



Smart Contract Security Audit Report

PolkaFoundry

November 2022

Security Status



www.hacksafe.io



Audit Details



Audited project

PolkaFoundry



Deployer address

0xD955a52F310fFda8766FD671fb78CDCA15dEAa3E



Client contacts

PolkaFoundry Team



Blockchain

Ethereum



Website

<https://polkafoundry.com/>

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at 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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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Procedure

Step 1 - In-Depth Manual Review

Manual line-by-line code reviews to ensure the logic behind each function is sound and safe from various attack vectors. This is the most important and lengthy portion of the audit process (as automated tools often cannot find the nuances that lead to exploits such as flash loan attacks).

Step 2 - Automated Testing

Simulation of a variety of interactions with your Smart Contract on a test blockchain leveraging a combination of automated test tools and manual testing to determine if any security vulnerabilities exist.

Step 3 – Leadership Review

The engineers assigned to the audit will schedule meetings with our leadership team to review the contracts, any comments or findings, and ask questions to further apply adversarial thinking to discuss less common attack vectors.

Step 4 - Resolution of Issues

Consulting with the team to provide our recommendations to ensure the code's security and optimize its gas efficiency, if possible. We assist project team's in resolving any outstanding issues or implementing our recommendations.

Step 5 - Published Audit Report

Boiling down results and findings into an easy-to-read report tailored to the project. Our audit reports highlight resolved issues and any risks that exist to the project or its users, along with any remaining suggested remediation measures. Diagrams are included at the end of each report to help users understand the interactions which occur within the project.

Background

HackSafe was commissioned by PolkaFoundry to perform an audit of smart contracts:

- <https://etherscan.io/token/0x8b39b70e39aa811b69365398e0aace9bee238aeb#code>

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be understood to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Contract Details

Token contract details for 08.11.2022

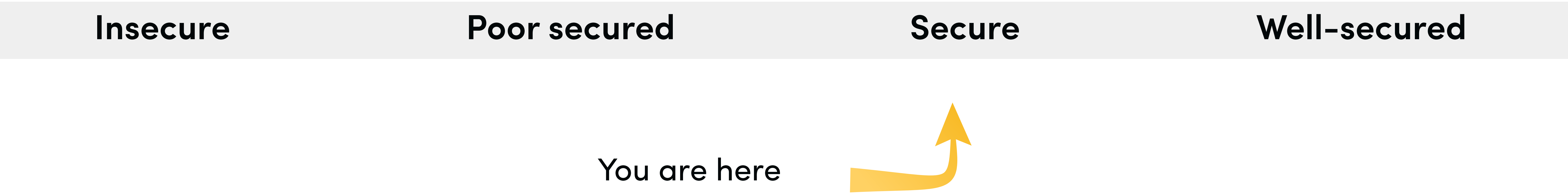
Token Type	: ERC20
Contract name	: PkfToken
Contract address	: 0x8B39B70E39Aa811b69365398e0aACe9bee238AEb
Total supply	: 200,000,000
Token Ticker	: PKF
Decimals	: 18
Token Holders	: 6,218
Transactions count	: 104,236
Compiler version	: v0.5.11+commit.22be8592
Contract deployer address	: 0xD955a52F310fFda8766FD671fb78CDCA15dEAa3E
Owner address	: No owner

Social profiles

Twitter Profile	: https://twitter.com/polkafoundry
Coinmarketcap Profile	: https://coinmarketcap.com/currencies/polkafoundry/
Coingecko profile	: https://www.coingecko.com/en/coins/polkafoundry/
Telegram profile	: https://t.me/polkafoundry
Github profile	: https://github.com/polkafoundry

Audit Summary

According to the standard audit assessment, Customer`s solidity smart contracts are **“Secure”**. This token contract does not contain owner control, which do make it fully decentralized as owner does not have control over smart contract.



We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the issues checking status.

We found 0 critical, 0 high, 0 medium and 2 low and some very low-level issues.

