



NOVOS

KYC & AUDIT.

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CERTIFICATE OF COMPLIANCE

Smart Contract Audit by NOVOS



KELP Token



Audit Passed



July 25, 2022

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Audit Summary

This report has been prepared for Kelp Network Token on the Binance Chain network. Novos provides both client-centered and user-centered examination of the smart contracts and their current status when applicable. This report represents the security assessment made to find issues and vulnerabilities on the source code along with the current liquidity and token holder statistics of the protocol.

A comprehensive examination has been performed, utilizing Cross Referencing, Static Analysis, In-House Security Tools, and line-by-line Manual Review.

The auditing process pays special attention to the following considerations:

- Ensuring contract logic meets the specifications and intentions of the client without exposing the user's funds to risk.
- Testing the smart contracts against both common and uncommon attack vectors.
- Inspecting liquidity and holders statistics to inform the current status to both users and client when applicable.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Verifying contract functions that allow trusted and/or untrusted actors to mint, lock, pause, and transfer assets.
- Thorough line-by-line manual review of the entire codebase by industry experts.



Project Overview

Parameter	Result
Address	0x0F532DAB1623f3BEAbd67dBe552Ec55413eC8d86
Name	Kelp Network
Token Tracker	KELP
Decimals	18
Supply	100,000,000
Platform	Binance Chain
Compiler	v0.8.0+commit.c7dfd78e
Optimization	Yes with 9999 runs
Other Settings:	istanbul EvmVersion, None license
Language	Solidity
Codebase	https://bscscan.com/address/0x0F532DAB1623f3BEAbd67dBe552Ec55413eC8d86#code
Url	https://kelpnetwork.xyz/

Main Contract Assessed

Name	Contract	Live
Kelp Network	0x0F532DAB1623f3BEAbd67dBe552Ec55413eC8d86	Yes



Smart Contract Vulnerability Checks

Vulnerability	Automatic Scan	Manual Scan	Result
❖ Unencrypted Private Data On-Chain	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Code With No Effects	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Message call with hardcoded gas amount	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Hash Collisions With Multiple Variable Length Arguments	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Unexpected Ether balance	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Presence of unused variables	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Right-To-Left-Override control character (U+202E)	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Typographical Error	✓ Complete	✓ Complete	✓ Low / No Risk
❖ DoS With Block Gas Limit	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Arbitrary Jump with Function Type Variable	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Insufficient Gas Griefing	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Incorrect Inheritance Order	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Write to Arbitrary Storage Location	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Requirement Violation	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Missing Protection against Signature Replay Attacks	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Weak Sources of Randomness from Chain Attributes	✓ Complete	✓ Complete	✓ Low / No Risk





Smart Contract Vulnerability Checks

Vulnerability	Automatic Scan	Manual Scan	Result
❖ Authorization through tx.origin	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Delegatecall to Untrusted Callee	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Use of Deprecated Solidity Functions	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Assert Violation	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Reentrancy	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Unprotected SELFDESTRUCT Instruction	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Unprotected Ether Withdrawal	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Unchecked Call Return Value	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Outdated Compiler Version	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Integer Overflow and Underflow	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Function Default Visibility	✓ Complete	✓ Complete	✓ Low / No Risk





Contract Ownership

The contract ownership of Kelp Network is not currently renounced. The ownership of the contract grants special powers to the protocol creators, making them the sole addresses that can call sensible ownable functions that may alter the state of the protocol.

01

The current owner is the address `0x850d7059B4Be760117De3cC614C0A095779B1b7a` which can be viewed from: [HERE](#)

02

The owner wallet has the power to call the functions displayed on the privileged functions chart below, if the owner wallet is compromised this privileges could be exploited.

03

We recommend the team to renounce ownership at the right timing if possible, or gradually migrate to a timelock with governing functionalities in respect of transparency and safety considerations.

Important Notes To The Users:



01 The owner cannot stop trading.

02 The owner cannot blacklist wallets.

```
03 function _pause() internal virtual whenNotPaused {  
    _paused = true;    emit Paused(_msgSender())  
}
```

04 Owner can enable trading but cannot pause or disable it.

```
05 function transferOwnership(address newOwner)  
    public virtual onlyOwner {    require(newOwner !=  
    address(0), "Ownable: new owner is the zero  
    address");    _setOwner(newOwner)  
}
```

```
06 function tryAdd(uint256 a, uint256 b) internal  
    pure returns (bool, uint256) {    unchecked {  
    uint256 c = a + b;    if (c < a) return (false, 0);  
    return (true, c)  
}
```

