auditace.tech

AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

Vlnu

DATED : 19 MAY 23'

AUDIT SUMMARY

Project name – VInu

Date: 19 May, 2023

Scope of Audit- Audit Ace was consulted to conduct the smart contract audit of the solidity source codes.

Audit Status: Passed

Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	0	0	0	0
Acknowledged	0	0	0	0	0
Resolved	0	1	0	0	0

USED TOOLS

Tools:

1.Manual Review: The code has undergone a line-by-line review by the **Ace** team.

2.ETH Test Network: All tests were conducted on the ETH Test network, and each test has a corresponding transaction attached to it. These tests can be found in the "Functional Tests" section of the report.

3.Slither: The code has undergone static analysis using Slither.

Testnet version:
Contract has been tested on binance smart chain testnet which can be found in below link:
https://testnet.bscscan.com/token/0x562FeCE3160A654eC077117cb7BC0a1F11dC3990

Token Information

Name : Vegeta Inu

Symbol : VInu

Decimals: 9

Network: Binance smart chain

Token Type:BEP20

Token Address:
0x485C117d9B339138caf9E7353f20962a910B2B37

Owner:
0xFb36512fE873bcA7EF4CCb8Fc00dD2E368ab0672
(at time of writing the audit)

Deployer:0x16D734c1038105105761207B939dDDb79c3d0caB

Token Information

Fees:

Buy Fees: up to 10%

Sell Fees: up to 10%

Transfer Fees: 0%

Fees Privilige: Owner

Ownership : Owned

Minting: None

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

Other Priviliges:- Modifying swap threshold - toggling internal swap - excluding wallets from fee - including wallets in fee - modifying fee

AUDIT METHODOLOGY

The auditing process will follow a routine as special considerations by Auditace:

- Review of the specifications, sources, and instructions provided to Auditace to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.
- Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
- Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Auditace describe.
- Test coverage analysis determines whether the test cases are covering the code and how much code isexercised when we run the test cases.
- Symbolic execution is analysing a program to determine what inputs cause each part of a program to execute.
- Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.

VULNERABILITY CHECKLIST

- Return values of low-level calls
- Private modifier
- Multiple Sends
- Using Suicide
- Gas Limitand Loops
- Address hardcoded
- Exception Disorder
- Using inline assembly
- Divide before multiply
- Missing Zero Address Validation
- Compiler version not fixed
- **Gasless Send**
- Using block.timestamp
- Re-entrancy
- Tautology or contradiction
- Timestamp Dependence
- Revert/require functions
- Use of tx.origin
- Integer overflow/underflow
- Dangerous strict equalities
- Using SHA3
- Using throw

