WINERY TOKEN CORK

Smart Contract Audit Report

SYSFIXED

05 Mar 2022

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
WINERY TOKEN CORK	CORK	Binance Smart Chain

Addresses

Contract address	0xe7eada32caf827d3ba8cb1074830d803c9bd48c3
Contract deployer address	0xE5Fbf152BD95C3F61a0a0d6B380513e1E27407E0

Project Website

https://winery.land/

Codebase

https://bscscan.com/address/0xe7eada32caf827d3ba8cb1074830d803c9bd48c3#code

SUMMARY

WINERY is a decentralized cryptocurrency exchange project based on Binance Smart Chain (BEP20) that operates by connecting cryptocurrency traders in a peer-to-peer (P2P) manner using the Automated Market Maker Model (AMM). It is a platform that enables users to trade a huge variety of BEP-20 tokens via smart contracts to eliminate the risk of the counterparty. The main functions of Winery DEX are token trading, liquidity supply, and other liquidity provided functions, farming and staking function, lotto function. Winery is connected to the Binance Smart Chain and supports a large number of Blockchain wallets like MetaMask, TrustWallet, and TokenPocket as well as a huge number of tokens. The rewards traders get from the main functions of Winery DEX will be paid with CORK. CORK is Winery's special utility token issued on the Binance Smart Chain as a BEP-20 token. The main function of CORK is to incentivize those who add liquidity to the WINERY platform. Users can stake their tokens, deposit liquidity provider tokens, farm (lock-up) them, and be rewarded with more CORKs accordingly. CORK can be stored on your blockchain wallet or used to buy non-fungible tokens and lottery tickets with WINERY.

Contract Summary

Documentation Quality

WINERY TOKEN CORK provides a very good documentation with standard of solidity base code.

- The technical description is provided clearly and structured and also dont have any high risk issue.

Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by WINERY TOKEN CORK with the discovery of several low issues.

Test Coverage

Test coverage of the project is 100% (Through Codebase)

Audit Findings Summary

- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 9, 173, 365, 466, 497, 575 and 894.
- SWC-116 | It is recommended to use oracles for block values as a proxy for time on lines 1011.
- SWC-120 | It is recommended to use external sources of randomness via oracles on lines 1039, 1119 and 1038.

CONCLUSION

We have audited the WINERY TOKEN CORK project released on March 2022 to discover issues and identify potential security vulnerabilities in WINERY TOKEN CORK Project. This process is used to find technical issues and security loopholes which might be found in the smart contract.

The security audit report provides satisfactory results with low-risk issues.

The WINERY TOKEN CORK smart contract code issues do not pose a considerable risk. The writing of the contract is close to the standard of writing contracts in general. The low-risk issues found are arithmetic operation issues, a floating pragma is set, a control flow decision based on The block.timestamp environment variable, and the potential use of "block.number" as a source of randomness. The current pragma Solidity directive is ""^0.6.2"". Specifying a fixed compiler version is recommended to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code. The block.timestamp environment variable determines a control flow decision. Note that the values of variables like coinbase, gaslimit, block number, and timestamp are predictable and can be manipulated by a malicious miner. Also, keep in mind that attackers know hashes of earlier blocks. Don't use any of those environment variables as sources of randomness, and be aware that using these variables introduces a certain level of trust into miners.

AUDIT RESULT

Article	Category	Description	Result
Default Visibility	SWC-100 SWC-108	Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously.	PASS
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows.	PASS
Outdated Compiler Version	SWC-102	It is recommended to use a recent version of the Solidity compiler.	PASS
Floating Pragma	SWC-103	Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.	ISSUE FOUND
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	PASS
Unprotected Ether Withdrawal	SWC-105	Due to missing or insufficient access controls, malicious parties can withdraw from the contract.	PASS
SELFDESTRUCT Instruction	SWC-106	The contract should not be self-destructible while it has funds belonging to users.	PASS
Reentrancy	SWC-107	Check effect interaction pattern should be followed if the code performs recursive call.	PASS
Uninitialized Storage Pointer	SWC-109	Uninitialized local storage variables can point to unexpected storage locations in the contract.	PASS
Assert Violation	SWC-110 SWC-123	Properly functioning code should never reach a failing assert statement.	PASS
Deprecated Solidity Functions	SWC-111	Deprecated built-in functions should never be used.	PASS
Delegate call to Untrusted Callee	SWC-112	Delegatecalls should only be allowed to trusted addresses.	PASS

