AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

ECASH-X

DATED : 02 June 24'

AUDIT SUMMARY

Project name – ECASH-X

Date: 02 June, 2024

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

Audit Status: PASSED

Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	0	0	0	0
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 conducted on the BSC Test network, and each test has a corresponding transaction attached to it. These tests can be found in the "Functional Tests" section of the report.

3- Slither :
The code has undergone static analysis using Slither.

Testnet version:
The tests were performed using the contract deployed on the BSC Testnet, which can be found at the following address:
https://testnet.bscscan.com/address/0x548867e792ab2b1c3d0c6ff4ef576795e3667a5e#code

Token Information

Token Address:
0xe78a4FeD86012D92FC432AaE8588850d278a1A73

Name: ECASH-X

Symbol: ECASH-X

Decimals: 18

Network: BscScan

Token Type: BEP-20

Owner: 0x3163d46640F1195E2A90A661c83AF8Ebd7d775eD

Deployer:
0x3163d46640F1195E2A90A661c83AF8Ebd7d775eD

Token Supply: 40000000000000000000000000

Checksum: Ae1c3a4fbb6e83e8393a57617b5a5221

Testnet:
https://testnet.bscscan.com/address/0x548867e792ab2b1c3d0c6ff4ef576795e3667a5e#code

TOKEN OVERVIEW

Buy Fee: 0-0%

Sell Fee: 0-0%

Transfer Fee: 0-0%

Fee Privilege: Owner

Ownership: Owned

Minting: No

Max Tx: No

Blacklist: No

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-by-line 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

- [x] Return values of low-level calls
- [x] Private modifier
- [x] Multiple Sends
- [x] Using Suicide
- [x] Gas Limitand Loops
- [x] Address hardcoded
- [x] Exception Disorder
- [x] Using inline assembly
- [x] Divide before multiply
- [x] Missing Zero Address Validation
- [x] Compiler version not fixed
- [x] **Gasless Send**
- [x] Using block.timestamp
- [x] Re-entrancy
- [x] Tautology or contradiction
- [x] Timestamp Dependence
- [x] Revert/require functions
- [x] Use of tx.origin
- [x] Integer overflow/underflow
- [x] Dangerous strict equalities
- [x] Using SHA3
- [x] Using throw

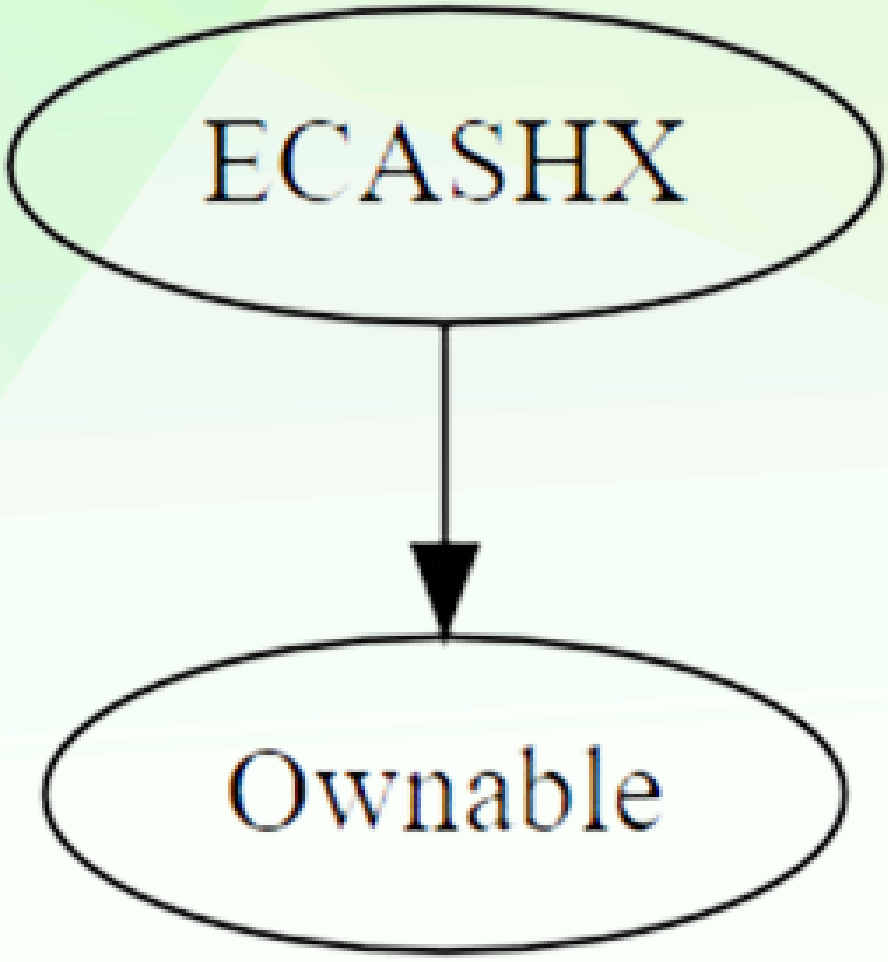
CLASSIFICATION OF RISK

Severity	Description
Critical	These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
High-Risk	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.
Medium-Risk	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.
Low-Risk	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.
Gas Optimization /Suggestion	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	0

