CFG NINJA AUDITS

Security Assessment

MetaEarn Token

July 9, 2022

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Audit Summary

This report has been prepared for MetaEarn Token on the Binance network. CFGNINJA provides both client-centered and user-centered examination of the smart contracts and their current status when applicable. This report represents the security assessment made to find issues and vulnerabilities on the source code along with the current liquidity and token holder statistics of the protocol.

A comprehensive examination has been performed, utilizing Cross Referencing, Static Analysis, In-House Security Tools, and line-by-line Manual Review.

The auditing process pays special attention to the following considerations:

- Testing the smart contracts against both common and uncommon attack vectors.
- Inspecting liquidity and holders statistics to inform the current status to both users and client when applicable.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Verifying contract functions that allow trusted and/or untrusted actors to mint, lock, pause, and transfer assets.

Project Overview

Token Summary

Parameter	Result
Address	0x65A9040c7D11b7d84776C2603638825d5FD0868c
Name	MetaEarn
Token Tracker	MetaEarn (MEARN)
Decimals	9
Supply	500,000,000
Platform	Binance
compiler	v0.8.7+commit.e28d00a7
Contract Name	MetaEarn
Optimization	Yes with 200 runs
LicenseType	Unlicensed
Language	Solidity
Codebase	https://bscscan.com/address/0x65A9040c7D11b7d84776C2603638825d5FD0868c#code
Payment Tx	0x9e41cf2ce9396b5981d9e4dc616f589dd50e4143836a353b756bb16ccd2b6606

Project Overview

Risk Analysis Summary

Parameter	Result
Buy Tax	15%
Sale Tax	15%
Is honeypot?	Clean
Can edit tax?	Yes
Is anti whale?	No
Is blacklisted?	No
Is whitelisted?	No
Holders	Clean
Security Score	95/100
Auditor Score	96/100
Confidence Level	Medium

The following quick summary has been added to the project overview, however there are more details about the audit and their results please read every details.

Main Contract Assessed
Contract Name

Name	Contract	Live
MetaEarn	0x65A9040c7D11b7d84776C2603638825d5FD0868c	Yes

TestNet Contract Assessed
Contract Name

Name	Contract	Live
MetaEarn	0x14a98Ce794CeF70fA101a25e1Fe86a3Cca93CF5A	Yes

Solidity Code Provided

SolID	File Sha-1	FileName
Mearn	9a15130488ab8674663bd34738dcee93ac6699f0	Mearn.sol
Mearn		
Mearn		

Smart Contract Vulnerability Checks

Vulnerability	Automatic Scan	Manual Scan	Result
Unencrypted Private Data On-Chain	Complete	Complete	Low / No Risk
Code With No Effects	Complete	Complete	Low / No Risk
Message call with hardcoded gas amount	Complete	Complete	Low / No Risk
Hash Collisions With Multiple Variable Length Arguments	Complete	Complete	Low / No Risk
Unexpected Ether balance	Complete	Complete	Low / No Risk
Presence of unused variables	Complete	Complete	Low / No Risk
Right-To-Left-Override control character (U+202E)	Complete	Complete	Low / No Risk
Typographical Error	Complete	Complete	Low / No Risk
DoS With Block Gas Limit	Complete	Complete	Low / No Risk
Arbitrary Jump with Function Type Variable	Complete	Complete	Low / No Risk
Insufficient Gas Griefing	Complete	Complete	Low / No Risk
Incorrect Inheritance Order	Complete	Complete	Low / No Risk
Write to Arbitrary Storage Location	Complete	Complete	Low / No Risk
Requirement Violation	Complete	Complete	Low / No Risk
Missing Protection against Signature Replay Attacks	Complete	Complete	Low / No Risk

Mint Check

The Project Owners of MetaEarn does not have a mint function in the contract, owner cannot mint tokens after initial deploy

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The Project has a Total Supply of 500,000,000 and cannot mint any more than the Max Supply.

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Mint Notes:

Auditor Notes:

Project Owner Notes:

Owner can't mint new coins

Fees Check

The Project Owners of MetaEarn does not have the ability to set fees higher than 25% .

Team May have fees defined, however they dont have the ability to set those fees higher than 25%.

