L	shouldTakeFee	Internal 🔒		
L	getTotalFee	Public ❗		NO❗
L	getMultipliedFee	Public ❗		NO❗
L	takeFee	Internal 🔒	🛑	
L	shouldSwapBack	Internal 🔒		
L	tradingStatus	Public ❗	🛑	onlyOwner
L	enableGREED	Public ❗	🛑	authorized
L	disableGREED	External ❗	🛑	authorized
L	cooldownEnabled	Public ❗	🛑	authorized
L	blacklistAddress	Public ❗	🛑	authorized
L	swapBack	Internal 🔒	🛑	swapping
L	shouldAutoBuyback	Internal 🔒		
L	triggerManualBuyback	External ❗	🛑	authorized
L	clearBuybackMultiplier	External ❗	🛑	authorized
L	triggerAutoBuyback	Internal 🔒	🛑	
L	buyTokens	Internal 🔒	🛑	swapping
L	setAutoBuybackSettings	External ❗	🛑	authorized

Contract	Type	Bases		
L	setBuybackMultiplierSettings	External ❗	🔘	authorized
L	launched	Internal 🔒		
L	launch	Internal 🔒	🔘	
L	setBuyTxLimitInPercent	External ❗	🔘	authorized
L	setSellTxLimitInPercent	External ❗	🔘	authorized
L	setIsDividendExempt	External ❗	🔘	authorized
L	setIsFeeExempt	External ❗	🔘	authorized
L	setIsTxLimitExempt	External ❗	🔘	authorized
L	setIsTimelockExempt	External ❗	🔘	authorized
L	setBuyFees	External ❗	🔘	authorized
L	setSellFees	External ❗	🔘	authorized
L	setFeeReceivers	External ❗	🔘	authorized
L	setSwapBackSettings	External ❗	🔘	authorized
L	setTargetLiquidity	External ❗	🔘	authorized
L	manualSend	External ❗	🔘	authorized
L	setDistributionCriteria	External ❗	🔘	authorized
L	claimDividend	External ❗	🔘	NO❗

Contract	Type	Bases		
L	getUnpaidEarnings	Public ❗		NO❗
L	setDistributorSettings	External ❗	🛑	authorized
L	getCirculatingSupply	Public ❗		NO❗
L	getLiquidityBacking	Public ❗		NO❗
L	isOverLiquified	Public ❗		NO❗

🛑 Function can modify state

💵 Function is payable

Audit Scope

Audit Method.

Our smart contract audit is an extensive methodical examination and analysis of the smart contract's code that is used to interact with the blockchain. Goal: discover errors, issues and security vulnaribilities in the code. Findings getting reported and improvements getting suggested.

Automatic and Manual Review
We are using automated tools to scan functions and weeknesses of the contract. Transfers, integer over-undeflow checks such as all CWE events.

Tools we use:
Visual Studio Code
CWE
SWC
Solidity Scan
SVD

In manual code review our auditor looking at source code and performing line by line examination. This method helps to clarify developer's coding decisions and business logic.

Skeleton Ecosystem

https://skeletonecosystem.com

https://github.com/SkeletonEcosystem/Audits