Cyberscope

Audit Report

BabyCAW

June 2022

Type	ERC20
Network	Ethereum
Address	0x25cd00d22F2255235Ef6823cdA8ad003Dc68d859
Audited by	© cyberscope

Table of Contents

Contract Review

Contract Name	BabyCAW
Compiler Version	v0.8.14+commit.80d49f37
Optimization	200 runs
Licence	Unlicense
Explorer	https://bscscan.com/token/0x25cd00d22f2255235ef6823cda8ad003dc68d859
Symbol	BabyCAW
Decimals	18
Total Supply	333,333,333,333,333
Domain	babycawcoin.com

Source Files

Filename	**SHA256**
contract.sol	84340384b56953658f1a95bc857ec3ff9096045260605a8d048d739839afb292

Audit Updates

Initial Audit	12th June 2022
Corrected	

Contract Analysis

🔴 Critical 🟠 Medium ⚪ Minor 🔵 Pass

Severity	Code	Description
🔵	ST	Contract Owner is not able to stop or pause transactions
🔵	OCTD	Contract Owner is not able to transfer tokens from specific address
🔵	OTUT	Owner Transfer User's Tokens
🔵	ELFM	Contract Owner is not able to increase fees more than a reasonable percent (25%)
🔵	ULTW	Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent
🔵	MT	Contract Owner is not able to mint new tokens
🔵	BT	Contract Owner is not able to burn tokens from specific wallet
🔴	BC	Contract Owner is not able to blacklist wallets from selling

BC - Blacklisted Contracts

Criticality	critical
Location	contract.sol#L684

Description

The contract owner has the authority to stop contracts from transactions. The owner may take advantage of it by calling the `manage_blacklist` function.

```
if(blacklistMode){
    require(!isBlacklisted[from] && !isBlacklisted[to],"Blacklisted");
}
```

Recommendation

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions. That risk can be prevented by temporarily locking the contract or renouncing ownership.

Contract Diagnostics

🔴 Critical 🟠 Medium ● Minor

Severity	Code	Description
●	CO	Code Optimization
●	L01	Public Function could be Declared External
●	L02	State Variables could be Declared Constant
●	L04	Conformance to Solidity Naming Conventions
●	L07	Missing Events Arithmetic
●	L09	Dead Code Elimination
●	L14	Uninitialized Variables in Local Scope

CO - Code Optimization

Criticality	minor
Location	contract.sol#L714

Description

There are code segments that could be optimized. A segment may be optimized so that it becomes a smaller size, consumes less memory, executes more rapidly, or performs fewer operations.

The contract swaps the tokens to receive ETH twice. Once for the auto generated liquidity pool and once for the sending funds to the team’s wallets.

```
swapTokensForEth(halfLiquidityTokens);

uint256 newBalance = address(this).balance.sub(initialBalance);
addLiquidity(halfLiquidityTokens, newBalance);
emit SwapAndLiquify(halfLiquidityTokens, newBalance, halfLiquidityTokens);

initialBalance = address(this).balance;
uint256 totalTokens = balanceOf(address(this));
swapTokensForEth(totalTokens);
newBalance = address(this).balance.sub(initialBalance);

uint256 walletsTotal =
devTokensCollected.add(marketingTokensCollected).add(buybackTokensCollected);

uint256 ethForMarketing =
newBalance.mul(marketingTokensCollected).div(walletsTotal);
uint256 ethForBuyback =
newBalance.mul(buybackTokensCollected).div(walletsTotal);
uint256 ethForDev = newBalance.mul(devTokensCollected).div(walletsTotal);

transferToAddressETH(marketingWalletAddress, ethForMarketing);
transferToAddressETH(buybackWalletAddress, ethForBuyback);
transferToAddressETH(devWalletAddress, ethForDev);
```

Recommendation

Rewrite some code segments so the runtime will be more performant. The contract could swap once the entire amount and distribute the proportional amount.

L01 - Public Function could be Declared External

Criticality	minor
Location	contract.sol#L190,195,201,205,209,216,552,556,560,564,573,578,582,587,593,598,603,607,611,615,619,626,643,932,937,941,995,1028

Description

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

```
manualBurn
setSwapAndLiquifyEnabled
includeInFee
excludeFromFee
isExcludedFromFee
excludeFromReward
reflectionFromToken
manage_blacklist
enable_blacklist
...
```

Recommendation

Use the external attribute for functions never called from the contract.

