



**For Pumped Shiba**  
**23 Feb 2022**



# **Smart Contract Security Assessment**

## **Final Report**



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The audit report has made all reasonable attempts to provide clear and articulate recommendations to the Project team with respect to the rectification, amendment and/or revision of any highlighted issues, vulnerabilities or exploits within the contracts provided. It is the sole responsibility of the Project team to sufficiently test and perform checks, ensuring that the contracts are functioning as intended, specifically that the functions therein contained within said contracts have the desired intended effects, functionalities and outcomes of the Project team.



# 1 Overview

This report has been prepared for Pumped Shiba on the Binance Smart Chain (BSC).

Maxloop provides a user-centred examination of the smart contracts to look for vulnerabilities, logic errors or other issues from both an internal and external perspective.

## 1.1 Summary

Project Name	Pumped Shiba
URL	<a href="https://pumpedshiba.com/">https://pumpedshiba.com/</a>
Platform	Binance Smart Chain
Language	Solidity

## 1.2 Contracts Assessed

Name	Contract	Live Code Match
Pumped Shiba	0xEe4E35B013b4039d8F5378b8109EDB4fADB47DD0	 MATCH
Pumped Shiba.sol/SHA256	68051a8245bf547c65085c033e1d71dd9088cca139479e1ca7757a1f5c9d41c4	 MATCH



# Audit Summary

Delivery Date	Feb. 23th, 2022
Method of Audit	Static Analysis, Manual Review
Consultants Engaged	2
Timeline	Feb. 21, 2022 - Feb. 23, 2022

## 1.3 Findings Summary

Severity	Found	Resolved	Partially Resolved	Acknowledged (no change made)
● High	0	-	-	-
● Medium	0	-	-	-
● Low	3	1	-	2
● Informational	1	-	-	1
Total	4	1	-	3

## Classification of Issues

Severity	Description
● High	Exploits, vulnerabilities or errors that will certainly or probabilistically lead towards loss of funds, control, or impairment of the contract and its functions. Issues under this classification are recommended to be fixed with utmost urgency.



● <b>Medium</b>	Bugs or issues with that may be subject to exploit, though their impact is somewhat limited. Issues under this classification are recommended to be fixed as soon as possible.
● <b>Low</b>	Effects are minimal in isolation and do not pose a significant danger to the project or its users. Issues under this classification are recommended to be fixed nonetheless.
● <b>Informational</b>	Consistency, syntax or style best practices. Generally pose a negligible level of risk, if any.

### 1.3.1 Pumped ShibaToken

ID	Severity Summary	Status
01	<div>LOW</div> Mint function can be used to pre-mint large amounts of tokens before Ownership is transferred to the <b>Masterchef</b>	RESOLVED

### 1.3.2 Pumped ShibaMasterChef

ID	Severity Summary	Status
01	<div>LOW</div> Inconsistency between deposit fee cap in add and set	ACKNOWLEDGED
02	<div>LOW</div> PendingMondo will show inaccurate pending harvests on the dapp frontend If the pending rewards causes totalSupply to be exceed <b>MAXSUPPLYCAP</b>	ACKNOWLEDGED
03	<div>INFO</div> Total token supply might not be minted due to try and catch pattern	ACKNOWLEDGED



## 2 Findings

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### 2.1 Pumped ShibaToken

The Pumped Shiba token is a simple BEP-20 token which will be used as the main reward token for the Masterchef. The contract allows for Pumped Shiba tokens to be minted when the mint function is called by the contract Owner, who at the time of deployment would be the deployer. Ownership is generally transferred to the Masterchef via the transferOwnership function for emission rewards to be minted and distributed to users staking in the Masterchef. The token has a max supply cap of 42,000,000.

#### 2.1.1 Token Overview

<b>Address</b>	<b>0xEe4E35B013b4039d8F5378b8109EDB4fADB47DD0</b>
<b>Token Supply</b>	42,000,000
<b>Decimal Places</b>	13
<b>Transfer Max Size</b>	No Maximum
<b>Transfer Min Size</b>	No Maximum
<b>Transfer Fee</b>	None
<b>Wallet Max Size</b>	10%



## 2.1.2 Privileges

The following functions can be called by the owner of the contract:

- mint
- renounceOwnership
- transferOwnership

## 2.1.3 Issues & Recommendations

### Issue #01

**mint function can be used to pre-mint large amounts of tokens before ownership is transferred to the Masterchef**

#### Severity

LOW SEVERITY

#### Description

The mint function could be used to pre-mint tokens for legitimate uses including, but not limited to, the injection of initial liquidity, token presale, or airdrops; however, this function may also be used to pre-mint and dump tokens when the token contract has been deployed but before ownership is set to the Masterchef contract.

This risk is prevalent amongst less-reputable projects, and any pre-mints can be prominently seen on the Blockchain.

#### Recommendation

Consider being forthright if this mint function is to be used by letting your community know how much was minted, where they are currently stored, if a vesting contract was used for token unlocking, and finally the purpose of the mints.

#### Resolution

RESOLVED

42,000,000 tokens were pre-minted and ownership has been transferred to the Masterchef.



