



# Audit Report

## **PETWARS**

February 2022

Type	BEP20
Network	BSC
Address	0xF42cfbeaF56EF778E20e699E0794c3b8953ee39a
Audited by	© coinscope

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## Contract Review

<b>Contract Name</b>	PWARS
<b>Compiler Version</b>	v0.8.11+commit.d7f03943
<b>Optimization</b>	200 runs
<b>Licence</b>	MIT
<b>Explorer</b>	<a href="https://bscscan.com/token/0xF42cfbeaF56EF778E20e699E0794c3b8953ee39a">https://bscscan.com/token/0xF42cfbeaF56EF778E20e699E0794c3b8953ee39a</a>
<b>Symbol</b>	PWARS
<b>Decimals</b>	9
<b>Total Supply</b>	10,000,000,000
<b>Source</b>	contract.sol
<b>Domain</b>	

## Audit Updates

<b>Initial Audit</b>	20th February 2022
<b>Corrected</b>	

# Contract Analysis

● Critical
 ● Medium
 ● Minor
 ● Pass

Severity	Code	Description
●	ST	Contract Owner is not able to stop or pause transactions
●	OCTD	Contract Owner is not able to transfer tokens from specific address
●	OTUT	Owner Transfer User's Tokens
●	ELFM	Contract Owner is not able to increase fees more than a reasonable percent (25%)
●	ULTW	Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent
●	MT	Contract Owner is not able to mint new tokens
●	BT	Contract Owner is not able to burn tokens from specific wallet
●	BC	Contract Owner is not able to blacklist wallets from selling

# Contract Diagnostics

● Critical    ● Medium    ● Minor

Severity	Code	Description
●	CO	Code Optimization
●	L01	Public Function could be Declared External
●	L02	State Variables could be Declared Constant
●	L05	Unused State Variable
●	L04	Conformance to Solidity Naming Conventions
●	L09	Dead Code Elimination
●	L12	Using Variables before Declaration
●	L07	Missing Events Arithmetic
●	L14	Uninitialized Variables in Local Scope

## CO - Code Optimization

<b>Criticality</b>	minor
<b>Location</b>	contract.sol#L1591

### Description

There are code segments that could be optimized. A segment may be optimized so that it becomes a smaller size, consumes less memory, executes more rapidly, or performs fewer operations.

The process of swapping tokens for BNB is taking place three times during the liquidation feature. The process of swapping tokens for BNB is producing gas.

```
uint256 feeTokens =  
contractTokenBalance.mul(marketingFee.add(buybackFee).add(charityFee)).div(total  
Fees);  
swapAndSendToFee(feeTokens);  
  
uint256 swapTokens = contractTokenBalance.mul(liquidityFee).div(totalFees);  
swapAndLiquify(swapTokens);  
  
uint256 sellTokens = balanceOf(address(this));  
swapAndSendDividends(sellTokens);
```

### Recommendation

The process of swapping tokens for BNB could be happened once for the total amount of tokens. Then, the swapped BNB could be distributed according to the requirements.

## L01 - Public Function could be Declared External

**Criticality**

minor

**Location**

contract.sol#L282,291,509,513,520,526,715,723,740,766 and 21 more

### Description

Public functions that are never called by the contract should be declared external to save gas.

```
process
getAccountAtIndex
dividendTokenBalanceOf
withdrawableDividendOf
isExcludedFromMaxTx
isExcludedFromFees
updateGasForProcessing
setAutomatedMarketMakerPair
burn
...
```

### Recommendation

Use the external attribute for functions never called from the contract



## L02 - State Variables could be Declared Constant

**Criticality**

minor

**Location**

contract.sol#L1209,1202

### Description

Constant state variables should be declared constant to save gas.

```
enableAntiBot  
deadWallet
```

### Recommendation

Add the constant attribute to state variables that never change.

## L05 - Unused State Variable

**Criticality**

minor

**Location**

contract.sol#L23

### Description

There are segments that contain unused state variables.

```
MAX_INT256
```

### Recommendation

Remove unused state variables.

