

Smart Contract Audit

FOR

BETCOIN CASH

DATED: 28 JAN 23'



AUDIT SUMMARY

Project name - BETCOIN CASH

Date: 28 January, 2023

Scope of Audit- Audit Ace was consulted to conduct the smart contract audit of the solidity source codes.

Audit Status: Passed (Contract is developed by Pinksale safu dev)

Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	0	0	0	1
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0



USED TOOLS

Tools:

1- Manual Review:

a line by line code review has been performed by audit ace team.

2- BSC Test Network:

all tests were done on BSC Testnet network, each test has its transaction has attached to it.

3- Slither: Static Analysis

Testnet Link: all tests were done using this contract, tests are done on BSC Testnet

https://testnet.bscscan.com/token/0xd40225b839a 8a0e014fdd9cf1dab28cf7642d040



Token Information

Token Name: Betcoin Cash

Token Symbol: BETC

Decimals: 9

Token Address: Not Deployed on Chain

Checksum:

2F7ADE6C239719849C39B26D1034738849B87C92 DBEA5A42FBFBBC62C4D0D2EE

Deployer: Not Deployed on Chain

Owner: Not Deployed on Chain



TOKEN OVERVIEW

Fees:

Buy Fees: 25%

Sell Fees: 25%

Transfer Fees: upto 25%

Fees Privilige: Owner

Ownership: Owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

Other Priviliges: None



AUDIT METHODOLOGY

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

- Review of the specifications, sources, and instructions provided to Auditace 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-byline 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 Auditace describe.
- Test coverage analysis determines whether the test cases are covering the code and how much code isexercised when we run the test cases.
- Symbolic execution is analysing 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.



VULNERABILITY CHECKLIST





CLASSIFICATION OF RISK

Severity

- Critical
- High-Risk
- Medium-Risk
- Low-Risk
- Gas Optimization/Suggestion

Description

These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.

A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.

A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.

A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.

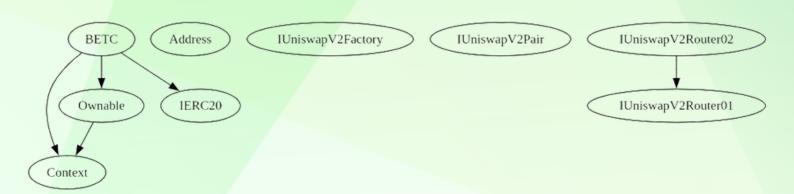
A vulnerability that has an informational character but is not affecting any of the code.

Findings

Severity	Found
◆ Critical	0
♦ High-Risk	0
♦ Medium-Risk	0
♦ Low-Risk	0
Gas Optimization /Suggestions	1