07 Atomically increases the allowance granted to `spender` by the caller. * * This is an alternative to {approve} that can be used as a mitigation for * problems described in {IERC20-approve}.

```
08 Returns the address of the current owner. */  
function owner() public view virtual returns (address)  
{    return _owner; }
```

```
09 Throws if called by any account other than the  
owner. */ modifier onlyOwner() {  
    require(owner() == _msgSender(), "Ownable:  
    caller is not the owner");    _; }
```

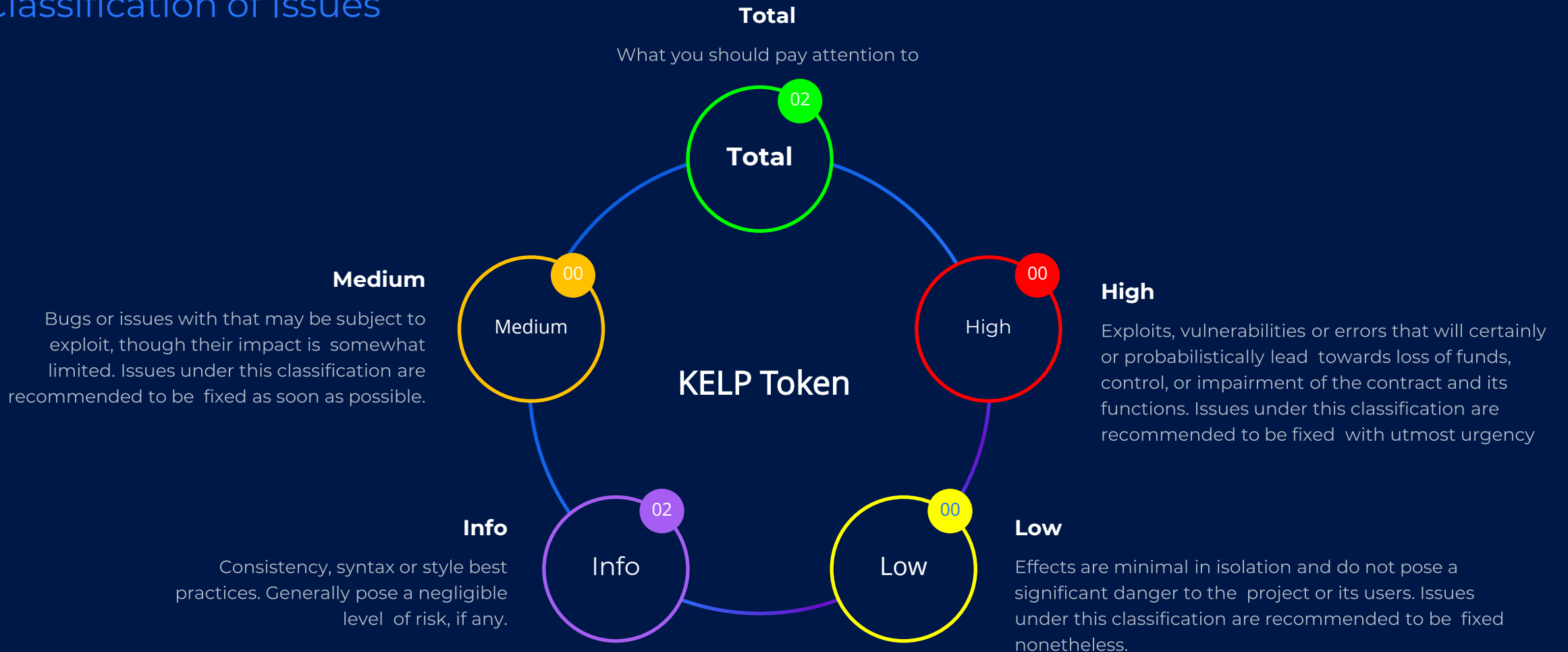
```
10 function transferOwnership(address  
    newOwner) public virtual onlyOwner {  
    require(newOwner != address(0), "Ownable:  
    new owner is the zero address");  
    _setOwner(newOwner); }
```

```
11 function _setOwner(address newOwner)  
    private {    address oldOwner = _owner;  
    _owner = newOwner;    emit  
    OwnershipTransferred(oldOwner, newOwner);  
}
```

12 Owner can change the minimum token balance needed to get dividends. No high-riskExploits /Vulnerabilities Were Found in token Source Code.