## L04 - Conformance to Solidity Naming Conventions

<b>Criticality</b>	minor
<b>Location</b>	contract.sol#L300,448,449,466,1104,1111,1118,1128,1030,1036 and 20 more

### Description

Solidity defines a naming convention that should be followed. Rule exceptions:

- Allow constant variable name/symbol/decimals to be lowercase.
- Allow \_ at the beginning of the mixed\_case match for private variables and unused parameters.

```
_account  
_charityWalletAddress  
_buybackWalletAddress  
_marketingWalletAddress  
SELLtotalFees  
SELLcharityFee  
SELLbuybackFee  
SELLmarketingFee  
SELLliquidityFee  
...
```

### Recommendation

Follow the Solidity naming convention.

<https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions>

## L09 - Dead Code Elimination

**Criticality**

minor

**Location**

contract.sol#L240,1138,203,219,69,40,28

### Description

Functions that are not used in the contract, and make the code's size bigger.

```
mul
div
abs
mod
_transfer
_msgData
```

### Recommendation

Remove unused functions.

## L12 - Using Variables before Declaration

**Criticality**

minor

**Location**

contract.sol#L1651

### Description

The contract is using a variable before the declaration. This is usually happening either if it has not been declared yet or the variable has been declared in a different scope.

```
claims  
lastProcessedIndex  
iterations
```

### Recommendation

The variables should be declared before any usage of them.

## L07 - Missing Events Arithmetic

**Criticality**

minor

**Location**

contract.sol#L1407,1418,1437,1443

### Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes.

```
swapTokensAtAmount = amount  
maxTxAmount = maxTx  
SELLBNBRewardsFee = newRewardFee  
BUYBNBRewardsFee = newRewardFee
```

### Recommendation

Emit an event for critical parameter changes.

## L14 - Uninitialized Variables in Local Scope

**Criticality**

minor

**Location**

contract.sol#L1651

### Description

There are variables that are defined in the local scope and are not initialized.

```
lastProcessedIndex  
iterations  
claims
```

### Recommendation

All the local scoped variables should be initialized.

# Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
<b>SafeMathUint</b>	Library			
	toInt256Safe	Internal		
<b>SafeMathInt</b>	Library			
	mul	Internal		
	div	Internal		
	sub	Internal		
	add	Internal		
	abs	Internal		
	toUint256Safe	Internal		
<b>SafeMath</b>	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
<b>Context</b>	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
<b>Ownable</b>	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner



	transferOwnership	Public	✓	onlyOwner
<b>IUniswapV2Router01</b>	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
	removeLiquidity	External	✓	-
	removeLiquidityETH	External	✓	-
	removeLiquidityWithPermit	External	✓	-
	removeLiquidityETHWithPermit	External	✓	-
	swapExactTokensForTokens	External	✓	-
	swapTokensForExactTokens	External	✓	-
	swapExactETHForTokens	External	Payable	-
	swapTokensForExactETH	External	✓	-
	swapExactTokensForETH	External	✓	-
	swapETHForExactTokens	External	Payable	-
	quote	External		-
	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-
	getAmountsIn	External		-
<b>IUniswapV2Router02</b>	Interface	IUniswapV2Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
<b>IUniswapV2Pair</b>	Interface			

r				
	name	External		-
	symbol	External		-
	decimals	External		-
	totalSupply	External		-
	balanceOf	External		-
	allowance	External		-
	approve	External	✓	-
	transfer	External	✓	-
	transferFrom	External	✓	-
	DOMAIN_SEPARATOR	External		-
	PERMIT_TYPEHASH	External		-
	nonces	External		-
	permit	External	✓	-
	MINIMUM_LIQUIDITY	External		-
	factory	External		-
	token0	External		-
	token1	External		-
	getReserves	External		-
	price0CumulativeLast	External		-
	price1CumulativeLast	External		-
	kLast	External		-
	mint	External	✓	-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	External	✓	-
<b>IUniswapV2Factory</b>	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-

	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
<b>IterableMapping</b>	Library			
	get	Public		-
	getIndexOfKey	Public		-
	getKeyAtIndex	Public		-
	size	Public		-
	set	Public	✓	-
	remove	Public	✓	-
<b>IERC20</b>	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
<b>IERC20Metadata</b>	Interface	IERC20		
	name	External		-
	symbol	External		-
	decimals	External		-
<b>ERC20</b>	Implementation	Context, IERC20, IERC20Metadata		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-