L02 - State Variables could be Declared Constant

Criticality	minor
Location	contract.sol#L468,466,467,1011,446

Description

Constant state variables should be declared constant to save gas.

```
deadWallet
deadAddress
_symbol
_name
_decimals
```

Recommendation

Add the constant attribute to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	contract.sol#L260,261,277,298,615,619,896,900,976,980,985,990,995,471,474,477,480,483,488,489,490,491,492

Description

Solidity defines a naming convention that should be followed. Rule exceptions:

- Allow constant variable name/symbol/decimals to be lowercase.
- Allow _ at the beginning of the mixed_case match for private variables and unused parameters.

```
_saleBuybackFee
_saleMarketingFee
_saleDevFee
_saleLiquidityFee
_saleTaxFee
_buybackFee
_marketingFee
_devFee
_liquidityFee
...
```

Recommendation

Follow the Solidity naming convention.
https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions.

L07 - Missing Events Arithmetic

Criticality	minor
Location	contract.sol#L945,962,976

Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes.

```
minimumTokensBeforeSwap = _minimumTokensBeforeSwap
_saleTaxFee = taxFee
_taxFee = taxFee
```

Recommendation

Emit an event for critical parameter changes.

L09 - Dead Code Elimination

Criticality	minor
Location	contract.sol#L148,131,135,139,143,111,122,1014

Description

Functions that are not used in the contract, and make the code's size bigger.

```
swapETHForTokens
sendValue
isContract
functionCallWithValue
functionCall
_functionCallWithValue
```

Recommendation

Remove unused functions.

L14 - Uninitialized Variables in Local Scope

Criticality	minor
Location	contract.sol#L620

Description

The are variables that are defined in the local scope and are not initialized.

```
i
```

Recommendation

All the local scoped variables should be initialized.

Contract Functions

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
SafeMath	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
Address	Library			
	isContract	Internal		
	sendValue	Internal	✓	
	functionCall	Internal	✓	
	functionCall	Internal	✓	
	functionCallWithValue	Internal	✓	
	functionCallWithValue	Internal	✓	

	_functionCallWithValue	Private	✓	
Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	getUnlockTime	Public		-
	getTime	Public		-
	lock	Public	✓	onlyOwner
	unlock	Public	✓	-
IUniswapV2Factory	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
IUniswapV2Pair	Interface			
	name	External		-
	symbol	External		-
	decimals	External		-
	totalSupply	External		-
	balanceOf	External		-
	allowance	External		-
	approve	External	✓	-
	transfer	External	✓	-
	transferFrom	External	✓	-
	DOMAIN_SEPARATOR	External		-
	PERMIT_TYPEHASH	External		-

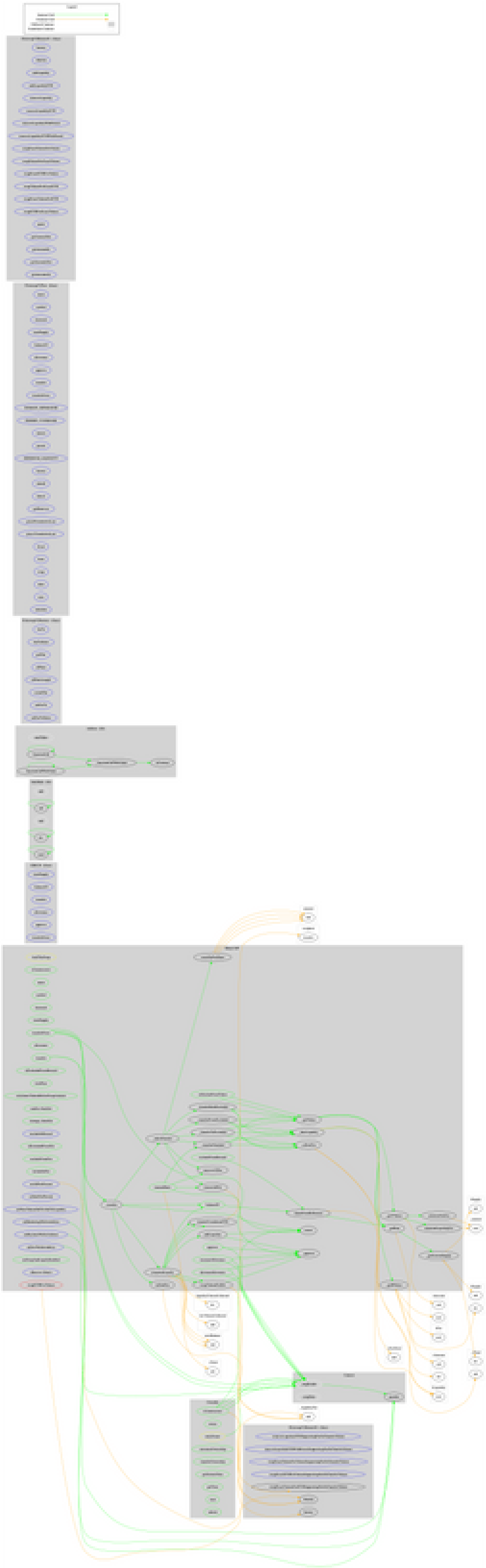
	nonces	External		-
	permit	External	✓	-
	MINIMUM_LIQUIDITY	External		-
	factory	External		-
	token0	External		-
	token1	External		-
	getReserves	External		-
	price0CumulativeLast	External		-
	price1CumulativeLast	External		-
	kLast	External		-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	External	✓	-
IUniswapV2Router01	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
	removeLiquidity	External	✓	-
	removeLiquidityETH	External	✓	-
	removeLiquidityWithPermit	External	✓	-
	removeLiquidityETHWithPermit	External	✓	-
	swapExactTokensForTokens	External	✓	-
	swapTokensForExactTokens	External	✓	-
	swapExactETHForTokens	External	Payable	-
	swapTokensForExactETH	External	✓	-
	swapExactTokensForETH	External	✓	-
	swapETHForExactTokens	External	Payable	-
	quote	External		-
	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-