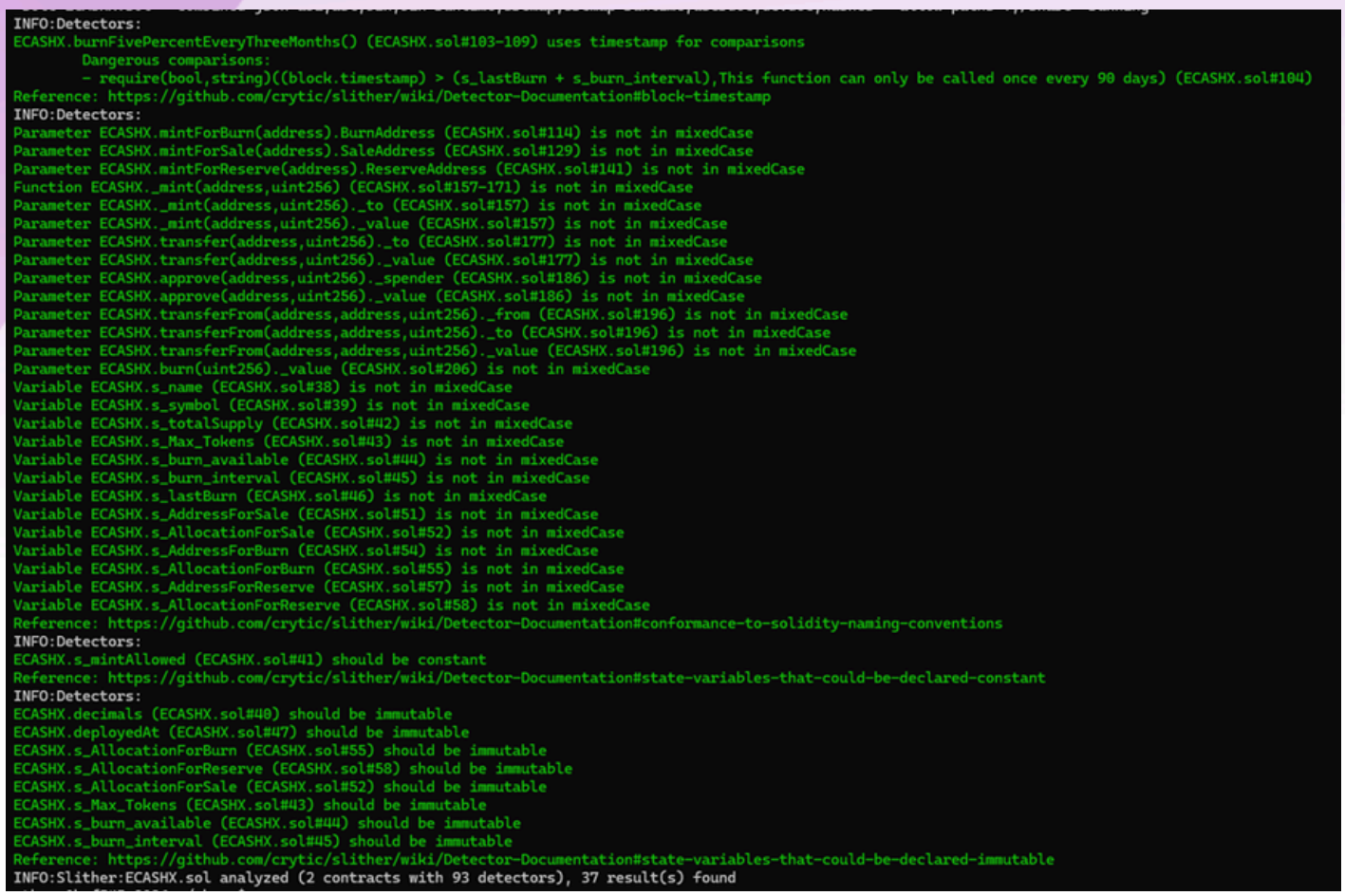
INHERITANCE TREE



POINTS TO NOTE

- The owner can transfer ownership.
- The owner can mint new tokens no more than the max token limit of 40000000.
- The owner can mint tokens for sales addresses not more than 15000000.
- The owner can mint tokens for reserve addresses not more than 22500000.

