



# Smart Contract Security Audit Report

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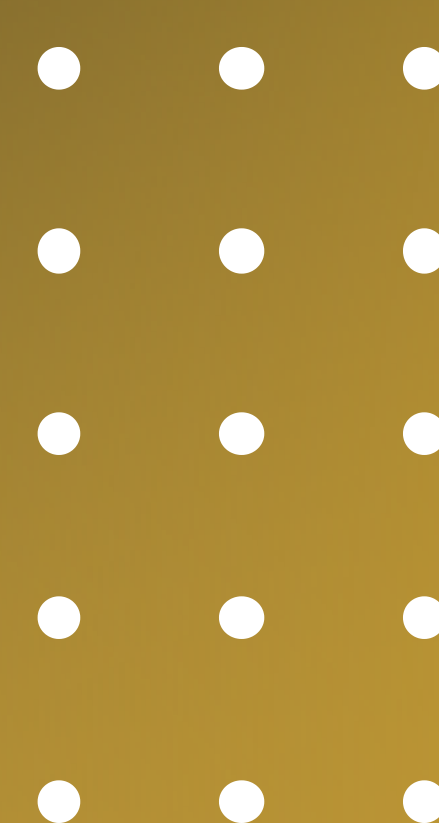
## Limestone

April 2022

Security Status



[www.hacksafe.io](https://www.hacksafe.io)



# Audit Details



## Audited project

Limestone



## Deployer address

0x9f65c1252a8fa673f7a4705ec7003D7B12ce2ce7



## Client contacts

Limestone team



## Blockchain

Ethereum



## Website

<https://limestone.network/>



# 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 below 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

**HeckSafe was commissioned by Limestone to perform an audit of smart contracts:**

- <https://etherscan.io/address/0x400b1d8a7dd8C471026B2c8CBe1062b27d120538#code>



# Contract Details

## Token contract details for 18.04.2022

Contract name	: Limestone
Contract address	: 0x400b1d8a7dd8C471026B2c8CBe1062b27d120538
Total supply	: 2 billion
Token Ticker	: LIMEX
Decimals	: 8
Token Holders	: 395
Transactions count	: 1,973
Contract deployer address	: 0x9f65c1252a8fa673f7a4705ec7003D7B12ce2ce7

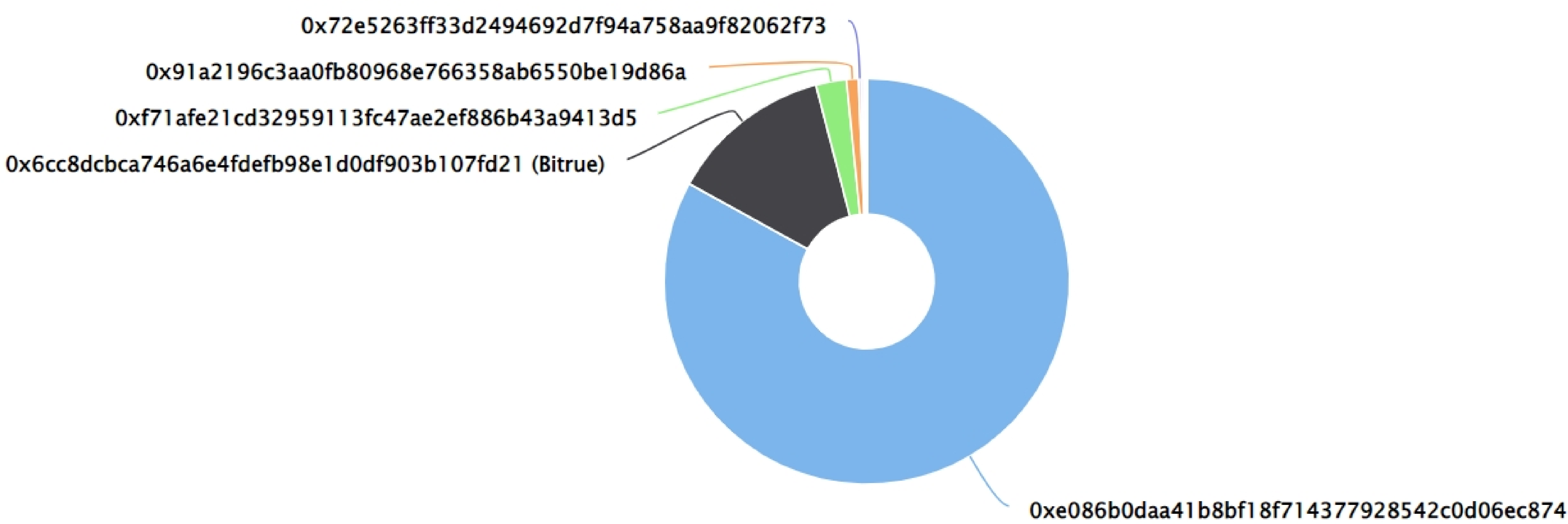
# Limestone Token Distribution

The top 500 holders collectively own 100.00% (2,000,000,000.00 Tokens) of Limestone