INHERITANCE TREE





POINTS TO NOTE

- Owner is not able to set taxes over 25% (Buy + Sell = 50% maximum tax)
- Owner is not able to blacklist an arbitrary wallet
- Owner is not able to set max buy/sell/transfer amounts
- Owner is not able to disable trades
- Owner is not able to mint new tokens



```
| Contract |
                Type
                              Bases
<mark>|;-----:|;-----:|;-----:</mark>-;|;------;|;-----:|;
       | **Function Name** | **Visibility** | **Mutability** | **Modifiers** |
111111
| **Context** | Implementation | | | |
| | msgData | Internal 🦰 | | |
\Pi\Pi\Pi\Pi\Pi
**Ownable** | Implementation | Context | | |
| L | <Constructor> | Public | | ( NO | |
| L | owner | Public | | NO | |
renounceOwnership | Public | | 🛑 | onlyOwner |
🖊 | transferOwnership | Public 🛮 | 🛑 | onlyOwner |
111111
| **IERC20** | Interface | ||| | |
| L | totalSupply | External | | NO | |
| L | balanceOf | External | | NO | |
| L | transfer | External | | | NO | |
| L | allowance | External | | NO | |
| L | approve | External | | ( NO | |
| L | transferFrom | External | | | NO | |
\mathbf{H}\mathbf{H}\mathbf{H}\mathbf{H}
| **Address** | Library | | | |
| L | sendValue | Internal 🦰 | 🛑 | |
| L | functionCall | Internal 🦲 | 🧓 | |
| L | functionCall | Internal 🦲 | 🔘 | |
| L | functionCallWithValue | Internal 🦰 | 🛑 | |
| L | functionCallWithValue | Internal 🖺 | 🛑 | |
| L | functionCallWithValue | Private 🦳 | 🛑 | |
111111
| **IUniswapV2Factory** | Interface | ||| | |
| L | feeTo | External | | NO | |
| L | feeToSetter | External | | NO | |
| L | getPair | External | | | NO | |
| L | allPairs | External | | NO | |
| L | allPairsLength | External | | NO | |
| L | createPair | External | | | NO | |
| L | setFeeTo | External | | | NO | |
| L | setFeeToSetter | External | | | NO | |
111111
| **IUniswapV2Pair** | Interface | | | |
```



```
| L | name | External | | NO | | | |
| L | symbol | External | | NO | |
| L | decimals | External | | NO | |
| L | totalSupply | External | | NO | |
| L | balanceOf | External | | NO | |
| L | allowance | External | | NO | |
| L | approve | External | | 🛑 | NO | |
| L | transfer | External | | 🛑 | NO | |
| L | transferFrom | External | | | NO | |
| L | DOMAIN_SEPARATOR | External | | | NO | |
| L | PERMIT_TYPEHASH | External | | | NO | |
| | | nonces | External | | | NO | |
| L | permit | External | | 🛑 | NO | |
| L | MINIMUM LIQUIDITY | External | | NO | |
| L | factory | External | | NO | |
| L | token0 | External | | NO | |
| L | token1 | External | | NO | |
| L | getReserves | External | | NO | |
| L | price0CumulativeLast | External | | NO | |
| | price1CumulativeLast | External | | NO |
| L | kLast | External | | NO | |
| L | burn | External | | | NO | |
| L | swap | External | | | NO | |
| L | skim | External | | | NO | |
| L | sync | External | | | NO | |
| L | initialize | External | | | NO | |
111111
| **IUniswapV2Router01** | Interface | | | | | | |
| L | factory | External | | | NO | |
| L | WETH | External | | NO | |
| L | addLiquidity | External | | | | NO | |
| L | removeLiquidity | External | | | NO | |
| L | removeLiquidityETH | External | | | NO | |
| L | removeLiquidityWithPermit | External | | | NO | |
| L | removeLiquidityETHWithPermit | External | | | NO | |
| L | swapExactTokensForTokens | External | | | NO | |
| L | swapTokensForExactTokens | External | | | NO | |