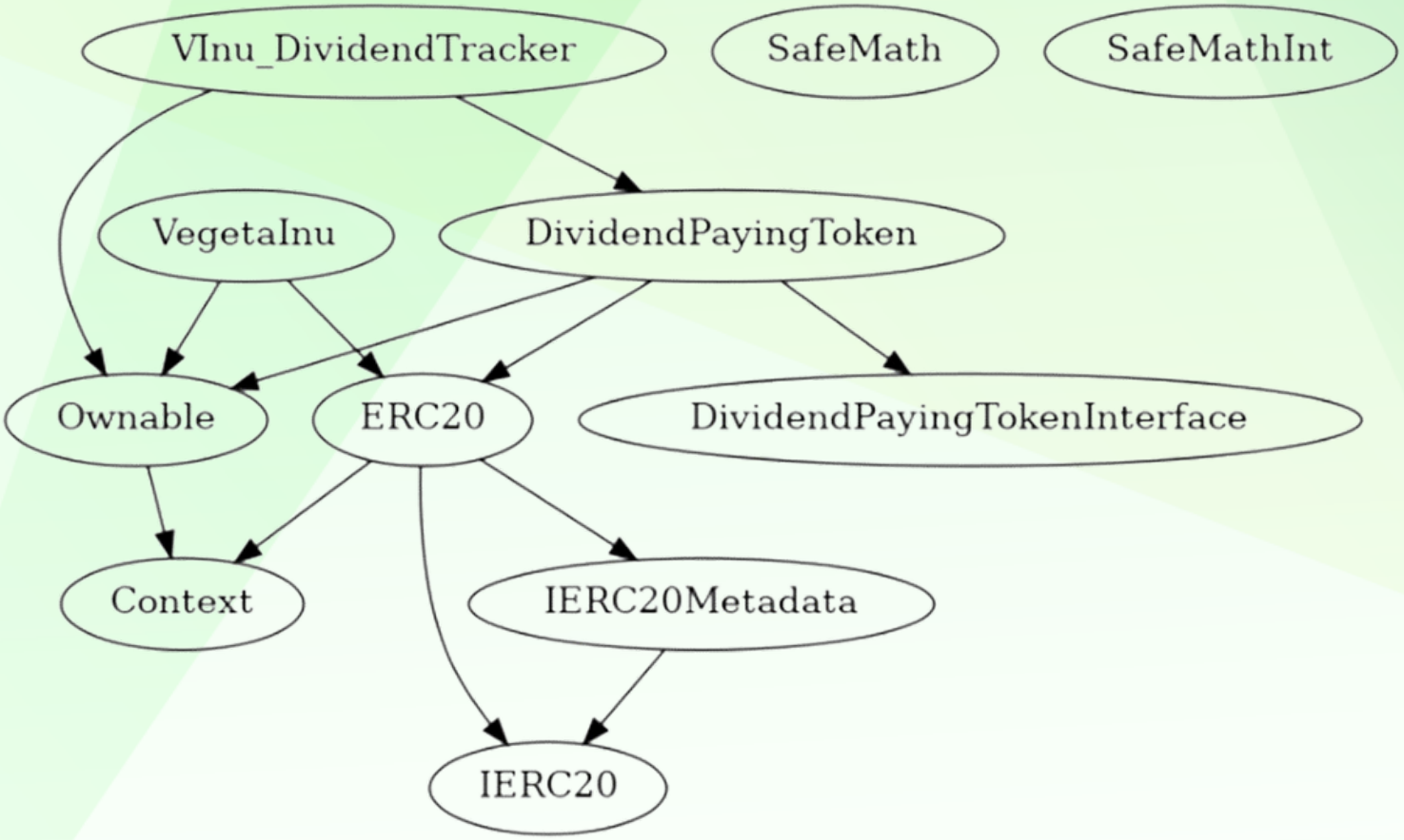
CLASSIFICATION OF RISK

Severity	Description
Critical	These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
High-Risk	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.
Medium-Risk	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.
Low-Risk	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.
Gas Optimization /Suggestion	A vulnerability that has an informational character but is not affecting any of the code.

Findings

Severity	Found
Critical	0
High-Risk	1
Medium-Risk	0
Low-Risk	0
Gas Optimization / Suggestions	0

INHERITANCE TREE



POINTS TO NOTE

- Owner is not able to set buy/sell fees more than 10% (20% max fee)
- Owner is not able to set transfer fees (0% always)
- Owner is not able to set max buy/sell/transfer/hold amount
- Owner is not able to blacklist an arbitrary wallet
- Owner is not able to disable trades
- Owner is not able to mint new tokens
- **Owner must enable trading for investors**

