ASSURE DEFI®
THE VERIFICATION GOLD STANDARD

Security Assessment:
Arcane Coin Token

January 17, 2024

- Audit Status: **Fail**
- Audit Edition: **Standard**

ARCANE

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Risk Analysis

Classifications of Manual Risk Results

Classification	Description
🔴 Critical	Danger or Potential Problems.
🟠 High	Be Careful or Fail test.
🟡 Low	Pass, Not-Detected or Safe Item.
ℹ Informational	Function Detected

Manual Code Review Risk Results

Contract Privilege	Description
🟡 Buy Tax	20%
🟡 Sale Tax	20%
🟢 Cannot Sale	Pass
🟢 Cannot Sale	Pass
🟢 Max Tax	20%
🟢 Modify Tax	Not Detected
🟢 Fee Check	Pass
🔴 Is Honeypot?	Detected
🟡 Trading Cooldown	Detected
🔴 Can Pause Trade?	Detected
🔴 Pause Transfer?	Detected
🟡 Max Tx?	Detected, Contract has MaxTx function.
🟢 Is Anti Whale?	Detected
🟢 Is Anti Bot?	Not Detected

Contract Privilege	Description
🟢 Is Blacklist?	Not Detected
🟢 Blacklist Check	Pass
🟡 is Whitelist?	Detected
🟢 Can Mint?	Pass
🟢 Is Proxy?	Not Detected
🟢 Can Take Ownership?	Not detected
🟢 Hidden Owner?	Not detected
ℹ️ Owner	0x4c0B19AA31b20B946bBAD8000d192109F9df769d
🟢 Self Destruct?	Not Detected
ℹ️ External Call?	Not detected
🟢 Other?	Not detected
🟢 Holders	2
🔴 Auditor Confidence	Critical Risk
🟡 KYC Present	No
🟡 KYC URL	

The following quick summary it's added to the project overview; however, there are more details about the audit and its results. Please read every detail.

Project Overview

Token Summary

Parameter	Result
Address	0xA819FA2cf50FB232dF68f731BCa3E54e88498ae1
Name	Arcane Coin
Token Tracker	Arcane Coin (ARCANE)
Decimals	9
Supply	100,000,000
Platform	BNBCHAIN
compiler	v0.8.20+commit.a1b79de6
Contract Name	Arcane
Optimization	Yes with 200 runs
LicenseType	MIT
Language	Solidity
Codebase	https://etherscan.io/ token/0xA819FA2cf50FB232dF68f731BCa3E54e88498ae1#code
Payment Tx	Corporate

Main Contract Assessed
Contract Name

Name	Contract	Live
Arcane Coin	0xA819FA2cf50FB232dF68f731BCa3E54e88498ae1	No

TestNet Contract was Not Assessed

Solidity Code Provided

SolID	File Sha-1	FileName
Arcade	e8a7e18c75d7c5b1eb831213e6b581cee3e5d7f4	arcade.sol
Arcade		
Arcade		
Arcade		
Arcade		
Arcade		

Smart Contract Vulnerability Checks

The Smart Contract Weakness Classification Registry (SWC Registry) is an implementation of the weakness classification scheme proposed in EIP-1470. It is loosely aligned to the terminologies and structure used in the Common Weakness Enumeration (CWE) while overlaying a wide range of weakness variants that are specific to smart contracts.

ID	Severity	Name	File	location
SWC-100	Pass	Function Default Visibility	arcade.sol	L: 0 C: 0
SWC-101	Pass	Integer Overflow and Underflow.	arcade.sol	L: 0 C: 0
SWC-102	Pass	Outdated Compiler Version file.	arcade.sol	L: 0 C: 0
SWC-103	Pass	A floating pragma is set.	arcade.sol	L: 0 C: 0
SWC-104	Pass	Unchecked Call Return Value.	arcade.sol	L: 0 C: 0
SWC-105	Pass	Unprotected Ether Withdrawal.	arcade.sol	L: 0 C: 0
SWC-106	Pass	Unprotected SELFDESTRUCT Instruction	arcade.sol	L: 0 C: 0
SWC-107	Pass	Read of persistent state following external call.	arcade.sol	L: 0 C: 0
SWC-108	Pass	State variable visibility is not set..	arcade.sol	L: 0 C: 0
SWC-109	Pass	Uninitialized Storage Pointer.	arcade.sol	L: 0 C: 0
SWC-110	Pass	Assert Violation.	arcade.sol	L: 0 C: 0
SWC-111	Pass	Use of Deprecated Solidity Functions.	arcade.sol	L: 0 C: 0
SWC-112	Pass	Delegate Call to Untrusted Callee.	arcade.sol	L: 0 C: 0
SWC-113	Pass	Multiple calls are executed in the same transaction.	arcade.sol	L: 0 C: 0
SWC-114	Pass	Transaction Order Dependence.	arcade.sol	L: 0 C: 0