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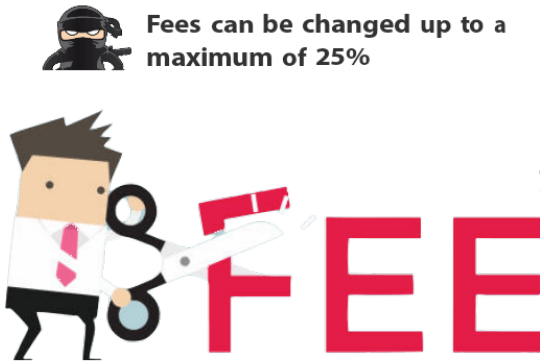
Tax Fee Notes:

Auditor Notes: Project team has a function to limit MaxTax to 25%

Project Owner Notes: .



MaxTx Check

The Project Onwers of MetaEarn does not has the ability to set max tx amount

The Team allow any investors to swap, transfer or sale their total amount if needed.

MaxTX Notes:

Auditor Notes:

Project Owner Notes:

Project Has No MaxTX

Pause Trade Check

The Project Onwers of MetaEarn Owner can pause trading but he can't move tokens (Owner can't pause trading)

The Team has done a great job to avoid stop trading, and investors has the ability to trade at any given time without any problems

Pause Trade Notes:

Auditor Notes: test

Project Owner Notes:

Contract Ownership

The contract ownership of MetaEarn is not currently renounced. The ownership of the contract grants special powers to the protocol creators, making them the sole addresses that can call sensible ownable functions that may alter the state of the protocol.

The current owner is the address 0x000004322a64563c4280e8b6bcbf5ed4b7dbbb08 which can be viewed from:
HERE

The owner wallet has the power to call the functions displayed on the priviliged functions chart below, if the owner wallet is compromised this privileges could be exploited.

We recommend the team to renounce ownership at the right timing if possible, or gradually migrate to a timelock with governing functionalities in respect of transparency and safety considerations.

We recommend the team to use a Multisignature Wallet if contract is not going to be renounced, this will give the ability to the team to have more control over the contract.

Liquidity Ownership

The token does not have liquidity at the moment of the audit, block 19165093

KYC Information

The Project Owners of MetaEarn is not KYC. .

The owner wallet has the power to call the functions displayed on the priviliged functions chart below, if the owner wallet is compromised this privileges could be exploited.

We recommend the team to renounce ownership at the right timing if possible, or gradually migrate to a timelock with governing functionalities in respect of transparency and safety considerations.

KYC Information Notes:

Auditor Notes: Asked project owner about KYC or Doxxed

Project Owner Notes: Project Owner states they are working on it

Mythx Security Summary Checks

ID	Severity	Name	File	location
SWC-100	Pass	Function Default Visibility	Mearn.sol	L: 0 C: 0
SWC-101	Pass	Integer Overflow and Underflow.	Mearn.sol	L: 0 C: 0
SWC-102	Pass	Outdated Compiler Version file.	Mearn.sol	L: 0 C: 0
SWC-103	Low	A floating pragma is set.	Mearn.sol	L: 5 C: 0
SWC-104	Pass	Unchecked Call Return Value.	Mearn.sol	L: 0 C: 0
SWC-105	Pass	Unprotected Ether Withdrawal.	Mearn.sol	L: 0 C: 0
SWC-106	Pass	Unprotected SELFDESTRUCT Instruction	Mearn.sol	L: 0 C: 0
SWC-107	Pass	Read of persistent state following external call.	Mearn.sol	L: 0 C: 0
SWC-108	Low	State variable visibility is not set..	Mearn.sol	L: 0 C: 0
SWC-109	Pass	Uninitialized Storage Pointer.	Mearn.sol	L: 0 C: 0
SWC-110	Pass	Assert Violation.	Mearn.sol	L: 0 C: 0
SWC-111	Pass	Use of Deprecated Solidity Functions.	Mearn.sol	L: 0 C: 0
SWC-112	Pass	Delegate Call to Untrusted Callee.	Mearn.sol	L: 0 C: 0
SWC-113	Pass	Multiple calls are executed in the same transaction.	Mearn.sol	L: 0 C: 0