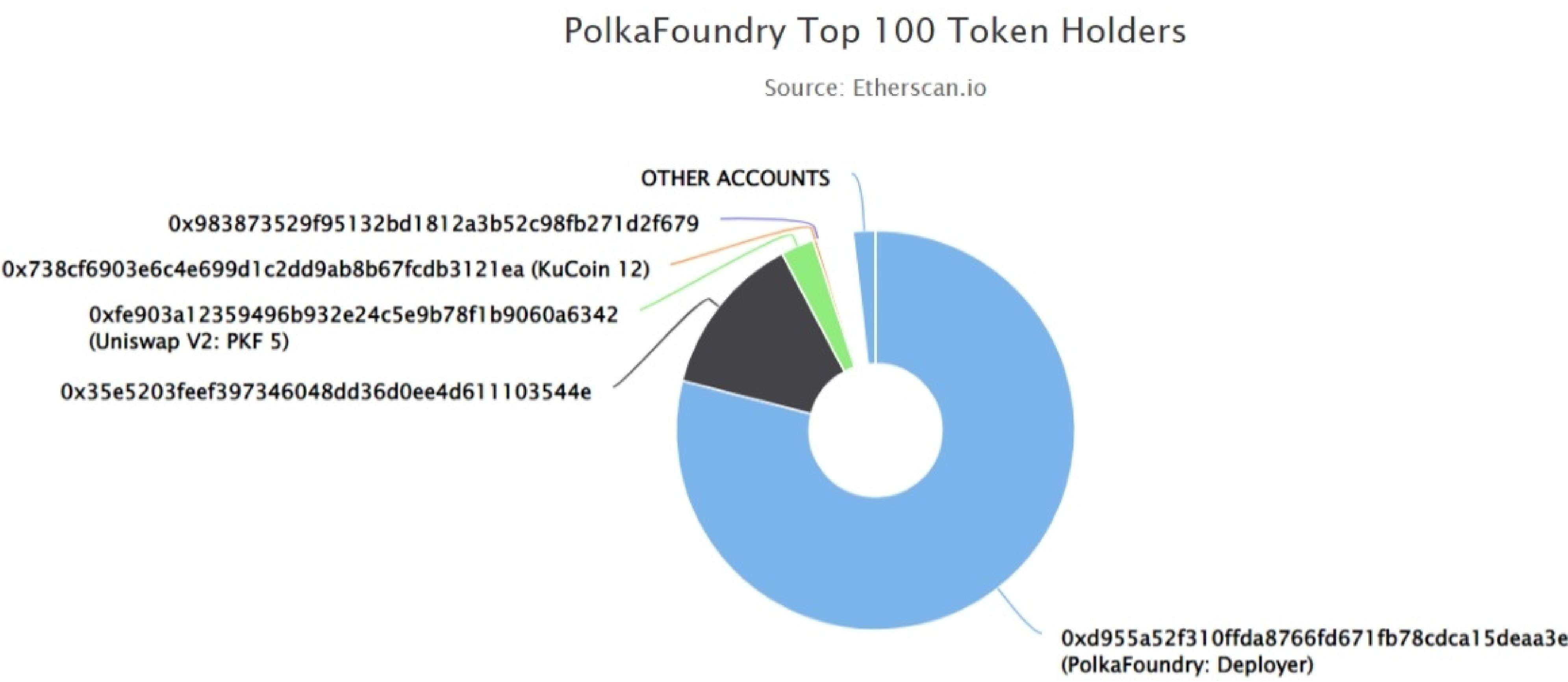
PolkaFoundry Token Distribution

 The top 100 holders collectively own 98.19% (196,381,597.50 Tokens) of PolkaFoundry