STATIC ANALYSIS



```
INFO:Detectors:
ECASHX.burnFivePercentEveryThreeMonths() (ECASHX.sol#103-109) uses timestamp for comparisons
        Dangerous comparisons:
        - require(bool,string)((block.timestamp) > (s_lastBurn + s_burn_interval),This function can only be called once every 90 days) (ECASHX.sol#104)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#block-timestamp
INFO:Detectors:
Parameter ECASHX.mintForBurn(address).BurnAddress (ECASHX.sol#114) is not in mixedCase
Parameter ECASHX.mintForSale(address).SaleAddress (ECASHX.sol#129) is not in mixedCase
Parameter ECASHX.mintForReserve(address).ReserveAddress (ECASHX.sol#141) is not in mixedCase
Function ECASHX._mint(address,uint256) (ECASHX.sol#157-171) is not in mixedCase
Parameter ECASHX._mint(address,uint256)._to (ECASHX.sol#157) is not in mixedCase
Parameter ECASHX._mint(address,uint256)._value (ECASHX.sol#157) is not in mixedCase
Parameter ECASHX.transfer(address,uint256)._to (ECASHX.sol#177) is not in mixedCase
Parameter ECASHX.transfer(address,uint256)._value (ECASHX.sol#177) is not in mixedCase
Parameter ECASHX.approve(address,uint256)._spender (ECASHX.sol#186) is not in mixedCase
Parameter ECASHX.approve(address,uint256)._value (ECASHX.sol#186) is not in mixedCase
Parameter ECASHX.transferFrom(address,address,uint256)._from (ECASHX.sol#196) is not in mixedCase
Parameter ECASHX.transferFrom(address,address,uint256)._to (ECASHX.sol#196) is not in mixedCase
Parameter ECASHX.transferFrom(address,address,uint256)._value (ECASHX.sol#196) is not in mixedCase
Parameter ECASHX.burn(uint256)._value (ECASHX.sol#206) is not in mixedCase
Variable ECASHX.s_name (ECASHX.sol#38) is not in mixedCase
Variable ECASHX.s_symbol (ECASHX.sol#39) is not in mixedCase
Variable ECASHX.s_totalSupply (ECASHX.sol#42) is not in mixedCase
Variable ECASHX.s_Max_Tokens (ECASHX.sol#43) is not in mixedCase
Variable ECASHX.s_burn_available (ECASHX.sol#44) is not in mixedCase
Variable ECASHX.s_burn_interval (ECASHX.sol#45) is not in mixedCase
Variable ECASHX.s_lastBurn (ECASHX.sol#46) is not in mixedCase
Variable ECASHX.s_AddressForSale (ECASHX.sol#51) is not in mixedCase
Variable ECASHX.s_AllocationForSale (ECASHX.sol#52) is not in mixedCase
Variable ECASHX.s_AddressForBurn (ECASHX.sol#54) is not in mixedCase
Variable ECASHX.s_AllocationForBurn (ECASHX.sol#55) is not in mixedCase
Variable ECASHX.s_AddressForReserve (ECASHX.sol#57) is not in mixedCase
Variable ECASHX.s_AllocationForReserve (ECASHX.sol#58) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions
INFO:Detectors:
ECASHX.s_mintAllowed (ECASHX.sol#41) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant
INFO:Detectors:
ECASHX.decimals (ECASHX.sol#40) should be immutable
ECASHX.deployedAt (ECASHX.sol#47) should be immutable
ECASHX.s_AllocationForBurn (ECASHX.sol#55) should be immutable
ECASHX.s_AllocationForReserve (ECASHX.sol#58) should be immutable
ECASHX.s_AllocationForSale (ECASHX.sol#52) should be immutable
ECASHX.s_Max_Tokens (ECASHX.sol#43) should be immutable
ECASHX.s_burn_available (ECASHX.sol#44) should be immutable
ECASHX.s_burn_interval (ECASHX.sol#45) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
INFO:Slither:ECASHX.sol analyzed (2 contracts with 93 detectors), 37 result(s) found
```

Result => A static analysis of contract's source code has been performed using slither,

No major issues were found in the output

FUNCTIONAL TESTING

1- Approve (passed):

https://testnet.bscscan.com/tx/0xc1d24c295f0ff30b57a02d48b1a93ded3281d7b8775653696c164d9a606b003f

2- _mint (passed):

https://testnet.bscscan.com/tx/0xbc963ad573cac0a2cba1097090fa2ecb811fa655c2b1a1af99e368378da119aa

3- Mint for Sale (passed):

https://testnet.bscscan.com/tx/0x0190c41707111a150b8fb56d5c4d52b94e8486c689078d0305e92479610e6f3f

4- Mint for Reserve (passed):

https://testnet.bscscan.com/tx/0x5a37675be4dbd429f1e0b48497ea5c3024fbaad0b02b4dcba647feb435ec794f

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