ID	Severity	Name	File	location
SWC-114	Pass	Transaction Order Dependence.	Mearn.sol	L: 0 C: 0
SWC-115	Pass	Authorization through tx.origin.	Mearn.sol	L: 474 C: 15
SWC-116	Pass	A control flow decision is made based on The block.timestamp environment variable.	Mearn.sol	L: 0 C: 0
SWC-117	Pass	Signature Malleability.	Mearn.sol	L: 0 C: 0
SWC-118	Pass	Incorrect Constructor Name.	Mearn.sol	L: 0 C: 0
SWC-119	Pass	Shadowing State Variables.	Mearn.sol	L: 0 C: 0
SWC-120	Pass	Potential use of block.number as source of randonmness.	Mearn.sol	L: 0 C: 0
SWC-121	Pass	Missing Protection against Signature Replay Attacks.	Mearn.sol	L: 0 C: 0
SWC-122	Pass	Lack of Proper Signature Verification.	Mearn.sol	L: 0 C: 0
SWC-123	Pass	Requirement Violation.	Mearn.sol	L: 0 C: 0
SWC-124	Pass	Write to Arbitrary Storage Location.	Mearn.sol	L: 0 C: 0
SWC-125	Pass	Incorrect Inheritance Order.	Mearn.sol	L: 0 C: 0
SWC-126	Pass	Insufficient Gas Griefing.	Mearn.sol	L: 0 C: 0
SWC-127	Pass	Arbitrary Jump with Function Type Variable.	Mearn.sol	L: 0 C: 0
SWC-128	Pass	DoS With Block Gas Limit.	Mearn.sol	L: 0 C: 0

ID	Severity	Name	File	location
SWC-129	Pass	Typographical Error.	Mearn.sol	L: 0 C: 0
SWC-130	Pass	Right-To-Left-Override control character (U +202E).	Mearn.sol	L: 0 C: 0
SWC-131	Pass	Presence of unused variables.	Mearn.sol	L: 0 C: 0
SWC-132	Pass	Unexpected Ether balance.	Mearn.sol	L: 0 C: 0
SWC-133	Pass	Hash Collisions with Multiple Variable Length Arguments.	Mearn.sol	L: 0 C: 0
SWC-134	Pass	Message call with hardcoded gas amount.	Mearn.sol	L: 0 C: 0
SWC-135	Pass	Code With No Effects (Irrelevant/Dead Code).	Mearn.sol	L: 0 C: 0
SWC-136	Pass	Unencrypted Private Data On-Chain.	Mearn.sol	L: 0 C: 0

We scan the contract for additional security issues using MYTHX and industry standard security scanning tool

Security Check Details Page

SWC-103 - Floating Pragma.

CWE-664: Improper Control of a Resource Through its Lifetime.

Description:

Contracts should be deployed with the same compiler version and flags that they have been tested with thoroughly. Locking the pragma helps to ensure that contracts do not accidentally get deployed using, for example, an outdated compiler version that might introduce bugs that affect the contract system negatively.

Remediation:

Lock the pragma version and also consider known bugs (https://github.com/ethereum/solidity/releases) for the compiler version that is chosen.

Pragma statements can be allowed to float when a contract is intended for consumption by other developers, as in the case with contracts in a library or EthPM package. Otherwise, the developer would need to manually update the pragma in order to compile locally.

References:

Ethereum Smart Contract Best Practices - Lock pragmas to specific compiler version.

SWC-108 - State Variable Default Visibility

CWE-710: Improper Adherence to Coding Standards

Description:

Labeling the visibility explicitly makes it easier to catch incorrect assumptions about who can access the variable.

Remediation:

Variables can be specified as being public, internal or private. Explicitly define visibility for all state variables.

References:

Ethereum Smart Contract Best Practices - Explicitly mark visibility in functions and state variables

SWC Information Notes:

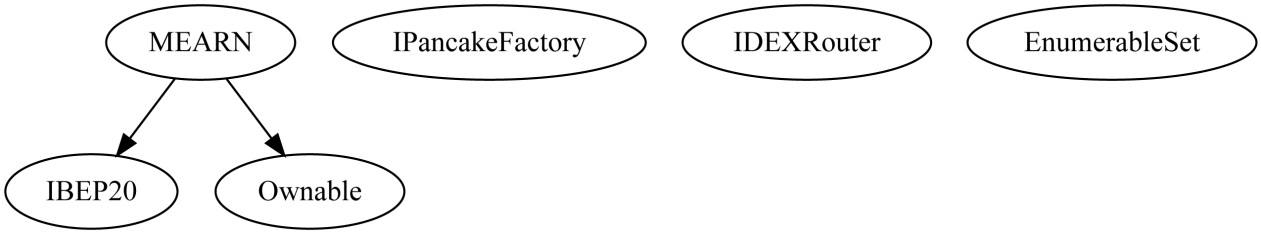
Auditor Notes: No Vulnerabilities where found during the security scan, however we did notice they used an older compiler version instead of latest of 0.8.14. Important to read about the bugs associated with 0.7.6 https://docs.soliditylang.org/en/v0.7.6/bugs.html#

