



SMART CONTRACT SECURITY AUDIT

WATCHTOWER

DISCLAIMER

Watchtower has completed this report to provide a summary of the Smart Contract functions, and any security, dependency or cybersecurity vulnerabilities. This is often a constrained report on our discoveries based on our investigation and understanding of the current programming versions as at the date of this report. In order to understand the full scope of our analysis, it is vital for you to review the complete report. Although we have done our best in conducting our investigation and creating this report, it is vital to note that you should not depend on this report and cannot make any claim against Watchtower or its Subsidiaries and Team members on the premise of what has or has not been included in the report. Please remember to conduct your own independent examinations before making any investment choices. We do not provide investment advice or in any way claim to determine if the project will be successful or not.

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ABOUT THE AUDITOR:

Watchtower is an Anti-Scam Token Utility which reviews Smart Contracts and Token information to Identify Rug Pull and Honey Pot scamming activity.

Watchtowers Development Team consists of a number of Smart Contract creators, Auditors Developers and Blockchain experts.

Watchtowers Website Scanner reviews a number of Risk factors to provide an adequate Risk summary of token projects.

In Addition to this the team also helps with Creation of Smart Contracts for legitimate projects, Audits and Promotion.





OVERVIEW

Watchtower was commissioned by AppleSwap Token to complete a Smart Contract audit.

The objective of the Audit is to achieve the following:

- Review the Project and experience and Development team
- Ensure that the Smart Contract functions are necessary and operate as intended.
- Identify any vulnerabilities in the Smart Contract code.

DISCLAIMER: This Audit is intended to inform about token Contract Risks, the result does not imply an endorsement or provide financial advice in any way, All investments are made at your own risk.

(<https://www.cryptowatchtower.io/>)



SMART CONTRACT REVIEW



Contract Created on the 12th November 2021

Solidity compiler v0.6.12

Contract name	AppleSwap
Contract address	0xBdbD5A8179c9BA78327a50A8C0454c6F93bC4ce2
Total supply	30,000,000
Token ticker	APPLE
Decimals	9
Token holders	4
Transactions count	8
Top 5 holders dominance	Presale with Pinksale on 25/11
Tax fee	10%
Total fees	10% ~ BUY / 18% ~ SELL
Contract deployer address	0x2454e383BdE9401C13f00555D004592A94D7cB2d
Contract's current owner address	0x2454e383BdE9401C13f00555D004592A94D7cB2d



Project Overview



Project Details: (Website: <https://www.appleswap.trade/>)

AppleSwap is a new Decentralised Exchange (DEX) created on the Binance Smart Chain. The Token created is designed to reward Holders with reflections in USDT. The Project will have Passive staking, Swaps and NFT's .

Tokenomics:

Supply: 30,000,000 (30 Million)

10% Tax for Buys and 18% for Sells comprising of:

BUYS:

4% Rewards is USDT

4% Marketing

2% Liquidity

SELLS:

8% Rewards is USDT

8% Marketing

2% Liquidity

Team Review:

Watchtower reviewed a number of factors including the teams background and Cryptocurrency experience, social media interaction and availability, project momentum, token risks and community trust score.

The AppleSwap team have a good understanding of development and cryptocurrency. They have a team of passionate and experienced devs.

Their Social Media has close to 4,000 followers with a few days left before the pre-sale launch so this is expected to grow.

TEAM DOXXED:

The team have been Doxxed on their website and the details have been recorded by Watchtower.



CONTRACT FUNCTIONS DETAILS

Functions (Public)

This contract has 25 available public functions which the owner can call.

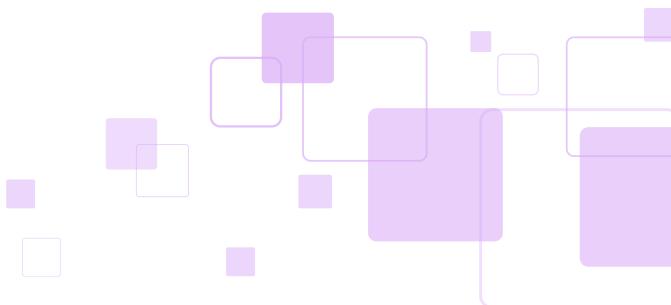
These functions were identified to be safe and can be viewed on BSC Scan or through a DAPP.