CONTRACT ASSESMENT

Contract	Type	Bases		
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
Context	Implementation			
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		
IERC20	Interface			
└	totalSupply	External ❗		NO ❗
└	balanceOf	External ❗		NO ❗
└	transfer	External ❗	🛑	NO ❗
└	allowance	External ❗		NO ❗
└	approve	External ❗	🛑	NO ❗
└	transferFrom	External ❗	🛑	NO ❗
IERC20Metadata	Interface	IERC20		
└	name	External ❗		NO ❗
└	symbol	External ❗		NO ❗
└	decimals	External ❗		NO ❗
ERC20	Implementation	Context, IERC20, IERC20Metadata		
└	<Constructor>	Public ❗	🛑	NO ❗
└	name	Public ❗		NO ❗
└	symbol	Public ❗		NO ❗
└	decimals	Public ❗		NO ❗
└	totalSupply	Public ❗		NO ❗
└	balanceOf	Public ❗		NO ❗
└	transfer	Public ❗	🛑	NO ❗
└	allowance	Public ❗		NO ❗
└	approve	Public ❗	🛑	NO ❗
└	transferFrom	Public ❗	🛑	NO ❗
└	increaseAllowance	Public ❗	🛑	NO ❗
└	decreaseAllowance	Public ❗	🛑	NO ❗
└	_transfer	Internal 🔒	🛑	
└	_tokengeneration	Internal 🔒	🛑	
└	_burn	Internal 🔒	🛑	
└	_approve	Internal 🔒	🛑	
└	_beforeTokenTransfer	Internal 🔒	🛑	
SafeMath	Library			
└	add	Internal 🔒		
└	sub	Internal 🔒		

CONTRACT ASSESMENT

└	sub	Internal 🔒		
└	mul	Internal 🔒		
└	div	Internal 🔒		
└	div	Internal 🔒		
└	mod	Internal 🔒		
└	mod	Internal 🔒		
SafeMathInt	Library				
└	mul	Internal 🔒		
└	div	Internal 🔒		
└	sub	Internal 🔒		
└	add	Internal 🔒		
└	abs	Internal 🔒		
└	toUint256Safe	Internal 🔒		
SafeMathUint	Library				
└	toInt256Safe	Internal 🔒		
Ownable	Implementation	Context			
└	<Constructor>	Public ❗	🛑	NO ❗
└	owner	Public ❗		NO ❗
└	renounceOwnership	Public ❗	🛑	onlyOwner
└	transferOwnership	Public ❗	🛑	onlyOwner
IPair	Interface				
└	sync	External ❗	🛑	NO ❗
IFactory	Interface				
└	createPair	External ❗	🛑	NO ❗
└	getPair	External ❗		NO ❗
IRouter	Interface				
└	factory	External ❗		NO ❗
└	WETH	External ❗		NO ❗
└	addLiquidityETH	External ❗	💵	NO ❗
└	swapExactTokensForTokensSupportingFeeOnTransferTokens	External ❗	🛑	NO ❗
└	swapExactETHForTokens	External ❗	💵	NO ❗
└	swapExactTokensForETHSupportingFeeOnTransferTokens	External ❗	🛑	NO ❗
DividendPayingTokenInterface	Interface				
└	dividendOf	External ❗		NO ❗
└	distributeDividends	External ❗	💵	NO ❗
└	withdrawableDividendOf	External ❗		NO ❗
└	withdrawnDividendOf	External ❗		NO ❗