DoS (Denial of Service)	SWC-113 SWC-128	Execution of the code should never be blocked by a specific contract state unless required.	PASS
Race Conditions	SWC-114	Race Conditions and Transactions Order Dependency should not be possible.	PASS
Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	PASS
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	ISSUE FOUND
Signature Unique ID	SWC-117 SWC-121 SWC-122	Signed messages should always have a unique id. A transaction hash should not be used as a unique id.	PASS
Incorrect Constructor Name	SWC-118	Constructors are special functions that are called only once during the contract creation.	PASS
Shadowing State Variable	SWC-119	State variables should not be shadowed.	PASS
Weak Sources of Randomness	SWC-120	Random values should never be generated from Chain Attributes or be predictable.	ISSUE FOUND
Write to Arbitrary Storage Location	SWC-124	The contract is responsible for ensuring that only authorized user or contract accounts may write to sensitive storage locations.	PASS
Incorrect Inheritance Order	SWC-125	When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/.	PASS
Insufficient Gas Griefing	SWC-126	Insufficient gas griefing attacks can be performed on contracts which accept data and use it in a sub-call on another contract.	PASS
Arbitrary Jump Function	SWC-127	As Solidity doesnt support pointer arithmetics, it is impossible to change such variable to an arbitrary value.	PASS

Typographical Error	SWC-129	A typographical error can occur for example when the intent of a defined operation is to sum a number to a variable.	PASS
Override control character	SWC-130	Malicious actors can use the Right-To-Left-Override unicode character to force RTL text rendering and confuse users as to the real intent of a contract.	PASS
Unused variables	SWC-131 SWC-135	Unused variables are allowed in Solidity and they do not pose a direct security issue.	PASS
Unexpected Ether balance	SWC-132	Contracts can behave erroneously when they strictly assume a specific Ether balance.	PASS
Hash Collisions Variable	SWC-133	Using abi.encodePacked() with multiple variable length arguments can, in certain situations, lead to a hash collision.	PASS
Hardcoded gas amount	SWC-134	The transfer() and send() functions forward a fixed amount of 2300 gas.	PASS
Unencrypted Private Data	SWC-136	It is a common misconception that private type variables cannot be read.	PASS

SMART CONTRACT ANALYSIS

Started	Friday Mar 04 2022 15:39:54 GMT+0000 (Coordinated Universal Time)
Finished	Saturday Mar 05 2022 03:37:55 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	CorkToken.sol

Detected Issues

ID	Title	Severity	Status
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
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SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-116	A CONTROL FLOW DECISION IS MADE BASED ON THE BLOCK.TIMESTAMP ENVIRONMENT VARIABLE.	low	acknowledged
SWC-120	POTENTIAL USE OF "BLOCK.NUMBER" AS SOURCE OF RANDOMNESS.	low	acknowledged
SWC-120	POTENTIAL USE OF "BLOCK.NUMBER" AS SOURCE OF RANDOMNESS.	low	acknowledged
SWC-120	A CONTROL FLOW DECISION IS MADE BASED ON THE BLOCK.NUMBER ENVIRONMENT VARIABLE.	low	acknowledged

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 9

low SEVERITY

The current pragma Solidity directive is ""^0.6.2"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- CorkToken.sol

Locations

```
8
9   pragma solidity ^0.6.2;
10
11   /**
12   * @dev Collection of functions related to the address type
13
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 173

low SEVERITY

The current pragma Solidity directive is "">=0.4.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- CorkToken.sol

Locations

```
172
173   pragma solidity >=0.4.0;
174
175   /**
176   * @dev Wrappers over Solidity's arithmetic operations with added overflow
177
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 365

low SEVERITY

The current pragma Solidity directive is "">=0.4.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- CorkToken.sol