Technical Findings Summary

Classification of Issues



Findings

Public function that could be declared external



ID	Severity	Contract	Function
01	Informational	Kelp Network	Functions: size, getKeyAtIndex, getIndexOfKey

Description

Gas Optimization. Public function that could be declared external

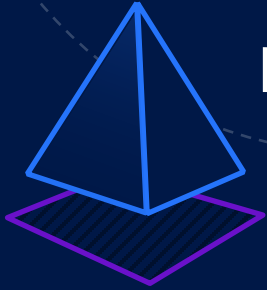
Recommendation

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



Findings

Missing events arithmetic



ID	Severity	Contract	Function
02	Informational	Kelp Network	Missing events for setWalletBalance, setMaxBuyTransaction, setMaxSellTransaction, setSwapTokensAtAmount, setSellTransactionMultiplier

Description

Functions that change critical arithmetic parameters should emit an event.

Recommendation

Emit corresponding events for critical parameter changes.

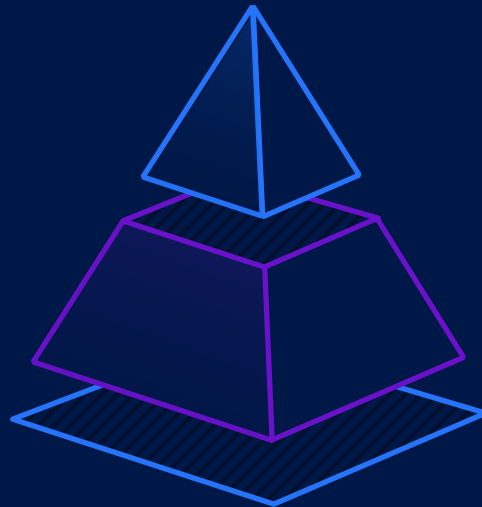


Privileged Functions (onlyOwner & Others)

Function Name	Parameters	Visibility
✓ renounceOwnership	<ul style="list-style-type: none">▪ none	<ul style="list-style-type: none">▪ external
✓ transferOwnership	<ul style="list-style-type: none">▪ address newOwner	<ul style="list-style-type: none">▪ public
✓ prepareForPartnerOrExchangeListing	<ul style="list-style-type: none">▪ address_partnerOrExchangeAddress	<ul style="list-style-type: none">▪ external
✓ setWalletBalance	<ul style="list-style-type: none">▪ uint256_maxWalletBalance	<ul style="list-style-type: none">▪ external
✓ setMaxBuyTransaction	<ul style="list-style-type: none">▪ uint256_maxTxn	<ul style="list-style-type: none">▪ external
✓ setMaxSellTransaction	<ul style="list-style-type: none">▪ uint256_maxTxn	<ul style="list-style-type: none">▪ external
✓ updateBusdDividendToken	<ul style="list-style-type: none">▪ address_newContract	<ul style="list-style-type: none">▪ external
✓ updateMarketingWallet	<ul style="list-style-type: none">▪ address_newWallet	<ul style="list-style-type: none">▪ external
✓ setSwapTokensAtAmount	<ul style="list-style-type: none">▪ uint256_swapAmount	<ul style="list-style-type: none">▪ external
✓ setSellTransactionMultiplier	<ul style="list-style-type: none">▪ uint256_multiplier	<ul style="list-style-type: none">▪ external
✓ setTradingIsEnabled	<ul style="list-style-type: none">▪ none	<ul style="list-style-type: none">▪ external
✓ setBusdDividendEnabled	<ul style="list-style-type: none">▪ bool_enabled	<ul style="list-style-type: none">▪ external
✓ setMarketingEnabled	<ul style="list-style-type: none">▪ bool_enabled	<ul style="list-style-type: none">▪ external
✓ setSwapAndLiquifyEnabled	<ul style="list-style-type: none">▪ bool_enabled	<ul style="list-style-type: none">▪ external
✓ updatebusdDividendTracker	<ul style="list-style-type: none">▪ address newAddress	<ul style="list-style-type: none">▪ external
✓ updateUniswapV2Router	<ul style="list-style-type: none">▪ address newAddress	<ul style="list-style-type: none">▪ external

Privileged Functions (onlyOwner & Others)