ID	Severity	Name	File	location
SWC-115	Medium	Authorization through tx.origin.	arcade.sol	L: 241 C: 55, L: 245 C: 51
SWC-116	Pass	A control flow decision is made based on The block.timestamp environment variable.	arcade.sol	L: 0 C: 0
SWC-117	Pass	Signature Malleability.	arcade.sol	L: 0 C: 0
SWC-118	Pass	Incorrect Constructor Name.	arcade.sol	L: 0 C: 0
SWC-119	Pass	Shadowing State Variables.	arcade.sol	L: 0 C: 0
SWC-120	Fail	Potential use of block.number as source of randonmness.	arcade.sol	L: 242 C: 30, L: 245 C: 64
SWC-121	Pass	Missing Protection against Signature Replay Attacks.	arcade.sol	L: 0 C: 0
SWC-122	Pass	Lack of Proper Signature Verification.	arcade.sol	L: 0 C: 0
SWC-123	Pass	Requirement Violation.	arcade.sol	L: 0 C: 0
SWC-124	Pass	Write to Arbitrary Storage Location.	arcade.sol	L: 0 C: 0
SWC-125	Pass	Incorrect Inheritance Order.	arcade.sol	L: 0 C: 0
SWC-126	Pass	Insufficient Gas Griefing.	arcade.sol	L: 0 C: 0
SWC-127	Pass	Arbitrary Jump with Function Type Variable.	arcade.sol	L: 0 C: 0
SWC-128	Pass	DoS With Block Gas Limit.	arcade.sol	L: 0 C: 0
SWC-129	Pass	Typographical Error.	arcade.sol	L: 0 C: 0
SWC-130	Pass	Right-To-Left-Override control character (U +202E).	arcade.sol	L: 0 C: 0
SWC-131	Pass	Presence of unused variables.	arcade.sol	L: 0 C: 0
SWC-132	Pass	Unexpected Ether balance.	arcade.sol	L: 0 C: 0

ID	Severity	Name	File	location
SWC-133	Pass	Hash Collisions with Multiple Variable Length Arguments.	arcade.sol	L: 0 C: 0
SWC-134	Pass	Message call with hardcoded gas amount.	arcade.sol	L: 0 C: 0
SWC-135	Pass	Code With No Effects (Irrelevant/Dead Code).	arcade.sol	L: 0 C: 0
SWC-136	Pass	Unencrypted Private Data On-Chain.	arcade.sol	L: 0 C: 0

We scan the contract for additional security issues using MYTHX and industry-standard security scanning tools.

Smart Contract Vulnerability Details

SWC-115 - Authorization through tx.origin

CWE-477: Use of Obsolete Function

Description:

tx.origin is a global variable in Solidity which returns the address of the account that sent the transaction. Using the variable for authorization could make a contract vulnerable if an authorized account calls into a malicious contract. A call could be made to the vulnerable contract that passes the authorization check since tx.origin returns the original sender of the transaction which in this case is the authorized account.

Remediation:

tx.origin should not be used for authorization. Use msg.sender instead.

References:

Solidity Documentation - tx.origin

Ethereum Smart Contract Best Practices - Avoid using tx.origin

SigmaPrime - Visibility.

Smart Contract Vulnerability Details

SWC-120 - Weak Sources of Randomness from Chain Attributes

CWE-330: Use of Insufficiently Random Values

Description:

Solidity allows for ambiguous naming of state variables when inheritance is used. Contract A with a variable x could inherit contract B that also has a state variable x defined. This would result in two separate versions of x, one of them being accessed from contract A and the other one from contract B. In more complex contract systems this condition could go unnoticed and subsequently lead to security issues.