## 2.2.1 Privileges

The following functions can be called by the owner of the Masterchef:

- add
- set
- updateEmissionRate
- updateStartTimestamp
- transferOwnership
- renounceOwnership

The following functions can be called by the DevAddr of the Masterchef:

- setDevAddress

The following functions can be called by the FeeAddr of the Masterchef:

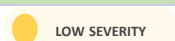
- setFeeAddress

## 2.2.2 Issues & Recommendations

Issue #02

Inconsistency between deposit fee cap in add and set

Severity





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## Description

For deposit fees, while add has a max cap of 8%, set has a max cap of 4%.

add: Line 1136 require( $\_depositFeeBP \leq 800$ , "add: invalid deposit fee basis points");

set: Line 1159 require( $\_depositFeeBP \leq 400$ , "set: invalid deposit fee basis points");

This behavior is inconsistent, and could allow the owner to add a pool with 8% fee, even if 4% is the expected maximum cap.

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## Recommendation

The Pumped Shiba team should clarify what their maximum cap on the deposit fee is, and ensure that checks in both add and set use the same value. It is encouraged to use the lower value as the cap.

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## Resolution

ACKNOWLEDGED


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## Issue #03

**pendingPumped Shiba will show inaccurate pending harvests on the dapp frontend if the pending rewards causes totalSupply to be exceed MAXSUPPLYCAP**

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## Severity

 LOW SEVERITY



## Location

Similarly to updatePool, pendingPumped Shiba does not check if the pending rewards will cause the total supply to exceed the MAXSUPPLYCAP.

This can cause inaccurate pending harvests to be shown towards the end of token emissions.

## Description

Consider factoring in the MAXSUPPLYCAP, and set the pending reward to be the difference between MAXSUPPLYCAP and totalSupply if the pending reward causes totalSupply to exceed MAXSUPPLYCAP.

```
uint256 Pumped ShibaReward = multiplier.mul(Pumped  
ShibaPerBlock).mul(pool.allocPoint).div(total AllocPoint);
```

```
if (Pumped Shiba.totalSupply().add(Pumped  
ShibaReward) > Pumped Shiba.maxSupply()) { Pumped  
ShibaReward =  
Pumped Shiba.maxSupply().sub(Pumped  
Shiba.totalSupply()); }
```

```
accPumped ShibaPerShare = accPumped ShibaPerShare.add(Pumped  
ShibaReward.mul(1e18).div(pool.lpSupply ));
```

## Recommendation

pendingPumped Shiba will show inaccurate pending harvests on the dapp frontend if the pending rewards causes totalSupply to be exceed MAXSUPPLYCAP.

## Resolution

ACKNOWLEDGED



**Issue #04****Total token supply might not be minted due to try and catch pattern****Severity**

INFORMATIONAL

**Description**

As there is a MAXCAPSUPPLY for the Pumped Shiba token, minting the reward and causing the maximum cap to exceed would result in a revert.

```
Pumped ShibaToken::Line 814: require(_totalSupply.add(amount) <=
MAXCAPSUPPLY, "Max supply reached");
```

To prevent this, the following try and catch pattern is done in updatePool.

Line 1209~

```
try Pumped Shiba.mint(devaddr, Pumped ShibaReward.div(10)) {
} catch (bytes memory reason) {    Pumped ShibaReward
= 0;
    emit Pumped ShibaMintError(reason);
}
```

```
try Pumped Shiba.mint(address(this), Pumped ShibaReward) {
} catch (bytes memory reason) {    Pumped ShibaReward
= 0;
    emit Pumped ShibaMintError(reason); }
```

In the case where totalSupply + amount does exceed MAXCAPSUPPLY, the mint will not be done. This means that the token supply could be capped at an amount slightly lower than MAXCAPSUPPLY.

**Recommendation**

Consider minting the difference between MAXCAPSUPPLY and totalSupply, if any.



```

uint256 Pumped ShibaReward = multiplier.mul(Pumped
ShibaPerBlock).mul(pool.allocPoint).div(total AllocPoint);
uint256 devReward = Pumped ShibaReward.div(10); uint256
totalRewards = Pumped
Shiba.totalSupply().add(devReward).add(Pumped ShibaReward);

if (totalRewards <= Pumped Shiba.maxSupply()) {
    // mint dev reward as normal as not at maxSupply
    Pumped Shiba.mint(devaddr, devReward);
} else {
    // update Pumped ShibaReward to difference
    Pumped ShibaReward= Pumped Shiba.maxSupply() - Pumped
Shiba.totalSupply();
}
if (Pumped ShibaReward != 0) {
    // only mint to MC and calculate and update accPumped ShibaPerShare if
Pumped ShibaReward is non 0    Pumped Shiba.mint(address(this), Pumped
ShibaReward);    pool.accPumped ShibaPerShare = pool.accPumped
ShibaPerShare.add(Pumped ShibaReward.mul(1e18).div(pool.lpSupply)); }
pool.lastRewardBlock = block.number;

```

## Resolution

ACKNOWLEDGED



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