| L | swapExactETHForTokens | External | | I NO | |
| L | swapTokensForExactETH | External | | | NO | |
```



```
| L | swapETHForExactTokens | External | | I | NO | |
| | quote | External | | NO | |
| | getAmountOut | External | | NO | |
| L | getAmountIn | External | | | NO | |
| | getAmountsOut | External | | NO | |
| | getAmountsin | External | | NO | |
**IUniswapV2Router02** | Interface | IUniswapV2Router01 | | |
| | removeLiquidityETHSupportingFeeOnTransferTokens | External | | | NO | | |
| | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External | | | | NO | |
| L | swapExactTokensForTokensSupportingFeeOnTransferTokens | External | | | NO | |
| | swapExactETHForTokensSupportingFeeOnTransferTokens | External | | 🔟 | NO | |
| L | swapExactTokensForETHSupportingFeeOnTransferTokens | External | | | NO | |
| **BETC** | Implementation | Context, IERC20, Ownable | | |
| L | <Constructor> | Public | | ( ) | NO | |
| L | name | Public | | | NO | |
| L | symbol | Public | | NO | |
| L | decimals | Public | | NO | |
| L | totalSupply | Public | | NO | |
| L | balanceOf | Public | | NO | |
| L | transfer | Public | | | | NO | |
| L | allowance | Public | | NO | |
| L | approve | Public | | | | NO | |
| L | transferFrom | Public | | | | NO | |
| L | increaseAllowance | Public | | | NO | |
| L | decreaseAllowance | Public | | ( NO | |
| L | isExcludedFromReward | Public | | NO | |
| L | totalReflectionDistributed | Public | | NO |
| | reflectionFromToken | Public | | NO |
| L | tokenFromReflection | Public | | NO |
| L | claimStuckTokens | External | | | | onlyOwner |
| L | _reflectFee | Private 🤔 | 🥮 | |
| L | _getValues | Private 🦳 | | |
| L | _getTValues | Private 🤔 | | |
| L | getRValues | Private 🦳 | | |
| L | _getRate | Private 🦳 | | |
```



```
| L | _getCurrentSupply | Private 🛅 | | | |
| L | _takeLiquidity | Private 🦳 | 🦲 | |
| L | _takeMarketing | Private 🦳 | 🛑 | |
| | | calculateTaxFee | Private 🖺 | | |
| | calculateLiquidityFee | Private 📍 | | |
| | calculateMarketingFee | Private 📍 | | |
| L | removeAllFee | Private 🤔 | 🛑 | |
| L | setBuyFee | Private 🦳 | 🛑 | |
| L | setSellFee | Private 🦳 | 🥮 | |
| | isExcludedFromFee | Public | | NO | |
📙 📙 approve | Private 傄 | 🧶 | |
📙 enableTrading | External 📗 | 🛑 | onlyOwner |
📙 | transfer | Private 🦳 | 🛑 | |
| L | swapAndLiquify | Private 🦰 | 🛑 | | | |
| L | swapAndSendMarketing | Private 🦳 | 🛑 | |
| L | setSwapTokensAtAmount | External | | | | onlyOwner |
| L | setSwapEnabled | External | | ( ) | onlyOwner |
| L | _tokenTransfer | Private 🦳 | 🛑 | |
| L | _transferStandard | Private 🤔 | 🧓 | |
| L | _transferToExcluded | Private 🦳 | 🛑 | |
| L | _transferFromExcluded | Private 🛅 | 🛑 | |
| L | _transferBothExcluded | Private 🤔 | 🛑 | |
| L | excludeFromFees | External | | | | onlyOwner |
| L | changeMarketingWallet | External | | ( ) | onlyOwner |
| L | setBuyFeePercentages | External | | | | onlyOwner |
| L | setSellFeePercentages | External | | | | onlyOwner |
| L | enableWalletToWalletTransferWithoutFee | External | | | | onlyOwner |
111111
| **IERC20** | Interface | ||| | |
| L | totalSupply | External | | NO | |
| L | balanceOf | External | | NO | |
| L | transfer | External | | | NO | |
| L | allowance | External | | NO | |
| L | approve | External | | | NO | |
| L | transferFrom | External | | | NO | |
| Symbol | Meaning |
|:-----|
   | Function can modify state |
   | Function is payable |
```



