



Mars Token

Smart Contract Audit Report

TABLE OF CONTENTS

[Audited Details](#)

- Audited Project
- Blockchain
- Addresses
- Project Website
- Codebase

[Summary](#)

- Contract Summary
- Audit Findings Summary
- Vulnerabilities Summary

[Conclusion](#)

[Audit Results](#)

[Smart Contract Analysis](#)

- Detected Vulnerabilities

[Disclaimer](#)

[About Us](#)

AUDITED DETAILS

Audited Project

| Project name | Token ticker | Blockchain |
|--------------|--------------|---------------|
| Mars Token | MRST | Polygon Matic |

Addresses

| | |
|---------------------------|--|
| Contract address | 0x411bc96881A62572FF33c9d8CE60dF99E3d96cd8 |
| Contract deployer address | 0x829ec8849D7dd60f80026Dce0A06a989ECabd823 |

Project Website

<https://marslabs.co/>

Codebase

<https://polygonscan.com/address/0x411bc96881A62572FF33c9d8CE60dF99E3d96cd8#code>

SUMMARY

Mars Labs is developing a metaverse platform, where everyone can make their dreams come true. In the Mars-themed metaverse platform, there is a small territory (1km in diameter) called a "Colony". Users can own NFT-type Colony, and build a house and/or a commercial building. Also, it is possible to receive a lease using a blockchain-based Smart Contract. By contributing to the Mars: metaverse, users can earn rewards with Mars Token (MRST). The ecosystem is designed to ensure that all the users of the platform can earn MRST through Play-and-Earn (PAE) system.

Contract Summary

Documentation Quality

Mars Token provides a very good documentation with standard of solidity base code.

- The technical description is provided clearly and structured and also don't have any high risk issue.

Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by Mars Token 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 11, 38, 122, 207, 236, 618 and 655.

CONCLUSION

We have audited the Mars Token project released on October 2023 to discover issues and identify potential security vulnerabilities in Mars Token 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 issues found in the Mars Token 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 issue found is a floating pragma is set. 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.

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. | 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 grieving 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 | Tuesday Oct 25 2022 18:12:43 GMT+0000 (Coordinated Universal Time) |
| Finished | Wednesday Oct 26 2022 20:39:50 GMT+0000 (Coordinated Universal Time) |
| Mode | Standard |
| Main Source File | MarsToken.sol |

Detected Issues

[illegible]

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 11

low SEVERITY

The current pragma Solidity directive is `""^0.8.4""`. 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

- MarsToken.sol

Locations

```
10 // SPDX-License-Identifier: MIT
11 pragma solidity ^0.8.4;
12
13 /**
14  * @dev Provides information about the current execution context, including the
15
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 38

low SEVERITY

The current pragma Solidity directive is `""^0.8.4""`. 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

- MarsToken.sol

Locations

```
37
38  pragma solidity ^0.8.4;
39
40  /**
41   * @dev Contract module which provides a basic access control mechanism, where
42
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 122

low SEVERITY

The current pragma Solidity directive is `""^0.8.4""`. 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

- MarsToken.sol

Locations

```
121
122  pragma solidity ^0.8.4;
123
124  /**
125   * @dev Interface of the ERC20 standard as defined in the EIP.
126
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 207

low SEVERITY

The current pragma Solidity directive is `""^0.8.4""`. 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

- MarsToken.sol

Locations

```
206
207  pragma solidity ^0.8.4;
208
209  /**
210   * @dev Interface for the optional metadata functions from the ERC20 standard.
211
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 236

low SEVERITY

The current pragma Solidity directive is `""^0.8.4""`. 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

- MarsToken.sol

Locations

```
235
236  pragma solidity ^0.8.4;
237
238  /**
239   * @dev Implementation of the {IERC20} interface.
240
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 618

low SEVERITY

The current pragma Solidity directive is `""^0.8.4""`. 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

- MarsToken.sol

Locations

```

617
618  pragma solidity ^0.8.4;
619
620  /**
621   * @dev Extension of {ERC20} that allows token holders to destroy both their own
622
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 655

low SEVERITY

The current pragma Solidity directive is `""^0.8.4""`. 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

- MarsToken.sol

Locations

```
654
655  pragma solidity ^0.8.4;
656
657  contract MarsToken is ERC20, ERC20Burnable, Ownable {
658      constructor() ERC20("Mars Token", "MRST") {
659
```


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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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