 Token Total Supply: 200,000,000.00 Token






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Total Token Holders: 6,217



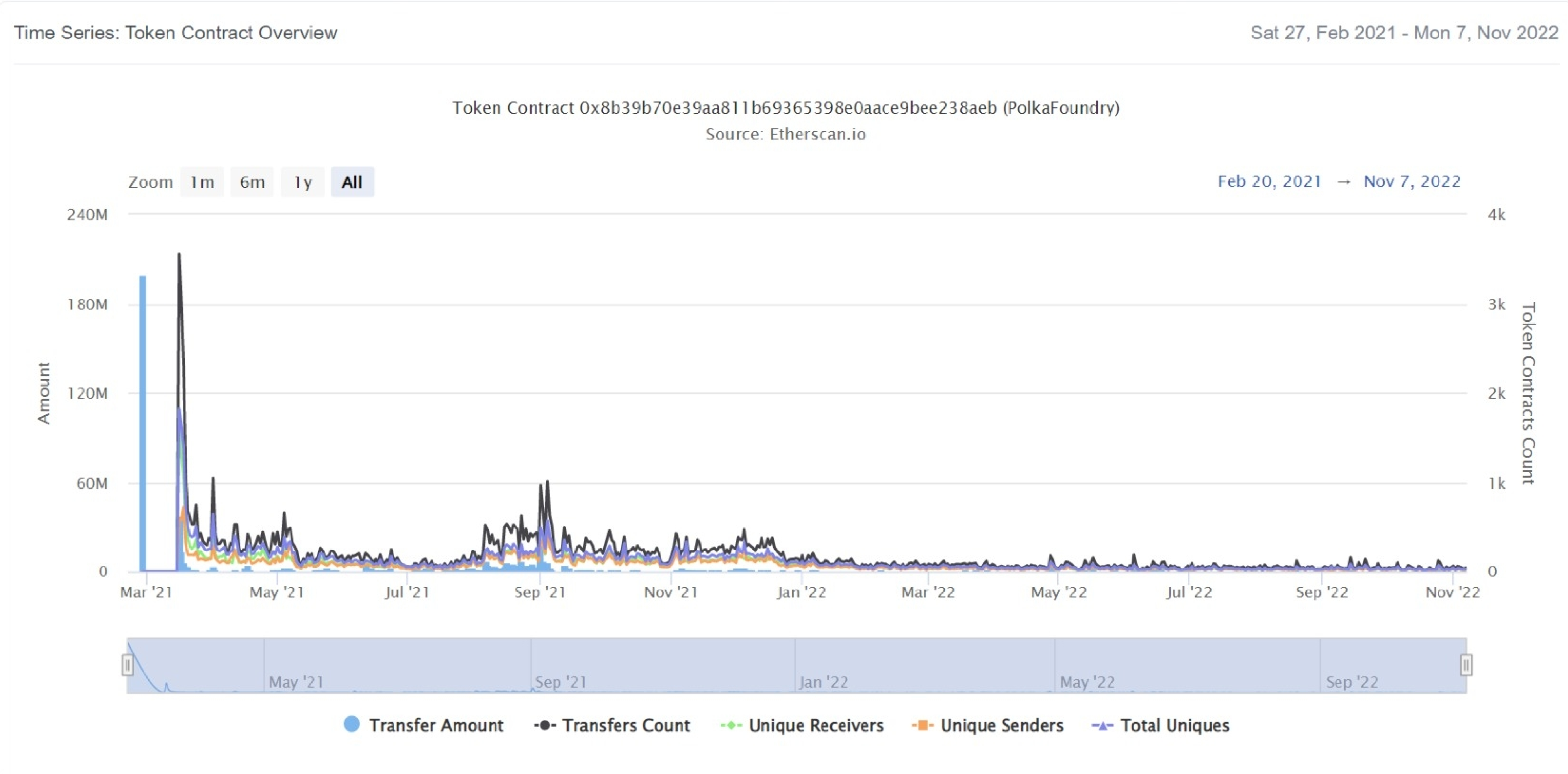
PolkaFoundry Token Top 20 Token Holders

(A total of 196,381,597.50 tokens held by the top 100 accounts from the total supply of 200,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	PolkaFoundry: Deployer	157,998,922.322263814671372213	78.9995%
2	 0x35e5203feef397346048dd36d0ee4d611103544e	26,489,683.450140838242307851	13.2448%
3	 Uniswap V2: PKF 5	5,422,759.763456939031061935	2.7114%
4	KuCoin 12	637,345.757390180398675822	0.3187%
5	0x983873529f95132bd1812a3b52c98fb271d2f679	312,926.104816536821795899	0.1565%
6	0xaf6b9751d69a0a213688bada50d5bd0009a1d502	293,000	0.1465%
7	Gate.io	289,510.369229014091990968	0.1448%
8	0xbc7bf24e8c2a6aec296f7c70ae60e8f7f95fe1a0	263,210.901169561738249558	0.1316%
9	0x67ee5e30eb775c208a89396565a5da9ea66cc0c7	262,733	0.1314%
10	 0xaf0c3666f96ab73a3bdfa55475762aa3107fa471	215,586.948816580810573115	0.1078%
11	0x47c95cfb29744ab8c2079044fa2b42973ab1b9c1	183,250.273686403922456966	0.0916%
12	0xb9b9926dfb2c021fcd8f2366961186a2760716e3	158,382.282650021327449271	0.0792%
13	 0xe2f6b8fc29c64833d2c17dd0f8d9fea3394e5ce9	139,205.152351439766505402	0.0696%
14	0x44bdb19db1cd29d546597af7dc0549e7f6f9e480	131,188.095109955427994122	0.0656%
15	0x67053e9d7584974282801e76b0594ecafae11f84	125,444.496392	0.0627%
16	0xe5f7c20adb9ad5ea9f0d17babeee1104dde576b5	100,000.74551878844602095	0.0500%
17	0xd1d5c3416980365ff8a6129c9f8dd01f387193e2	96,589.874559277646831161	0.0483%
18	 0x184f4e98fba9ef2150d24f8e928963edf08e4183	93,250.273686403922456966	0.0466%
19	0x804ada8c08a2e8ecff1a6535bf28dc4f1eff4f8e	88,704.219177816924373939	0.0444%
20	KuCoin 9	87,368.766399548841352834	0.0437%