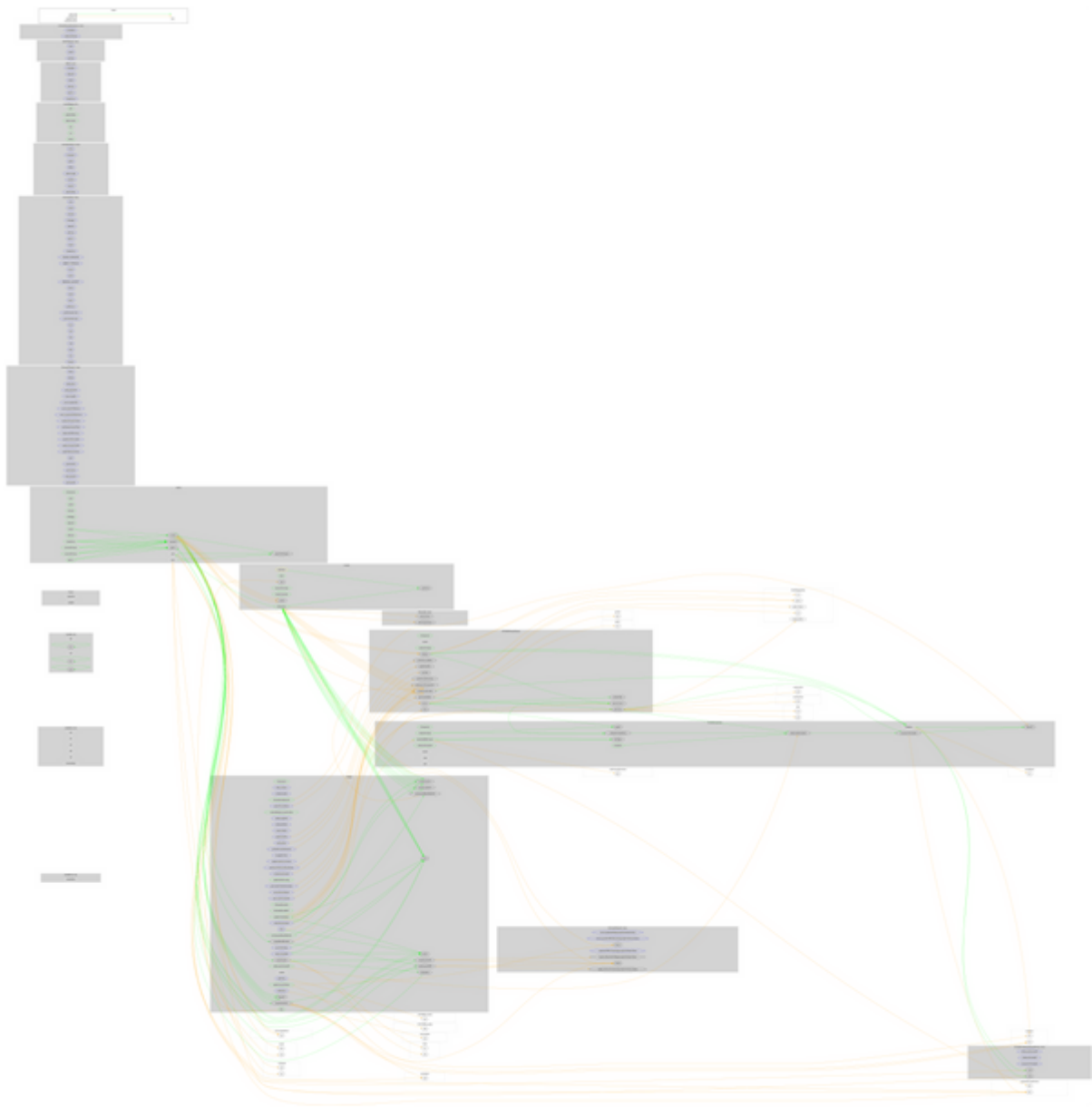
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	_transfer	Internal	✓	
	_mint	Internal	✓	
	_burn	Internal	✓	
	_approve	Internal	✓	
	_beforeTokenTransfer	Internal	✓	
<b>DividendPayingTokenOptionalInterface</b>	Interface			
	withdrawableDividendOf	External		-
	withdrawnDividendOf	External		-
	accumulativeDividendOf	External		-
<b>DividendPayingTokenInterface</b>	Interface			
	dividendOf	External		-
	withdrawDividend	External	✓	-
<b>DividendPayingToken</b>	Implementation	ERC20, Ownable, DividendPayingTokenInterface, DividendPayingTokenOptionalInterface		
	<Constructor>	Public	✓	ERC20
	distributeBNBDividends	Public	✓	onlyOwner
	withdrawDividend	Public	✓	-
	_withdrawDividendOfUser	Internal	✓	
	dividendOf	Public		-