	getAmountsIn	External		-
IUniswapV2Router02	Interface	IUniswapV2Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
BabyCAW	Implementation	Context, IERC20, Ownable		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	isExcludedFromReward	Public		-
	totalFees	Public		-
	minimumTokensBeforeSwapAmount	Public		-
	enable_blacklist	Public	✓	onlyOwner
	manage_blacklist	Public	✓	onlyOwner
	reflectionFromToken	Public		-
	tokenFromReflection	Public		-
	excludeFromReward	Public	✓	onlyOwner

	includeInReward	External	✓	onlyOwner
	_approve	Private	✓	
	_transfer	Private	✓	
	swapAndLiquify	Public	✓	lockTheSwap
	swapTokensForEth	Private	✓	
	addLiquidity	Private	✓	
	_tokenTransfer	Private	✓	
	countUpFeeShare	Private	✓	
	_transferStandard	Private	✓	
	_transferToExcluded	Private	✓	
	_transferFromExcluded	Private	✓	
	_transferBothExcluded	Private	✓	
	_reflectFee	Private	✓	
	_getValues	Private		
	_getTValues	Private		
	_getRValues	Private		
	_getRate	Private		
	_getCurrentSupply	Private		
	_takeLiquidity	Private	✓	
	calculateTaxFee	Private		
	calculateLiquidityFee	Private		
	removeAllFee	Private	✓	
	restoreAllFee	Private	✓	
	setSaleFee	Private	✓	
	isExcludedFromFee	Public		-
	excludeFromFee	Public	✓	onlyOwner
	includeInFee	Public	✓	onlyOwner
	setAllFeePercent	External	✓	onlyOwner
	setSaleFeePercent	External	✓	onlyOwner
	setNumTokensSellToAddToLiquidity	External	✓	onlyOwner
	setMarketingWalletAddress	External	✓	onlyOwner
	setBuybackWalletAddress	External	✓	onlyOwner
	setDevWalletAddress	External	✓	onlyOwner
	setSwapAndLiquifyEnabled	Public	✓	onlyOwner
	transferToAddressETH	Private	✓	

	<Receive Ether>	External	Payable	-
	swapETHForTokens	Private	✓	
	manualBurn	Public	✓	onlyOwner

Contract Flow



Domain Info

Domain Name	babycawcoin.com
Registry Domain ID	2701665542_DOMAIN_COM-VRSN
Creation Date	2022-06-05T19:59:43Z
Updated Date	2022-06-05T19:59:44Z
Registry Expiry Date	2025-06-05T19:59:43Z
Registrar WHOIS Server	whois.publicdomainregistry.com
Registrar URL	www.publicdomainregistry.com
Registrar	PDR Ltd. d/b/a PublicDomainRegistry.com
Registrar IANA ID	303

The domain has been created in almost 3 years before the creation of the audit.

There is no public billing information, the creator is protected by the privacy settings.

Summary

The Smart Contract analysis reported one critical severity issue. The contract owner has the authority to massively blacklist addresses. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats. There is also a limit of max 10% fees.

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Coinscope audit and K.Y.C. service has been rebranded to Cyberscope.

Coinscope is the leading early coin listing, voting and auditing authority firm. The audit process is analyzing and monitoring many aspects of the project. That way, it gives the community a good sense of security using an informative report and a generic score.

Cyberscope and Coinscope are aiming to make crypto discoverable and efficient globally. They provide all the essential tools to assist users draw their own conclusions.

The Cyberscope team

https://www.cyberscope.io