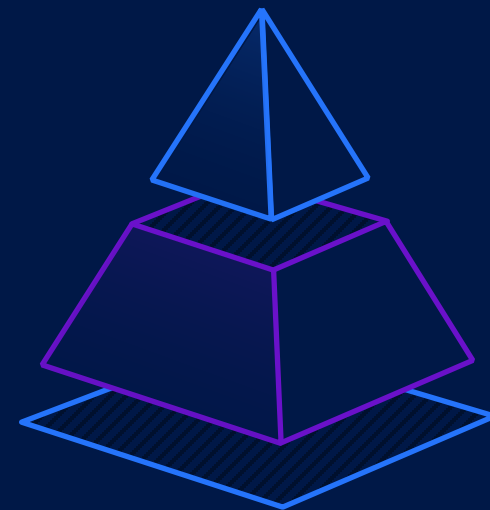
Function Name	Parameters	Visibility
✓ <code>excludeFromFees</code>	▪ <code>address account, bool excluded</code>	▪ public
✓ <code>excludeFromDividend</code>	▪ <code>address account</code>	▪ public
✓ <code>setAutomatedMarketMakerPair</code>	▪ <code>address pair, bool value</code>	▪ external
✓ <code>updateGasForProcessing</code>	▪ <code>uint256 newValue</code>	▪ external
✓ <code>updateMinimumBalanceForDividends</code>	▪ <code>uint256 newMinimumBalance</code>	▪ external
✓ <code>updateClaimWait</code>	▪ <code>uint256 claimWait</code>	▪ external
✓ <code>processDividendTracker</code>	▪ <code>uint256 gas</code>	▪ external





Statistics

Liquidity Info

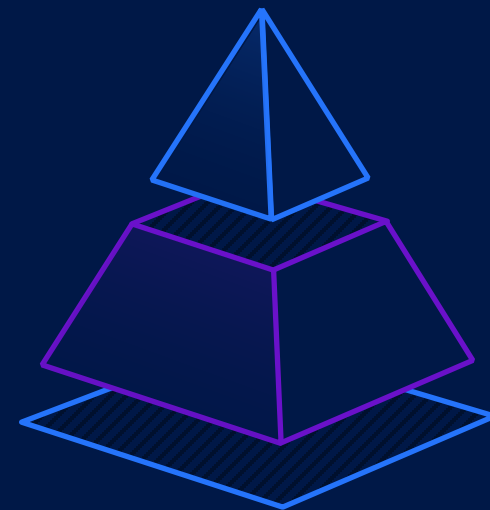


Parameter	Result
Pair Address	-
Kelp Network Reserves	0.00 KELP
Reserves	0.00
Liquidity Value	\$0 USD



Statistics

Token (KELP) Holders Info



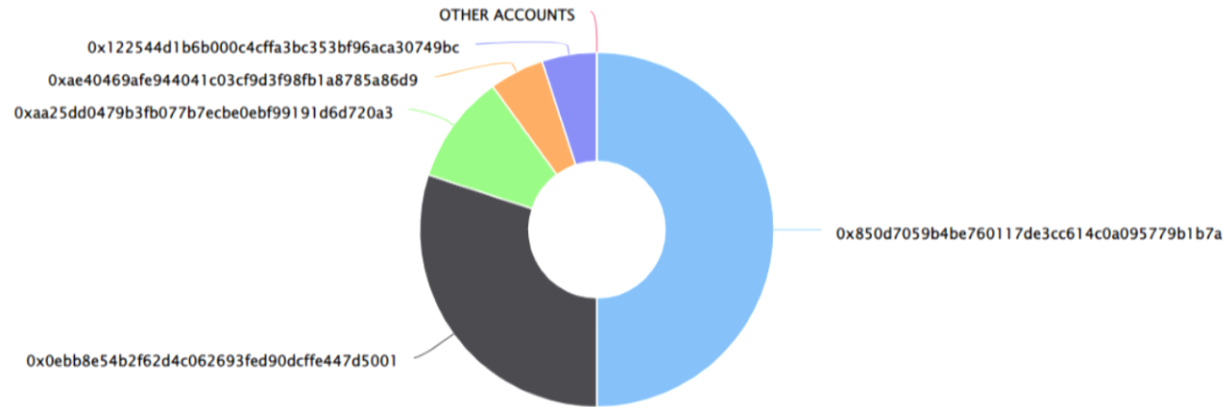
Parameter	Result
KELP Percentage Burnt	0.00%
KELP Amount Burnt	0 KELP
Top 10 Percentage Own	100%
Top 10 Amount Owned	100,000,000 KELP
Top 10 Value	\$NaN USD

Statistics

Token (KELP) Holders Info

Kelp Network Top 100 Token Holders

Source: BscScan.com



Rank	Address	Quantity (Token)	Percentage
1	0x850d7059b4be760117de3cc614c0a095779b1b7a	50,000,000	50.0000%
2	0x0ebb8e54b2f62d4c062693fed90dcffe447d5001	30,000,000	30.0000%
3	0xaa25dd0479b3fb077b7ecbe0ebf99191d6d720a3	10,000,000	10.0000%
4	0xae40469afe944041c03cf9d3f98fb1a8785a86d9	5,000,000	5.0000%
5	0x122544d1b6b000c4cffa3bc353bf96aca30749bc	5,000,000	5.0000%



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