	withdrawableDividendOf	Public		-
	withdrawnDividendOf	Public		-
	accumulativeDividendOf	Public		-
	_transfer	Internal	✓	
	_mint	Internal	✓	
	_burn	Internal	✓	
	_setBalance	Internal	✓	
<b>IPinkAntiBot</b>	Interface			
	setTokenOwner	External	✓	-
	onPreTransferCheck	External	✓	-
<b>PWARS</b>	Implementation	ERC20, Ownable		
	<Constructor>	Public	✓	ERC20
	<Receive Ether>	External	Payable	-
	setEnableAntiBot	External	✓	onlyOwner
	updateDividendTracker	Public	✓	onlyOwner
	updateUniswapV2Router	Public	✓	onlyOwner
	excludeFromFees	Public	✓	onlyOwner
	excludeMultipleAccountsFromFees	Public	✓	onlyOwner
	excludeFromMaxTx	Public	✓	onlyOwner
	setMarketingWallet	External	✓	onlyOwner
	setBuybackWallet	External	✓	onlyOwner
	setCharityWallet	External	✓	onlyOwner
	setBUYFee	External	✓	onlyOwner
	setSELLFee	External	✓	onlyOwner
	whitelistPresaleAddress	External	✓	onlyOwner
	changeMaxTxSize	External	✓	onlyOwner
	changeSwapTokensAtAmount	External	✓	onlyOwner
	burn	Public	✓	onlyOwner
	setAutomatedMarketMakerPair	Public	✓	onlyOwner
	_setAutomatedMarketMakerPair	Private	✓	
	updateGasForProcessing	Public	✓	onlyOwner
	updateClaimWait	External	✓	onlyOwner
	getClaimWait	External		-

	getTotalDividendsDistributed	External		-
	isExcludedFromFees	Public		-
	isExcludedFromMaxTx	Public		-
	withdrawableDividendOf	Public		-
	dividendTokenBalanceOf	Public		-
	excludeFromDividends	External	✓	onlyOwner
	getAccountDividendsInfo	External		-
	getAccountDividendsInfoAtIndex	External		-
	processDividendTracker	External	✓	-
	claim	External	✓	-
	getLastProcessedIndex	External		-
	getNumberOfDividendTokenHolders	External		-
	_transfer	Internal	✓	
	withdrawStuckBNB	External	✓	onlyOwner
	removeStuckToken	External	✓	onlyOwner
	swapAndSendToFee	Private	✓	
	swapAndLiquify	Private	✓	
	swapTokensForEth	Private	✓	
	swapTokensForBNB	Private	✓	
	addLiquidity	Private	✓	
	swapAndSendDividends	Private	✓	
<b>PETWARSDividendTracker</b>	Implementation	Ownable, DividendPay ingToken		
	<Constructor>	Public	✓	DividendPayin gToken
	_transfer	Internal		
	withdrawDividend	Public		-
	excludeFromDividends	External	✓	onlyOwner
	updateClaimWait	External	✓	onlyOwner
	getLastProcessedIndex	External		-
	getNumberOfTokenHolders	External		-
	getAccount	Public		-
	getAccountAtIndex	Public		-
	canAutoClaim	Private		

	setBalance	External	✓	onlyOwner
	process	Public	✓	-
	processAccount	Public	✓	onlyOwner

# Contract Flow





## Summary

The Project has a friendly and growing community. The Smart Contract analysis reported no compiler error or critical issues. The contract Owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions. There is also a limit of max 11% sale and 7% buy fees.

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CoinScope is aiming to make crypto discoverable and efficient globally. It provides all the essential tools to assist users draw their own conclusions.



The Coinscope.co team

<https://www.coinscope.co>