Shadowing state variables can also occur within a single contract when there are multiple definitions on the contract and function level.

Remediation:

Using commitment scheme, e.g. RANDAO. Using external sources of randomness via oracles, e.g. Oraclize. Note that this approach requires trusting in oracle, thus it may be reasonable to use multiple oracles. Using Bitcoin block hashes, as they are more expensive to mine.

References:

How can I securely generate a random number in my smart contract?)

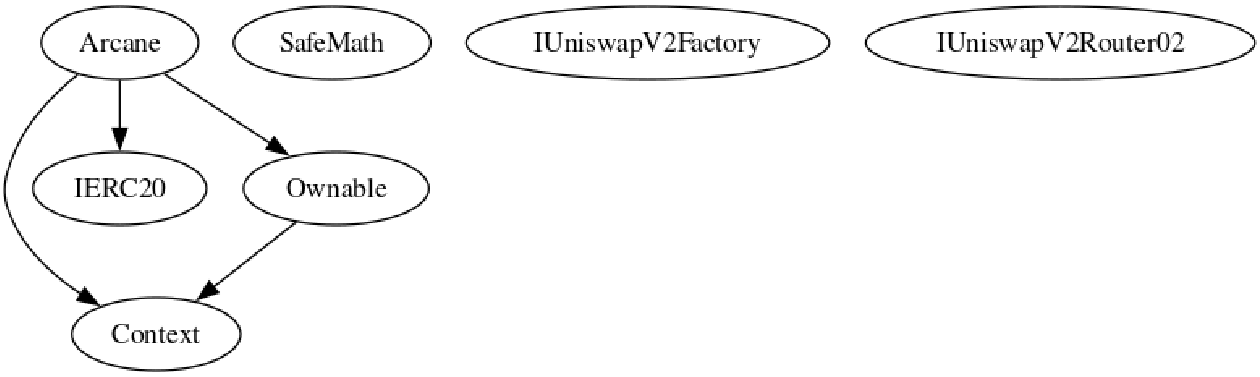
When can BLOCKHASH be safely used for a random number? When would it be unsafe?

The Run smart contract.

Inheritance

The contract for Arcane Coin has the following inheritance structure.

The Project has a Total Supply of 100,000,000



Privileged Functions (onlyOwner)

Please Note if the contract is Renounced none of this functions can be executed.

Function Name	Parameters	Visibility
openTrading		public
removeLimits		public
renounceOwnership		public

ARCANE-14 | Unnecessary Use Of SafeMath

Category	Severity	Location	Status
Logical Issue	🟡 Medium	arcade.sol: L: 37 C:14	Detected

Description

The SafeMath library is used unnecessarily. With Solidity compiler versions 0.8.0 or newer, arithmetic operations
will automatically revert in case of integer overflow or underflow.
library SafeMath {
An implementation of SafeMath library is found.
using SafeMath for uint256;
SafeMath library is used for uint256 type in contract.

Remediation

We advise removing the usage of SafeMath library and using the built-in arithmetic operations provided by the
Solidity programming language

Project Action

ARCANE-18 | Stop Transactions by using Enable Trade.

Category	Severity	Location	Status
Logical Issue	🔴 Critical	arcade.sol: L: 322 C: 47	Detected

Description

Enable Trade is presend on the following contract and when combined with Exclude from fees it can be considered a whitelist process, this will allow anyone to trade before others and can represent and issue for the holders.

Remediation

We recommend the project owner to carefully review this function and avoid problems when performing both actions.

Project Action

ARCANE-19 | Pair Creation during Enable Trade..

Category	Severity	Location	Status
Optimization	🔴 Critical	arcade.sol: L:322 C: 47	Detected

Description

The enable trade attemps to create a pair and define a uniswap router the logic is as follow. require(!tradingOpen,'trading is already open');uniswapV2Router = IUniswapV2Router02(0x7a250d5630B4cF539739dF2C5dAcb4c659F2488D); _approve(address(this), address(uniswapV2Router), _tTotal); uniswapV2Pair = IUniswapV2Factory(uniswapV2Router.factory()).createPair(address(this), uniswapV2Router.WETH()); uniswapV2Router.addLiquidityETH{value: address(this).balance}(address(this),balanceOf(address(this)),0,0,owner(),block.timestamp); IERC20(uniswapV2Pair).approve(address(uniswapV2Router), type(uint).max); swapEnabled = true;tradingOpen = true;

Remediation

Separate both functions to avoid potential problems with the contract.