Token Total Supply: 2,000,000,000.00 Token | Total Token Holders: 395

## Limestone Top 500 Token Holders

Source: Etherscan.io



## Limestone Top 10 Token Holders

(A total of 1,997,316,841.16 tokens held by the top 10 accounts from the total supply of 2,000,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	0xe086b0daa41b8bf18f714377928542c0d06ec874	1,660,000,000	83.0000%
2	Bittrue	259,460,282.37239505	12.9730%
3	0xf71afe21cd32959113fc47ae2ef886b43a9413d5	48,508,180.66709475	2.4254%
4	0x91a2196c3aa0fb80968e766358ab6550be19d86a	19,101,202	0.9551%
5	0x72e5263ff33d2494692d7f94a758aa9f82062f73	4,201,258.68725525	0.2101%
6	0xe7f62cf3013925c8f4a24fdb779911a6cc94119c	3,916,162	0.1958%
7	0x9231a17d68bc1494f7426f188cb1 added90cc2 addedf5	925,812	0.0463%
8	0x815231f43e4a08abe8d66600870091620466fe59	626,158	0.0313%
9	0xad285 addedfc0d5f944a33e478356524293c7ec68	320,819.1685	0.0160%
10	0x5800ae65899124724bbaaf743 addeda6d69eaca9443	256,966.26	0.0128%

# Contract functions details

## + [Lib] EnumerableSet

- [Pvt] \_add #
- [Pvt] \_remove #
- [Pvt] \_contains
- [Pvt] \_length
- [Pvt] \_at
- [Int] add #
- [Int] remove #
- [Int] contains
- [Int] length
- [Int] at
- [Int] add #
- [Int] remove #
- [Int] contains
- [Int] length
- [Int] at

## + [Lib] Address

- [Int] isContract #
- [Int] sendValue #
- [Int] functionCall #
- [Int] functionCall #
- [Int] functionCallWithValue #
- [Int] functionCallWithValue #
- [Pvt] \_functionCallWithValue #

## + Context

- [Int] <Constructor>#
- [Int] \_msgSender
- [Int] \_msgData

## + AccessControl (Context)

- [Pub] hasRole
- [Pub] getRoleMemberCount
- [Pub] getRoleMember
- [Pub] getRoleAdmin
- [Pub] grantRole #
- [Pub] revokeRole #
- [Pub] renounceRole #

# Contract functions details

- [Int] \_setupRole #
- [Int] \_setRoleAdmin #
- [Pvt] \_grantRole
- [Pvt] \_revokeRole

## + [Int] IERC20

- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] transfer #
- [Ext] allowance
- [Ext] approve #
- [Ext] transferFrom #

## + [Lib] SafeMath

- [Int] add
- [Int] sub
- [Int] sub
- [Int] mul
- [Int] div
- [Int] div
- [Int] mod
- [Int] mod

## +ERC20 (Context, IERC20)

- [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 #



# Contract functions details

- [Int] \_approve #
- [Int] \_setupDecimals #
- [Int] \_beforeTokenTransfer

## + Pausable (Context)

- [Int] <Constructor> #
- [Pub] paused
- [Int] \_pause
  - modifiers: whenNotPaused
- [Int] \_unpause
  - modifiers: whenPaused

## + Limex (ERC20Pausable, AccessControl)

- [Pub] <Constructor> #
- [Pub] mint #
- [Pub] burn #
- [Pub] pause #

(\$) = payable function

# = non-constant function

# Issues Checking Status

No.	Title	Status
1.	Unlocked Compiler Version	Low issue
2.	Missing Input Validation	Passed
3.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
4.	Possible delays in data delivery	Passed
5.	Oracle calls.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Passed
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
12.	Private use data leaks.	Passed
13.	Malicious Event log.	Passed
14.	Scoping and Declarations.	Low issue
15.	Uninitialized storage pointers.	Passed
16.	Arithmetic accuracy.	Passed
17.	Design Logic.	Passed
18.	Safe Open Zeppelin contracts implementation and usage.	Passed
19.	Incorrect Naming State Variable	Passed

# Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to assets loss or data manipulations.
High	High-level vulnerabilities are difficult to exploit; however, they also have a significant impact on smart contract execution, e.g., public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can't lead to assets loss or data manipulations.
Low	Low-level vulnerabilities are mostly related to outdated, unused, etc. code snippets that can't have a significant impact on execution.



# Security Issues

## ✔ Critical Severity Issues

No critical severity issue found.

## ✔ High Severity Issues

No high severity issue found.

## ✔ Medium Severity Issues

No medium severity issues found.

## ✔ Low Severity Issues

Two low severity issues found.

### 1. Unlocked Compiler Version.

- **Description**

The contract utilizes an unlocked compiler version. An unlocked compiler version in the contract's source code permits the user to compile it at or above a particular version. This, in turn, leads to differences in the generated bytecode between compilations due to differing compiler version numbers. This can lead to ambiguity when debugging as compiler-specific bugs may occur in the codebase that would be difficult to identify over a span of multiple compiler versions rather than a specific one.

- **Recommendation**

It is advisable that the compiler version is alternatively locked at the lowest version possible so that the contract can be compiled. For example, for version v0.6.0 the contract should contain the following line:

```
pragma solidity 0.6.0;
```

### 2. Scoping and Declarations.

#### Unused function.

- **Description**

The sendValue, functionCall, functionCallWithValue, \_ functionCallWithValue, msgData, mod, div functions do nothing.

- **Location**

Line No: 305, 331, 341, 356, 366, 371, 416, 825, 841, 861, 877

- **Recommendation**

We advise to remove unused code which can help you to develop clean coding style and save some computational gas too.

# Conclusion

Smart contract contains low severity issues! The further transfer and operations with the fund raised are not related to this particular contract.

HackSafe 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.