PolkaFoundry Token Distribution

PolkaFoundry Token Contract Overview



Contract functions details

+[Int] IERC20

- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] transfer
- [Ext] allowance
- [Ext] approve
- [Ext] transferFrom

+ERC20Detailed (IERC20)

- [Pub] <constructor>
- [Pub] name
- [Pub] symbol
- [Pub] decimals

+Context

- [Int] <constructor>
- [Int] _msgSender
- [Int] _msgData

+[Lib] SafeMath

- [Int] add
- [Int] sub
- [Int] sub
- [Int] mul
- [Int] div
- [Int] div
- [Int] mod
- [Int] mod

+ERC20 (Context, IERC20)

- [Pub] totalSupply
- [Pub] balanceOf
- [Pub] transfer #
- [Pub] allowance
- [Pub] approve #
- [Pub] transferFrom #
- [Pub] increaseAllowance #
- [Pub] decreaseAllowance #
- [Int] _transfer #

Contract functions details

```
-[Int] _mint #  
-[Int] _burn #  
-[Int] _approve #  
-[Int] _burnFrom #
```

+ERC20Burnable (Context, ERC20)

```
-[Pub] burn #  
-[Pub] burnFrom #
```

+PkfToken (ERC20Detailed, ERC20Burnable)

```
-[Pub] <constructor>
```

(\$) = payable function

= non-constant function

Issues Checking Status

No.	Title	Status
1.	Unlocked Compiler Version	Low issue
2.	Missing Input Validation	Passed
3.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
4.	Possible delays in data delivery	Passed
5.	Oracle calls.	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
11.	Economy model of the contract.	Passed
12.	Private use data leaks.	Passed
13.	Malicious Event log.	Passed
14.	Scoping and Declarations.	Passed
15.	Uninitialized storage pointers.	Passed
16.	Arithmetic accuracy.	Passed
17.	Design Logic.	Passed
18.	Safe Open Zeppelin contracts implementation and usage.	Passed
19.	Incorrect Naming State Variable	Passed
20.	Too old version	Low issue

Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to assets loss or data manipulations.
High	High-level vulnerabilities are difficult to exploit; however, they also have a significant impact on smart contract execution, e.g., public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can't lead to assets loss or data manipulations.
Low	Low-level vulnerabilities are mostly related to outdated, unused, etc. code snippets that can't have a significant impact on execution.

Security Issues

✔ Critical Severity Issues

No critical severity issue found.

✔ High Severity Issues

No high severity issues found.

✔ Medium Severity Issues

No medium severity issues found.

✔ Low Severity Issues

Two low severity issues found.

1.Unlocked Compiler Version.

- **Description**

The contract utilizes an unlocked compiler version. An unlocked compiler version in the contract's source code permits the user to compile it at or above a particular version. This, in turn, leads to differences in the generated bytecode between compilations due to differing compiler version numbers. This can lead to ambiguity when debugging as compiler-specific bugs may occur in the codebase that would be difficult to identify over a span of multiple compiler versions rather than a specific one.

- **Recommendation**

It is advisable that the compiler version is alternatively locked at the lowest version possible so that the contract can be compiled. For example, for version ^0.5.0 the contract should contain the following line:

```
pragma solidity 0.5.11;
```

2.Old compiler version

- **Description**

Contract has been deployed using too old solidity version.

- **Recommendation**

It is advisable to deploy contract using any of the latest version of solidity.

Conclusion

Smart contract contains low severity issues! The further transfer and operations with the fund raised are not related to this particular contract.

HackSafe note: Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.