PILL

Smart Contract Audit Report

SYSFIXED

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
PILL	PILL	Binance Smart Chain

Addresses

Contract address	0x4dF4dA5Ed5A9D8Ea689d40a793C79d3Bf341007B
Contract deployer address	0x5c87E407D13134987D91EC9E218C857E0EdfAdcb

Project Website

https://www.pillbomb.info/

Codebase

https://bscscan.com/address/0x4dF4dA5Ed5A9D8Ea689d40a793C79d3Bf341007B#code

SUMMARY

PILL is a WEB3 protocol. Holders of $PILL tokens vote to decide the release of "PILL bombs". Each Pill bomb contains 10,000$ explosives, and all proceeds belong to the holders!

Contract Summary

Documentation Quality

PILL 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 PILL with the discovery of several low issues.

Test Coverage

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

Audit Findings Summary

- SWC-100 SWC-108 | Explicitly define visibility for all state variables on lines 390 and 409.
- SWC-101 | It is recommended to use vetted safe math libraries for arithmetic operations consistently on lines 35, 47, 57, 58, 69, 81, 401, 401, 402, 402, 524, 530, 624 and 625.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 6.
- SWC-110 SWC-123 | It is recommended to use of revert(), assert(), and require() in Solidity, and the new REVERT opcode in the EVM on lines 647 and 648.

CONCLUSION

We have audited the PILL project released on February 2023 to discover issues and identify potential security vulnerabilities in NaPILL aFile 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 a satisfactory result with some low-risk issues.

The issues found in the PILL smart contract code 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 some arithmetic operation issues, a floating pragma is set, a state variable visibility is not set and out of bounds array access which the index access expression can cause an exception in case of the use of an invalid array index value.

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.	ISSUE FOUND
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows.	ISSUE FOUND
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.	ISSUE FOUND
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.	PASS
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.	PASS
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	Wednesday Feb 01 2023 09:49:43 GMT+0000 (Coordinated Universal Time)
Finished	Thursday Feb 02 2023 13:45:32 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	PILL.sol

Detected Issues

ID	Title	Severity	Status
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged

SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged
SWC-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 35

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
34   function add(uint256 a, uint256 b) internal pure returns (uint256) {
35   uint256 c = a + b;
36   require(c >= a, "SafeMath: addition overflow");
37
38   return c;
39
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 47

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
46   require(b <= a, errorMessage);
47   uint256 c = a - b;
48
49   return c;
50   }
51
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 57

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
56
57   uint256 c = a * b;
58   require(c / a == b, "SafeMath: multiplication overflow");
59
60   return c;
61
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 58

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
57   uint256 c = a * b;
58   require(c / a == b, "SafeMath: multiplication overflow");
59
60   return c;
61   }
62
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 69

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
68   require(b > 0, errorMessage);
69   uint256 c = a / b;
70   // assert(a == b * c + a % b); // There is no case in which this doesn't hold
71
72   return c;
73
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 81

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
80   require(b != 0, errorMessage);
81   return a % b;
82   }
83   }
84
85
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 401

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
400
401   uint256 private _totalSupply = 1000_000_000 * 10 ** _decimals;
402   uint256 private minimumTokensBeforeSwap = 2000000 * 10 ** _decimals;
403
404   bool public tradeOpen = false;
405
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 401

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
400
401   uint256 private _totalSupply = 1000_000_000 * 10 ** _decimals;
402   uint256 private minimumTokensBeforeSwap = 2000000 * 10 ** _decimals;
403
404   bool public tradeOpen = false;
405
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 402

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
401   uint256 private _totalSupply = 1000_000_000 * 10 ** _decimals;
402   uint256 private minimumTokensBeforeSwap = 2000000 * 10 ** _decimals;
403
404   bool public tradeOpen = false;
405
406
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 402

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
401   uint256 private _totalSupply = 1000_000_000 * 10 ** _decimals;
402   uint256 private minimumTokensBeforeSwap = 2000000 * 10 ** _decimals;
403
404   bool public tradeOpen = false;
405
406
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 524

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
523   _marketingFee = value;
524   _totalTax = _marketingFee + _lpFee;
525   require(_totalTax <= 20, "Total fee is over 20%");
526   }
527
528
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 530

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
529   _lpFee = value;
530   _totalTax = _marketingFee + _lpFee;
531   require(_totalTax <= 20, "Total fee is over 20%");
532   }
533
534
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 624

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
623   if(leftBNB > 0)
624   transferToAddressETH(marketingWallet1, leftBNB/2);
625   transferToAddressETH(marketingWallet2, leftBNB/2);
626   }
627
628
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 625

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- PILL.sol

Locations

```
624   transferToAddressETH(marketingWallet1, leftBNB/2);
625   transferToAddressETH(marketingWallet2, leftBNB/2);
626   }
627
628   function addLiquidity(uint256 tokenAmount, uint256 ethAmount) private {
629
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 6

low SEVERITY

The current pragma Solidity directive is ""^0.8.15"". 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

- PILL.sol

Locations

```
5   // SPDX-License-Identifier: Unlicensed
6   pragma solidity ^0.8.15;
7
8   abstract contract Context {
9
10
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 390

low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "_balances" is internal. Other possible visibility settings are public and private.

Source File

- PILL.sol

Locations

```
389
390   mapping (address => uint256) _balances;
391   mapping (address => mapping (address => uint256)) private _allowances;
392
393   mapping (address => bool) public isExcludedFromFee;
394
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 409

low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "inSwapAndLiquify" is internal. Other possible visibility settings are public and private.

Source File

- PILL.sol

Locations

```
408
409   bool inSwapAndLiquify;
410   bool public swapAndLiquifyEnabled = true;
411   bool public swapAndLiquifyByLimitOnly = false;
412
413
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 647

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- PILL.sol

Locations

```
646   address[] memory path = new address[](2);
647   path[0] = address(this);
648   path[1] = uniswapV2Router.WETH();
649
650   _approve(address(this), address(uniswapV2Router), tokenAmount);
651
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 648

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- PILL.sol

Locations

```
647   path[0] = address(this);
648   path[1] = uniswapV2Router.WETH();
649
650   _approve(address(this), address(uniswapV2Router), tokenAmount);
651
652
```

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This is a limited report on our findings based on our analysis, in accordance with good industry practice as of 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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