LINK:

<https://bscscan.com/token/0xbdbd5a8179c9ba78327a50a8c0454c6f93bc4ce2#writeContract>

Function risks:

-No Scam Functions Identified!



Contract Stress Test

Imported Libraries / Interfaces

- Context
- Ownable
- IERC20
- IERC20 Metadata
- DividendPayingTokenOptionalInterface
- DividendPayingTokenInterface
- SafeMathInt
- SafeMathUint
- SafeMath
- ERC20
- DividendPayingToken (<https://github.com/roger-wu>) + edits
- IterableMapping
- IUniswapV2Router
- IUniswapV2Factory
- IUniswapV2Pair

Overview

1. ADDITION OF COMMENTS:	8
2. CALL STACK DEPTH ATTACK:	10
3. TIME STAMP DEPENDENCY:	10
4. PARTY MULTISIG BUG:	10
5. USE OF LIBRARIES/DEPENDENCIES (FROM TRUSTED SOURCES):	10
a. TRANSACTION-ORDERING DEPENDENCY:	10
6. ACCESS CONTROL AND AUTHORIZATION:	10
7. REENTRANCY ATTACKS:	10
8. ERC/BEP STANDARD VIOLATIONS:	10
9. USAGE OF VISIBILITY LEVELS:	10



ISSUES CHECKING STATUS



Issue description	Checking status
1. Compiler errors.	Passed
2. Race conditions and Reentrancy. Cross-function race conditions.	Passed
3. Possible delays in data delivery.	Passed
4. Oracle calls.	Passed
5. Front running.	Passed
6. Timestamp dependence.	Passed
7. Integer Overflow and Underflow.	Passed
8. DoS with Revert.	Passed
9. DoS with block gas limit.	Passed
10. Methods execution permissions.	Passed



Issue description	Checking status
11. Economy model of the contract.	Passed
12. The impact of the exchange rate on the logic.	Passed
13. Private user data leaks.	Passed
14. Malicious Event log.	Passed
15. Scoping and Declarations.	Passed
16. Uninitialized storage pointers.	Passed
17. Arithmetic accuracy.	Passed
18. Design Logic.	Passed
19. Cross-function race conditions.	Passed
20. Safe Open Zeppelin contracts implementation and usage.	Passed
21. Fallback function security.	Passed



SECURITY ISSUES



High Severity Issues

Nil



Medium Severity Issues

Wrong Code:

In `_transfer()` , the value `sellTokens` represent the tokens that get swapped for rewards but it is equal to the whole remaining balance. Instead it should be:
`uint256 sellTokens = contractTokenBalance.mul(USDTSELLRewardsFee).div(totalSellFees);`

Same issue in the "buy case".



SECURITY ISSUES



Low Severity Issues

Gas Efficiency:

In _transfer()

1. In Sell section this if statement is always true if the first if is already verified
//Line 365

```
if(automatedMarketMakerPairs[to]){
    fees += amount.mul(1).div(100);
}
```

2. In Buy section this if statement is always false if the first if is false
//Line 423

```
if(automatedMarketMakerPairs[to]){
    fees += amount.mul(1).div(100);
}
```



CONCLUSION



Watchtower reviewed AppleSwaps' deployed and verified contract to conduct this audit.

**Watchtower is satisfied that the contract has no malicious coding.
The team is using Pinksale to complete their pre sale and**

Watchtower Disclaimer:

Please check the disclaimer page and note, this Audit is intended to inform about token Contract Risks, the result does not imply an endorsement or in any way provide financial advice, please do your own research. By reading this report you accept and agree to the disclaimer and understand investments are made at your own risk.

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