STATIC ANALYSIS

```
BETC.constructor().router (contracts/Ace_Testing_BCC.cole999) is a local variable never_initialized Peterneric https://github.com/cynic/sitiatpra/ki/petector-bocomentation/unitialized-local-variables
BETC.asphofcus/gity(unit25) (contracts/Ace_Testing_BCC.cole949) abdoors:
BETC.asphofcus/gity(unit25) (contracts/Ace_Testing_BCC.cole949) abdoors:
BETC.asphofcus/github.com/cynic/sitiatprais/detector-bocomentation/unitialized-return
BETC.allowance/address_address_long_BCC.cole949-3 abdoors:
BETC.asphofcus/github.com/cynic/sitiatprais/detector-bocomentation/united-return
BETC.asphofcus/github.com/cynic/sitiatprais/detector-bocomentation/united-return
BETC.asphofcus/github.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cynic/sitiatprais/pithub.com/cyni
```

Result => A static analysis of contract's source code has been performed using slither, no major issues were found (except some "minor impact" suggestions)



Router (PCS V2):

0xD99D1c33F9fC3444f8101754aBC46c52416550D1

0- Deploying (Passed):

https://testnet.bscscan.com/tx/0x2612047b1b8fb63b05b4f98c2ff 98d3ea5505b1f8c5d1d785dc5d57cc1eac71a

1- Adding Liquidity (Passed):liquidity added on Pancakeswap V2:

https://testnet.bscscan.com/tx/0x12f1ed001c1dc13baeef9b3a95de 0a24e3d190b3f26565cd029793329d8a52e6

no issue were found on adding liquidity.

2- Enabling trade for public (Passed):

https://testnet.bscscan.com/tx/0x2eb607828b3d0378a36bef4822 1500643d105f441c9068a8065dfc3901389909

3- Excluding deployer's wallet from taxes (to test taxes) (Passed):

https://testnet.bscscan.com/tx/0x87fb5b0c5024eb6cc1b82d232e 5417a623f624c312fd4a240f93369b6101d94e



4- Enabling swap and liquify (Passed):

https://testnet.bscscan.com/tx/0x0c0814ddf4db23589bbb7313a9 9b83d3114f480e178236a279d5810acf507b90

5- Setting buy and sell fees to max (25%) (Passed):

https://testnet.bscscan.com/tx/0x9b65b608afc1e2b3706600ea9b 1017dd9220d0b2977010f22766c2cba29753c6

https://testnet.bscscan.com/tx/0xb0a801f8894979fb2e86d82b74 818e6c87041543a4146e522c06122fca6a1768

6- Buying from a non-whitelisted wallet (Passed):

https://testnet.bscscan.com/tx/0x7f1a84e6a692b55fea1c47faa49 1d61fefbf53288c476501dcbfc0e6536cd4d2

25% tax applied

5- Selling from a non-whitelisted wallet (Passed):

 $\frac{https://testnet.bscscan.com/tx/0x9ed2eee007a6bc4b9b15abf2ef0}{1fc473905fe710b47c8a4c8d5bfb3882cbae0}$

25% tax applied



6- Internal Swap (Passed):

taxes were swapped to BNB and sent to marketing wallet which can be seen here:

https://testnet.bscscan.com/address/0x024238ae95bf8e4361ba58ca018e84c12c654509#internaltx

7- Auto Liquidity (Passed):

LP tokens generated and sent to dead wallet which can be seen here:

https://testnet.bscscan.com/token/0x72bf7c4286c90956d611e73fe704bae7305850ba?

8- Transferring from non-whitelisted to non-whitelisted (Passed):

tried to transfer 100,000,000 tokens but 75,100,000 were sent (25% transfer tax)

https://testnet.bscscan.com/tx/0x8614e4ce9b4e5c43303403e374 3e52f20f74b41b27fc06e7710655f4d987636b



9- Transferring while transfer taxes are off (wallet to wallet transfer without fee) (Passed):

disabling transfer fees:

https://testnet.bscscan.com/tx/0x0db8bfd374a567d37e2eac3ee1 6bfc420bb8487b3814694d0b5336e88cc864ff

transferring 100,000,000 tokens from a non-whitelisted wallet to a non-whitelisted wallet without fee:

https://testnet.bscscan.com/tx/0x7655acc43dc39669c6b1ed4dc6 c025aedb79ca776dc55c3b7f414350093fa3d5



MANUAL TESTING

Suggestions

 Emit a transfer event at _takeMarketing and _takeLiquidity events



Social Media Overview

Here are the Social Media Accounts of BetCoin



https://t.me/BetcoinCashOfficial



https://twitter.com/Betcoin_Cash



https://betcoincash.io/



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