Locations

```
364
365   pragma solidity >=0.4.0;
366
367   interface IBEP20 {
368   /**
369
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 466

low SEVERITY

The current pragma Solidity directive is "">=0.4.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- CorkToken.sol

Locations

```
465
466   pragma solidity >=0.4.0;
467
468   /*
469   * @dev Provides information about the current execution context, including the
470
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 497

low SEVERITY

The current pragma Solidity directive is "">=0.4.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- CorkToken.sol

Locations

```
496
497   pragma solidity >=0.4.0;
498
499
500   /**
501
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 575

low SEVERITY

The current pragma Solidity directive is "">=0.4.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- CorkToken.sol

Locations

```
574
575   pragma solidity >=0.4.0;
576
577
578
579
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 894

low SEVERITY

The current pragma Solidity directive is ""^0.6.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- CorkToken.sol

Locations

```
893
894   pragma solidity ^0.6.0;
895
896
897   contract CorkToken is BEP20("WINERY TOKEN CORK", "CORK") {
898
```

SWC-116 | A CONTROL FLOW DECISION IS MADE BASED ON THE BLOCK.TIMESTAMP ENVIRONMENT VARIABLE.

LINE 1011

low SEVERITY

The block.timestamp environment variable is used to determine a control flow decision. Note that the values of variables like coinbase, gaslimit, block number and timestamp are predictable and can be manipulated by a malicious miner. Also keep in mind that attackers know hashes of earlier blocks. Don't use any of those environment variables as sources of randomness and be aware that use of these variables introduces a certain level of trust into miners.

Source File

- CorkToken.sol

Locations

```
1010   );
1011   require(now <= expiry, "CORK::delegateBySig: signature expired");
1012   return _delegate(signatory, delegatee);
1013   }
1014
1015
```

SWC-120 | POTENTIAL USE OF "BLOCK.NUMBER" AS SOURCE OF RANDOMNESS.

LINE 1039

low SEVERITY

The environment variable "block.number" looks like it might be used as a source of randomness. Note that the values of variables like coinbase, gaslimit, block number and timestamp are predictable and can be manipulated by a malicious miner. Also keep in mind that attackers know hashes of earlier blocks. Don't use any of those environment variables as sources of randomness and be aware that use of these variables introduces a certain level of trust into miners.

Source File

- CorkToken.sol

Locations

```
1038   require(
1039   blockNumber < block.number,
1040   "CORK::getPriorVotes: not yet determined"
1041   );
1042
1043
```

SWC-120 | POTENTIAL USE OF "BLOCK.NUMBER" AS SOURCE OF RANDOMNESS.

LINE 1119

low SEVERITY

The environment variable "block.number" looks like it might be used as a source of randomness. Note that the values of variables like coinbase, gaslimit, block number and timestamp are predictable and can be manipulated by a malicious miner. Also keep in mind that attackers know hashes of earlier blocks. Don't use any of those environment variables as sources of randomness and be aware that use of these variables introduces a certain level of trust into miners.

Source File

- CorkToken.sol

Locations

```
1118   uint32 blockNumber = safe32(
1119   block.number,
1120   "CORK::_writeCheckpoint: block number exceeds 32 bits"
1121   );
1122
1123
```

SWC-120 | A CONTROL FLOW DECISION IS MADE BASED ON THE BLOCK.NUMBER ENVIRONMENT VARIABLE.

LINE 1038

low SEVERITY

The block.number environment variable is used to determine a control flow decision. Note that the values of variables like coinbase, gaslimit, block number and timestamp are predictable and can be manipulated by a malicious miner. Also keep in mind that attackers know hashes of earlier blocks. Don't use any of those environment variables as sources of randomness and be aware that use of these variables introduces a certain level of trust into miners.

Source File

- CorkToken.sol

Locations

```
1037   {
1038   require(
1039   blockNumber < block.number,
1040   "CORK::getPriorVotes: not yet determined"
1041   );
1042
```

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