Project Owner Notes:

Call Graph and Inheritance

The contract for MetaEarn has the following call graph structure

The Project has a Total Supply of 500,000,000 and has the following inheritance



Top Token Holders

The contract for MetaEarn has the following top token holders

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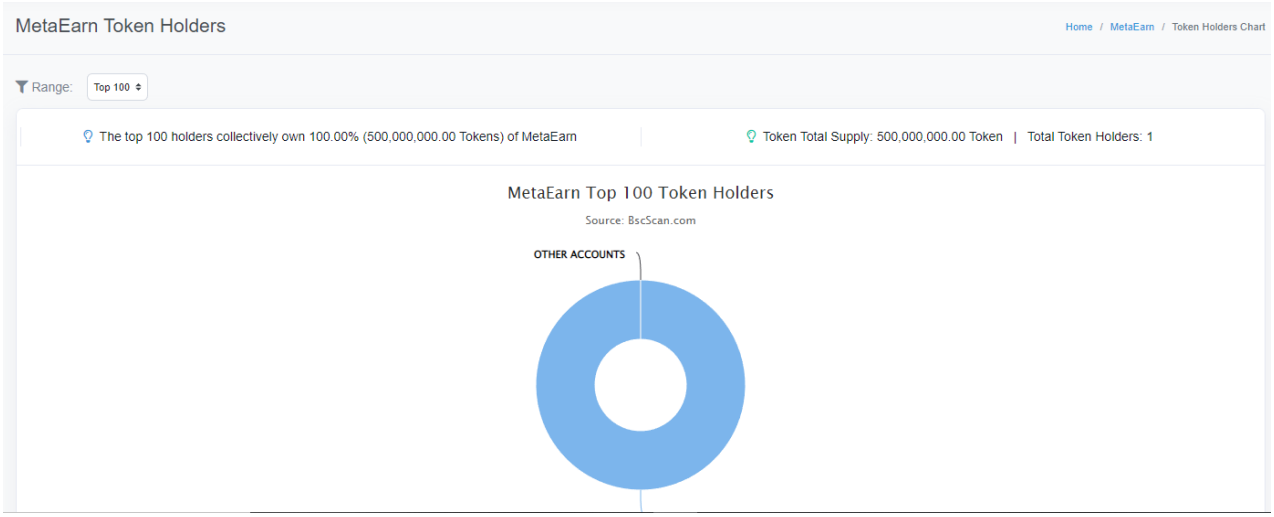

Priviliged Functions (onlyOwner)

Function Name	Parameters	Visibility
renounceOwnership	none	public
transferOwnership	address newOwner	public
DisableAutoPayout		Public
setRewardsToken		External
setBuybackAddress		External
AddOrRemoveAMM		Public
SetLiquifyTreshold		Public
SetTaxes		Public
TriggerLiquify		Public
SetStakingExcluded		Public
SetExcludedStatus		Public
BurnContractToken		Public
setDefaultAutoPayout		external

Important Notes To The Users:

- Project team has a function to launch contract, people won't be able to trade until project is fully laucnhed
- Owner can't set fees more than 25%.
- Owner can't set max tx amount.
- Owner can't pause trading.
- No high-risk Exploits/Vulnerabilities Were Found in the Source Code.

Audit Passed

Social Media Checks

Social Media	URL	Result
Twitter	https://twitter.com/MetaEarnBSC	Pass
Reddit	metaearnofficial	Pass
Website	http://www.metaearn.me	Pass
Telegram	https://t.me/metaearn_entry_portal	Pass

We recommend to have 3 or more social media sources including a completed working websites.

Social Media Information Notes:

Auditor Notes: undefined

Project Owner Notes: Project Owner states they also have a Reddit: MetaEarnOfficial

Disclaimer

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