CONTRACT ASSESMENT

└	accumulativeDividendOf	External ❗		NO ❗
DividendPayingToken	Implementation	ERC20, DividendPayingTokenInterface, Ownable		
└	<Constructor>	Public ❗	🛑	ERC20
└	<Receive Ether>	External ❗	💵	NO ❗
└	distributeDividends	Public ❗	💵	NO ❗
└	_withdrawDividendOfUser	Internal 🔒	🛑	
└	setRewardToken	External ❗	🛑	onlyOwner
└	swapBnbForCustomToken	Internal 🔒	🛑	
└	dividendOf	Public ❗		NO ❗
└	withdrawableDividendOf	Public ❗		NO ❗
└	withdrawnDividendOf	Public ❗		NO ❗
└	accumulativeDividendOf	Public ❗		NO ❗
└	_transfer	Internal 🔒	🛑	
└	_tokengeneration	Internal 🔒	🛑	
└	_burn	Internal 🔒	🛑	
└	_setBalance	Internal 🔒	🛑	
IterableMapping	Library			
└	get	Internal 🔒		
└	getIndexOfKey	Internal 🔒		
└	getKeyAtIndex	Internal 🔒		
└	size	Internal 🔒		
└	set	Internal 🔒	🛑	
└	remove	Internal 🔒	🛑	
Address	Library			
└	sendValue	Internal 🔒	🛑	
VegetaInu	Implementation	ERC20, Ownable		
└	<Constructor>	Public ❗	🛑	ERC20
└	<Receive Ether>	External ❗	💵	NO ❗
└	processDividendTracker	External ❗	🛑	NO ❗
└	claim	External ❗	🛑	NO ❗
└	rescueBEP20Tokens	External ❗	🛑	onlyOwner
└	rescueBNB	External ❗	🛑	NO ❗
└	excludeFromFees	Public ❗	🛑	onlyOwner
└	excludeMultipleAccountsFromFees	Public ❗	🛑	onlyOwner
└	excludeFromDividends	External ❗	🛑	onlyOwner
└	setMarketingWallet	External ❗	🛑	onlyOwner
└	setSwapTokensAtAmount	External ❗	🛑	onlyOwner
└	setBuyTaxes	External ❗	🛑	onlyOwner
└	setSellTaxes	External ❗	🛑	onlyOwner