Project Action

ARCANE-20 | Complications with the antiWhale code..

Category	Severity	Location	Status
Optimization	🔴 Critical	arcade.sol: L: 230 C: 47	Detected

Description

Inside the transfer there are some required functions that may transform the contract into a honeypot.

Remediation

Simplify or clean the contract.

Project Action

Technical Findings Summary

Classification of Risk

Severity	Description
Critical	Risks are those that impact the safe functioning of a platform and must be addressed before launch. Users should not invest in any project with outstanding critical risks.
High	Risks can include centralization issues and logical errors. Under specific circumstances, these major risks can lead to loss of funds and/or control of the project.
Medium	Risks may not pose a direct risk to users’ funds, but they can affect the overall functioning of a platform
Low	Risks can be any of the above but on a smaller scale. They generally do not compromise the overall integrity of the Project, but they may be less efficient than other solutions.
Informational	Errors are often recommended to improve the code's style or certain operations to fall within industry best practices. They usually do not affect the overall functioning of the code.

Findings

Severity	Found	Pending	Resolved
Critical	3	3	0
High	0	0	0
Medium	1	1	0
Low	0	0	0
Informational	0	0	0
Total	4	4	0

Social Media Checks

Social Media	URL	Result
Twitter	https://x.com/ArcaneErc20	Pass
Other	https://medium.com/@arcaneofficial	Pass
Website	https://Archanemix.tech	Pass
Telegram	https://t.me/ArcaneOfficialCoin	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:

Assessment Results

Score Results

Review	Score
Overall Score	71/100
Auditor Score	0/100
Review by Section	Score
Manual Scan Score	25
SWC Scan Score	33
Advance Check Score	13

The Following Score System Has been Added to this page to help understand the value of the audit, the maximun score is 100, however to attain that value the project most pass and provide all the data needed for the assessment. Our Passing Score has been changed to 84 Points for a higher standard, if a project does not attain 85% is an automatic failure. Read our notes and final assessment below.

Audit Fail

Assessment Results

Important Notes:

- Several items were identified.
- Failed code, and modification of safemath detected.

Auditor Score =0
Audit Fail

Appendix

Finding Categories

Centralization / Privilege

Centralization / Privilege findings refer to either feature logic or implementation of components that actagainst the nature of decentralization, such as explicit ownership or specialized access roles incombination with a mechanism to relocate funds.

Gas Optimization

Gas Optimization findings do not affect the functionality of the code but generate different, more optimalEVM opcodes resulting in a reduction on the total gas cost of a transaction.

Logical Issue

Logical Issue findings detail a fault in the logic of the linked code, such as an incorrect notion on howblock.timestamp works.

Control Flow

Control Flow findings concern the access control imposed on functions, such as owner-only functionsbeing invoke-able by anyone under certain circumstances.

Volatile Code

Volatile Code findings refer to segments of code that behave unexpectedly on certain edge cases that mayresult in a vulnerability.

Coding Style

Coding Style findings usually do not affect the generated byte-code but rather comment on how to makethe codebase more legible and, as a result, easily maintainable.

Inconsistency

Inconsistency findings refer to functions that should seemingly behave similarly yet contain different code,such as a constructor assignment imposing different require statements on the input variables than a setterfunction.

Coding Best Practices

ERC 20 Conding Standards are a set of rules that each developer should follow to ensure the code meet a set of creterias and is readable by all the developers.

Disclaimer

Assure Defi has conducted an independent security assessment to verify the integrity of and highlight any vulnerabilities or errors, intentional or unintentional, that may be present in the reviewed code for the scope of this assessment. This report does not constitute agreement, acceptance, or advocation for the Project, and users relying on this report should not consider this as having any merit for financial advice in any shape, form, or nature. The contracts audited do not account for any economic developments that the Project in question may pursue, and the veracity of the findings thus presented in this report relate solely to the proficiency, competence, aptitude, and discretion of our independent auditors, who make no guarantees nor assurance that the contracts are entirely free of exploits, bugs, vulnerabilities or deprecation of technologies.

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