

Draft
Security Assessment for

76-2022-01-sherlock (1Positive-FLP)

July 23, 2023



Executive Summary

Overview -	verview-OFFICIAL AUDIS	
Project Name	76-2022-01-sherlock (1Positive-FLP)	
Codebase URL	https://github.com/code-423n4/2022- 01-sherlock	
Scan Engine	Al Analyzer	
Scan Time	2023/07/23 01:59:48	
Commit Id	a647a92	

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Scan Engine	Al Analyzer
Scan Time	2023/07/23 01:59:48
Commit Id OFFICIAL	a647a92
	a647a92
Total	

Total		Ne
Critical Issues	CIAL AUDIT REPORT	
High risk Issues	TEPORT	
Medium risk Issues	0	
Low risk Issues	0	
Informational Issues	0	N

V-OFFICIAL AUD Critical Issues	The issue can cause large economic losses, large-scale data disorder, loss of control of authority management, failure of key functions, or indirectly affect the correct operation of other smart contracts interacting with it.
High Risk Issues	The issue puts a large number of users' sensitive information at risk or is reasonably likely to lead to catastrophic impacts on clients' reputations or serious financial implications for clients and users.
Medium Risk Issues	The issue puts a subset of users' sensitive information at risk, would be detrimental to the client's reputation if exploited, or is reasonably likely to lead to moderate financial impact.
Low Risk Issues	The risk is relatively small and could not be exploited on a recurring basis, or is a risk that the client has indicated is low-impact in view of

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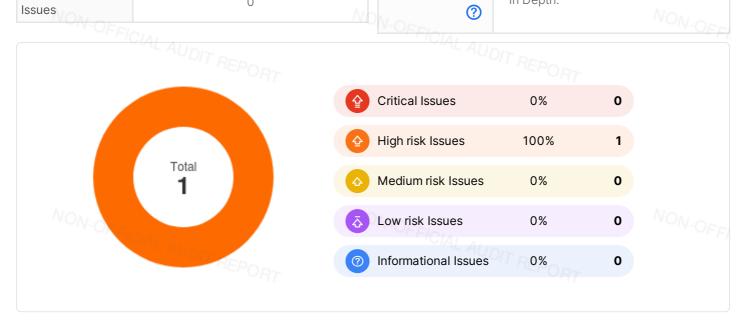
Informational Issue

the client's business circumstances.

The issue does not pose an

in Depth.

immediate risk but is relevant to security best practices or Defence





Summary of Findings

MetaScan security assessment was performed on July 23, 2023 01:59:48 on project 76-2022-01-sherlock (1Positive-FLP) with the repository https://github.com/code-423n4/2022-01-sherlock on branch default branch. The assessment was carried out by scanning the project's codebase using the scan engine Al Analyzer. There are in total 1 vulnerabilities / security risks discovered during the scanning session, among which 0 critical vulnerabilities, 1 high risk vulnerabilities, 0 medium risk vulnerabilities, 0 low risk vulnerabilities, 0 informational issues.

ID	D Description	
MSA-001	MWE-200: Insecure LP Token Value Calculation	High risk

NON-OFFICIAL AUDIT REPORT



<u>Findings</u>



Critical (0)

No Critical vulnerabilities found here



1. MWE-200: Insecure LP Token Value Calculation

CIAL AUDIT REPORT





Security Analyzer

Liquidity token value/price can be manipulated to cause flashloan attacks.

File(s) Affected

contracts/SherBuy.sol #116-151

```
/SherBuy.sor###0 .c.
function viewCapitalRequirements(uint256 _sherAmountWant)
        view
        returns (
         uint256 sherAmount,
         uint256 stake,
          uint256 price
        // Only allow if liquidity event is active
        if (active() == false) revert InvalidState();
                                                      -OFFICIAL AUDIT REPORT
       // Zero isn't allowed
        if (_sherAmountWant == 0) revert ZeroArgument();
        // View how much SHER is still available to be sold
        uint256 available = sher.balanceOf(address(this));
        // If remaining SHER is 0 it's sold out
        if (available == 0) revert SoldOut();
        // Use remaining SHER if it's less then `_sherAmountWant`, otherwise go for `_sherAmountWant
        // Remaining SHER will only be assigned on the last sale of this contract, `SoldOut()` error will l
        // sherAmount is not able to be zero as both 'available' and '_sherAmountWant' will be bigger than
        sherAmount = available < _sherAmountWant ? available : _sherAmountWant;</pre>
       // Only allows SHER amounts with certain precision steps
        // To ensure there is no rounding error at loss for the contract in stake / price calculation
        // Theoretically, if `available` is used, the function can fail if '% SHER_STEPS != 0' will be true
        // This can be caused by a griefer sending a small amount of SHER to the contract
        // Realistically, no SHER tokens will be on the market when this function is active
        // So it can only be caused if the admin sends too small amounts (documented at top of file with @G
        if (sherAmount % SHER_STEPS != 0) revert InvalidAmount();
        // Calculate how much USDC needs to be staked to buy `sherAmount
        stake = (sherAmount * stakeRate) / SHER_DECIMALS;
        // Calculate how much USDC needs to be paid to buy `sherAmount
        price = (sherAmount * buyRate) / SHER_DECIMALS;
                                                        DFFICIAL AUDIT REPORT
151 }
```

Recommendation

Do not use AMM pool or custom liquidity calculation to caculate LP token value/price.



A Medium risk (0)

No Medium risk vulnerabilities found here

Low risk (0)

CIAL AUDIT REPORT No Low risk vulnerabilities found here



? Informational (0)

No Informational vulnerabilities found here



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