CONTRACT ASSESMENT

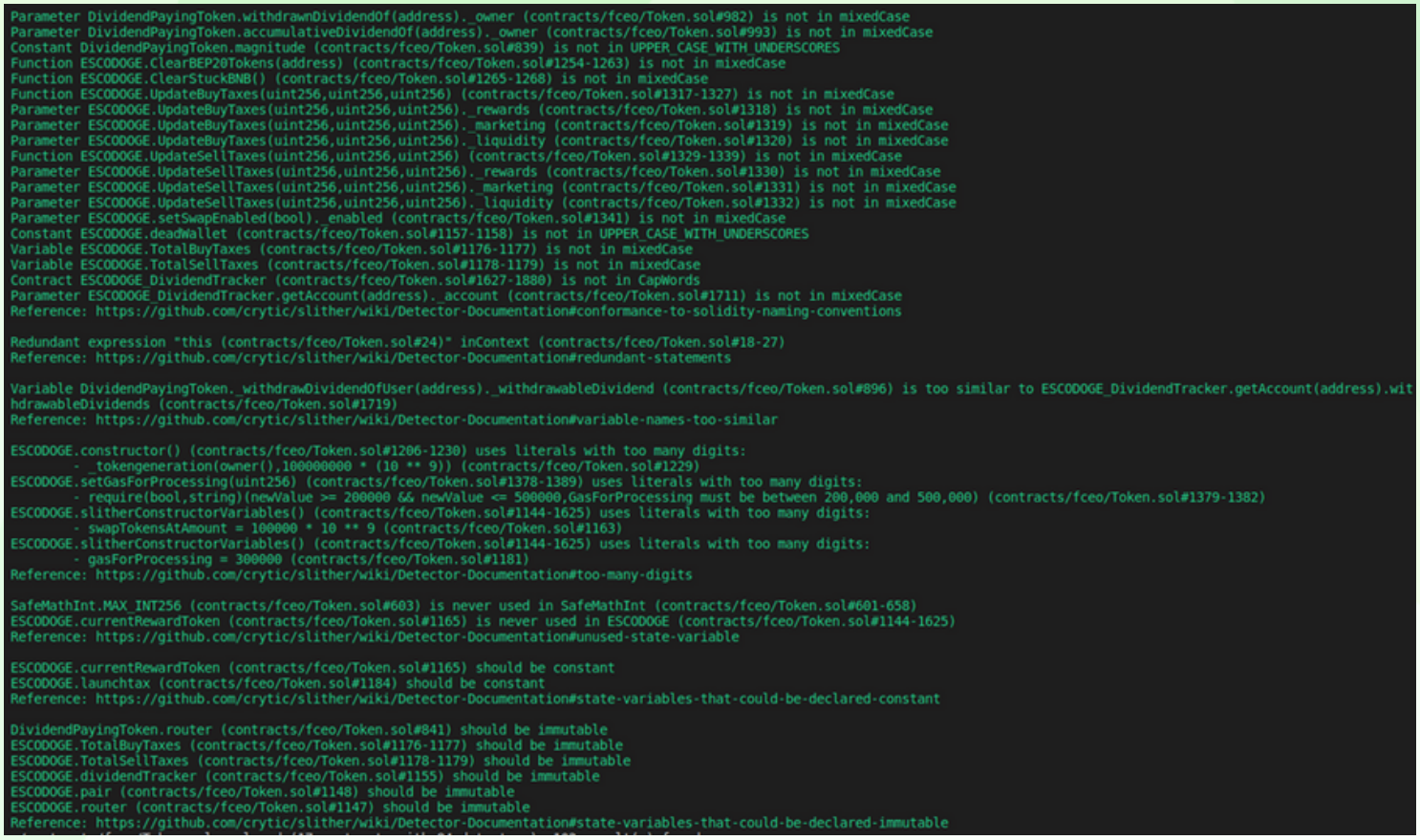
└	setSwapEnabled	External ❗	🛑	onlyOwner
└	enableTradingEnabled	External ❗	🛑	onlyOwner
└	setBotBlocks	External ❗	🛑	onlyOwner
└	setMinBalanceForDividends	External ❗	🛑	onlyOwner
└	_setAutomatedMarketMakerPair	Private 🔐	🛑	
└	setGasForProcessing	External ❗	🛑	onlyOwner
└	setClaimWait	External ❗	🛑	onlyOwner
└	getClaimWait	External ❗	|NO ❗	
└	getTotalDividendsDistributed	External ❗	|NO ❗	
└	isExcludedFromFees	Public ❗	|NO ❗	
└	withdrawableDividendOf	Public ❗	|NO ❗	
└	getCurrentRewardToken	External ❗	|NO ❗	
└	dividendTokenBalanceOf	Public ❗	|NO ❗	
└	getAccountDividendsInfo	External ❗	|NO ❗	
└	getAccountDividendsInfoAtIndex	External ❗	|NO ❗	
└	getLastProcessedIndex	External ❗	|NO ❗	
└	getNumberOfDividendTokenHolders	External ❗	|NO ❗	
└	_transfer	Internal 🔒	🛑	
└	swapAndLiquify	Private 🔐	🛑	
└	swapTokensForBNB	Private 🔐	🛑	
└	addLiquidity	Private 🔐	🛑	
VInu_DividendTracker	Implementation	Ownable, DividendPayingToken		
└	<Constructor>	Public ❗	🛑	DividendPayingToken
└	_transfer	Internal 🔒		
└	setMinBalanceForDividends	External ❗	🛑	onlyOwner
└	excludeFromDividends	External ❗	🛑	onlyOwner
└	updateClaimWait	External ❗	🛑	onlyOwner
└	getLastProcessedIndex	External ❗	|NO ❗	
└	getNumberOfTokenHolders	External ❗	|NO ❗	
└	getCurrentRewardToken	External ❗	|NO ❗	
└	getAccount	Public ❗	|NO ❗	
└	getAccountAtIndex	Public ❗	|NO ❗	
└	canAutoClaim	Private 🔐		
└	setBalance	Public ❗	🛑	onlyOwner
└	process	Public ❗	🛑 |NO ❗	
└	processAccount	Public ❗	🛑	onlyOwner

