TechRate
July, 2022

SMART CONTRACTS SECURITY AUDIT REPORT

Audit Details

Audited project

Coalphoenix

Deployer address

0x9b1a228921fe36b794aa10efca20d6a03c286ca6

Client contacts:

https://twitter.com/coalphoenixdao

Blockchain

Binance Smart Chain

Project website:

https://www.coalphoenix.io

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by Coalphoenix to perform an audit of smart contracts on commit:
https://bscscan.com/address/0x9b4898ada204a77ba3e837245a210ae3759f4153#code

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Contracts Details

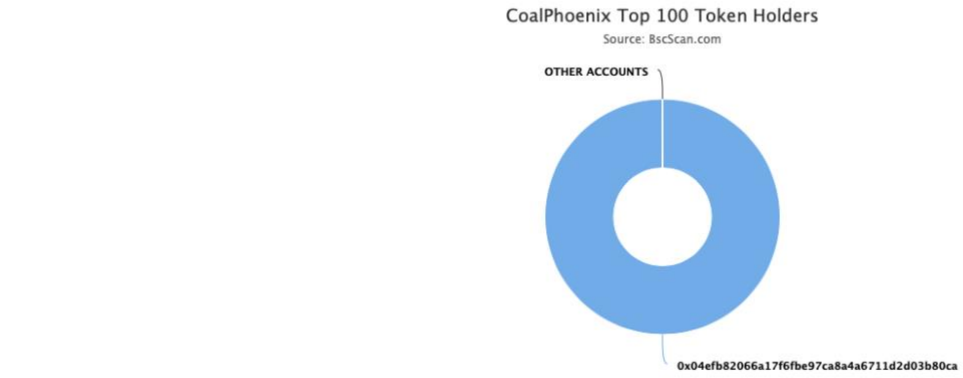
Token contract details for 24.07.2022

Contract name	Coalphoenix
Contract address	0x9b4898ADA204A77BA3e837245A210AE3759F4153
Total supply	567,000,000
Token ticker	COAX
Decimals	18
Token holders	1
Transactions count	3
Top 100 holders dominance	100.00%
Fee wallet	0x7120cd07ca21926536ebec74383dc47087f199ac
Contract deployer address	0x9b1a228921fe36b794aa10efca20d6a03c286ca6
Owner address	0x7120cd07ca21926536ebec74383dc47087f199ac

Coalphoenix Token Distribution

The top 100 holders collectively own 100.00% (567,000,000.00 Tokens) of CoalPhoenix

Token Total Supply: 567,000,000.00 Token | Total Token Holders: 1



(A total of 567,000,000.00 tokens held by the top 100 accounts from the total supply of 567,000,000.00 token)

Coalphoenix Contract Interaction Details

Coalphoenix Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	0x04efb82066a17f6fbe97ca8a4a6711d2d03b80ca	567,000,000	100.0000%

Contract functions details

+ [Lib] SafeMath
  - [Int] tryAdd
  - [Int] trySub
  - [Int] tryMul
  - [Int] tryDiv
  - [Int] tryMod
  - [Int] add
  - [Int] sub
  - [Int] mul
  - [Int] div
  - [Int] mod
  - [Int] sub
  - [Int] div
  - [Int] mod

+ [Int] IERC20
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] transfer #
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transferFrom #

+ [Int] IERC20Metadata (IERC20)
  - [Ext] name
  - [Ext] symbol
  - [Ext] decimals

+ Context
  - [Int] _msgSender
  - [Int] _msgData

+ ERC20 (Context, IERC20, IERC20Metadata)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #
  - [Pub] allowance

- [Pub] approve #
- [Pub] transferFrom #
- [Pub] increaseAllowance #
- [Pub] decreaseAllowance #
- [Int] _transfer #
- [Int] _mint #
- [Int] _burn #
- [Int] _approve #
- [Int] _beforeTokenTransfer #
- [Int] _afterTokenTransfer #

+ Ownable (Context)
  - [Pub] <Constructor> #
  - [Pub] owner
  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
  - [Pub] transferOwnership #
    - modifiers: onlyOwner
  - [Int] _transferOwnership #

+ coalPhoenixToken (ERC20, Ownable)
  - [Pub] <Constructor> #
    - modifiers: ERC20
  - [Pub] issueTokens #
    - modifiers: onlyOwner
  - [Pub] burnTokens #
    - modifiers: onlyOwner
  - [Int] _transfer #
  - [Pub] isExcludedFromFee
  - [Pub] excludeFromFee #
    - modifiers: onlyOwner
  - [Pub] excludeFromFee #
    - modifiers: onlyOwner
  - [Ext] setFeeWallet #
    - modifiers: onlyOwner
  - [Ext] setFee #
    - modifiers: onlyOwner

($) = payable function
= non-constant function

Issues Checking Status

	Issue description	Checking status
1.	**Compiler errors.**	Passed
2.	**Race conditions and Reentrancy. Cross-function race conditions.**	Passed
3.	**Possible delays in data delivery.**	Passed
4.	**Oracle calls.**	Passed
5.	**Front running.**	Passed
6.	**Timestamp dependence.**	Passed
7.	**Integer Overflow and Underflow.**	Passed
8.	**DoS with Revert.**	Passed
9.	**DoS with block gas limit.**	Low issues
10.	**Methods execution permissions.**	Passed
11.	**Economy model of the contract.**	Passed
12.	**The impact of the exchange rate on the logic.**	Passed
13.	**Private user data leaks.**	Passed
14.	**Malicious Event log.**	Passed
15.	**Scoping and Declarations.**	Passed
16.	**Uninitialized storage pointers.**	Passed
17.	**Arithmetic accuracy.**	Passed
18.	**Design Logic.**	Passed
19.	**Cross-function race conditions.**	Passed
20.	**Safe Open Zeppelin contracts implementation and usage.**	Passed
21.	**Fallback function security.**	Passed

Security Issues

High Severity Issues

No high severity issues found.

Medium Severity Issues

No medium severity issues found.

Low Severity Issues

1. Out of gas

Issue:

- The function `excludeFromFee()` uses the loop to exclude multiple addresses from the fee. Function will be aborted with OUT_OF_GAS exception if there will be a long addresses list.

Recommendation:
Check that the array length is not too big.

Owner privileges (In the period when the owner is not renounced)

- Owner can mint and burn tokens.
- Owner can exclude from the fee.
- Owner can change fee value.
- Owner can change fee wallet address.

Testnet deployment

Contracts Description Table

Contract	Type	Bases		
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
coalPhoenixToken	Implementation	ERC20, Ownable		
└	issueTokens	Public ❗	🛑	onlyOwner
└	burnTokens	Public ❗	🛑	onlyOwner
└	excludeFromFee	Public ❗	🛑	onlyOwner
└	excludeFromFee	Public ❗	🛑	onlyOwner
└	setFeeWallet	External ❗	🛑	onlyOwner
└	setFee	External ❗	🛑	onlyOwner

Legend

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable

Conclusion

Smart contracts contain low severity issues! The further transfers and operations with the funds raise are not related to this particular contract.

TechRate note:
Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.