CONTRACT ASSESMENT

Legend

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable

STATIC ANALYSIS



```
Parameter DividendPayingToken.withdrawnDividendOf(address)._owner (contracts/fceo/Token.sol#982) is not in mixedCase
Parameter DividendPayingToken.accumulativeDividendOf(address)._owner (contracts/fceo/Token.sol#993) is not in mixedCase
Constant DividendPayingToken.magnitude (contracts/fceo/Token.sol#839) is not in UPPER_CASE_WITH_UNDERSCORES
Function ESCODOGE.ClearBEP20Tokens(address) (contracts/fceo/Token.sol#1254-1263) is not in mixedCase
Function ESCODOGE.ClearStuckBNB() (contracts/fceo/Token.sol#1265-1268) is not in mixedCase
Function ESCODOGE.UpdateBuyTaxes(uint256,uint256,uint256) (contracts/fceo/Token.sol#1317-1327) is not in mixedCase
Parameter ESCODOGE.UpdateBuyTaxes(uint256,uint256,uint256)._rewards (contracts/fceo/Token.sol#1318) is not in mixedCase
Parameter ESCODOGE.UpdateBuyTaxes(uint256,uint256,uint256)._marketing (contracts/fceo/Token.sol#1319) is not in mixedCase
Parameter ESCODOGE.UpdateBuyTaxes(uint256,uint256,uint256)._liquidity (contracts/fceo/Token.sol#1320) is not in mixedCase
Function ESCODOGE.UpdateSellTaxes(uint256,uint256,uint256) (contracts/fceo/Token.sol#1329-1339) is not in mixedCase
Parameter ESCODOGE.UpdateSellTaxes(uint256,uint256,uint256)._rewards (contracts/fceo/Token.sol#1330) is not in mixedCase
Parameter ESCODOGE.UpdateSellTaxes(uint256,uint256,uint256)._marketing (contracts/fceo/Token.sol#1331) is not in mixedCase
Parameter ESCODOGE.UpdateSellTaxes(uint256,uint256,uint256)._liquidity (contracts/fceo/Token.sol#1332) is not in mixedCase
Parameter ESCODOGE.setSwapEnabled(bool)._enabled (contracts/fceo/Token.sol#1341) is not in mixedCase
Constant ESCODOGE.deadWallet (contracts/fceo/Token.sol#1157-1158) is not in UPPER_CASE_WITH_UNDERSCORES
Variable ESCODOGE.TotalBuyTaxes (contracts/fceo/Token.sol#1176-1177) is not in mixedCase
Variable ESCODOGE.TotalSellTaxes (contracts/fceo/Token.sol#1178-1179) is not in mixedCase
Contract ESCODOGE_DividendTracker (contracts/fceo/Token.sol#1627-1880) is not in CapWords
Parameter ESCODOGE_DividendTracker.getAccount(address)._account (contracts/fceo/Token.sol#1711) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

Redundant expression "this (contracts/fceo/Token.sol#24)" inContext (contracts/fceo/Token.sol#18-27)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements

Variable DividendPayingToken._withdrawDividendOfUser(address)._withdrawableDividend (contracts/fceo/Token.sol#896) is too similar to ESCODOGE_DividendTracker.getAccount(address).wit
hdrawableDividends (contracts/fceo/Token.sol#1719)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-too-similar

ESCODOGE.constructor() (contracts/fceo/Token.sol#1206-1230) uses literals with too many digits:
        - _tokengeneration(owner(),100000000 * (10 ** 9)) (contracts/fceo/Token.sol#1229)
ESCODOGE.setGasForProcessing(uint256) (contracts/fceo/Token.sol#1378-1389) uses literals with too many digits:
        - require(bool,string)(newValue >= 200000 && newValue <= 500000,GasForProcessing must be between 200,000 and 500,000) (contracts/fceo/Token.sol#1379-1382)
ESCODOGE.slitherConstructorVariables() (contracts/fceo/Token.sol#1144-1625) uses literals with too many digits:
        - swapTokensAtAmount = 100000 * 10 ** 9 (contracts/fceo/Token.sol#1163)
ESCODOGE.slitherConstructorVariables() (contracts/fceo/Token.sol#1144-1625) uses literals with too many digits:
        - gasForProcessing = 300000 (contracts/fceo/Token.sol#1181)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#too-many-digits

SafeMathInt.MAX_INT256 (contracts/fceo/Token.sol#603) is never used in SafeMathInt (contracts/fceo/Token.sol#601-658)
ESCODOGE.currentRewardToken (contracts/fceo/Token.sol#1165) is never used in ESCODOGE (contracts/fceo/Token.sol#1144-1625)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-state-variable

ESCODOGE.currentRewardToken (contracts/fceo/Token.sol#1165) should be constant
ESCODOGE.launchtax (contracts/fceo/Token.sol#1184) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant

DividendPayingToken.router (contracts/fceo/Token.sol#841) should be immutable
ESCODOGE.TotalBuyTaxes (contracts/fceo/Token.sol#1176-1177) should be immutable
ESCODOGE.TotalSellTaxes (contracts/fceo/Token.sol#1178-1179) should be immutable
ESCODOGE.dividendTracker (contracts/fceo/Token.sol#1155) should be immutable
ESCODOGE.pair (contracts/fceo/Token.sol#1148) should be immutable
ESCODOGE.router (contracts/fceo/Token.sol#1147) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
```

Static Analysis

an static analysis of the code were performed using slither. No issues were found

FUNCTIONAL TESTING

1- Adding liquidity (passed):
https://testnet.bscscan.com/tx/0x8019598a167dc53ae34caa00d245f20cd0fe0defea20079c5fd8044355d4de00

2- Buying when excluded from fees (0% tax) (passed):
https://testnet.bscscan.com/tx/0xb93dff7ffc32d1f60e0c14f4effaf59f8b657a2229dd88e49e9634b56c5d9f4b

3- Selling when excluded from fees (0% tax) (passed):
https://testnet.bscscan.com/tx/0x0e0981ae96693780d130989b04a7010a29b0f58fd989da3dc5cea03fa79dfc7f

4- Transferring when excluded from fees (0% tax) (passed):
https://testnet.bscscan.com/tx/0x494dde7204b432beb9ccd06aec17d7d89259e617039331975916648af257b354

5- Buying when not excluded from fees (0-10% tax) (passed):
https://testnet.bscscan.com/tx/0x6f4ff2895d48e7bed76a9a2fa207b94174cd96bbc4eadc4e223d1f2314a9cec0

6- Selling when not excluded from fees (0-10% tax) (passed):
https://testnet.bscscan.com/tx/0x0ac0bff24afd4c589e5c155cc8ba5512c958a7ca496f9c13a1712f34addb561a

7- Transferring when not excluded from fees (0% tax) (passed):
https://testnet.bscscan.com/tx/0x6ab70c285428cb3db06d763eaf351a1e1ad07daf330f23eb9dc43c8173502ef7

FUNCTIONAL TESTING

8- Internal swap (passed):

Marketing BNB – Auto-liquidity -Distribution

https://testnet.bscscan.com/tx/0x0ac0bff24afd4c589e5c155cc8ba5512c958a7ca496f9c13a1712f34addb561a

FUNCTIONAL TESTING

Centralization - Owner must enable trading

Severity: High
Function: enableTradingEnabled
Status: Resolved
Overview:
The owner must activate trading for investors to buy, sell, or transfer tokens. If trading remains disabled, token holders will be unable to trade their tokens.

```
function enableTradingEnabled() external onlyOwner {
    require(!tradingEnabled, "Trading is already enabled");
    tradingEnabled = true;
    startTradingBlock = block.number;
}
```

Recommendation:
Incorporate a safety mechanism that allows investors to activate trading if a specified duration has elapsed since the conclusion of the presale.
Alleviation:
Since contract is owned by safu dev, enabling trades is guaranteed.

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