auditace.tech

AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

AI Run&Burn

DATED : 21 Apr 23'

AUDIT SUMMARY

Project name – AI Run&Burn

Date: 21 April, 2023

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

Audit Status: **Passed (Contract is developed by Pinksale safu dev)**

Issues Found

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

USED TOOLS

Tools:

1- Manual Review:
a line by line code review has been performed by audit ace team.

2- BSC Test Network:
all tests were done on BSC Test network, each test has its transaction has attached to it.

3- Slither : Static Analysis

Testnet Link: all tests were done using this contract, tests are done on BSC Testnet

https://testnet.bscscan.com/address/0xcaE0c8D00A3329a186621ae4d572A4fa8272Ff8F#code

Token Information

Token Name : AI Run&Burn

Token Symbol: AI RBT

Decimals: 18

Token Supply: 21,000,000

Token Address:
0x604c61074BA6A03f6D12C9BC2BAB64ABDDB01603

Checksum:
8c8357b7f17d76315c11b1a672aadbaaebc09634

Owner:
0x10A80c57bafE4d07316D3DD5697Bf123ac689363

Deployer:
0x10A80c57bafE4d07316D3DD5697Bf123ac689363

TOKEN OVERVIEW

Fees:

Buy Fees: upto 5%

Sell Fees: upto 5%

Transfer Fees: upto 5%

Fees Privilige: Owner

Ownership : Owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: Yes

Other Priviliges: excluding from fees - including in fees - changing swap threshold

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

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

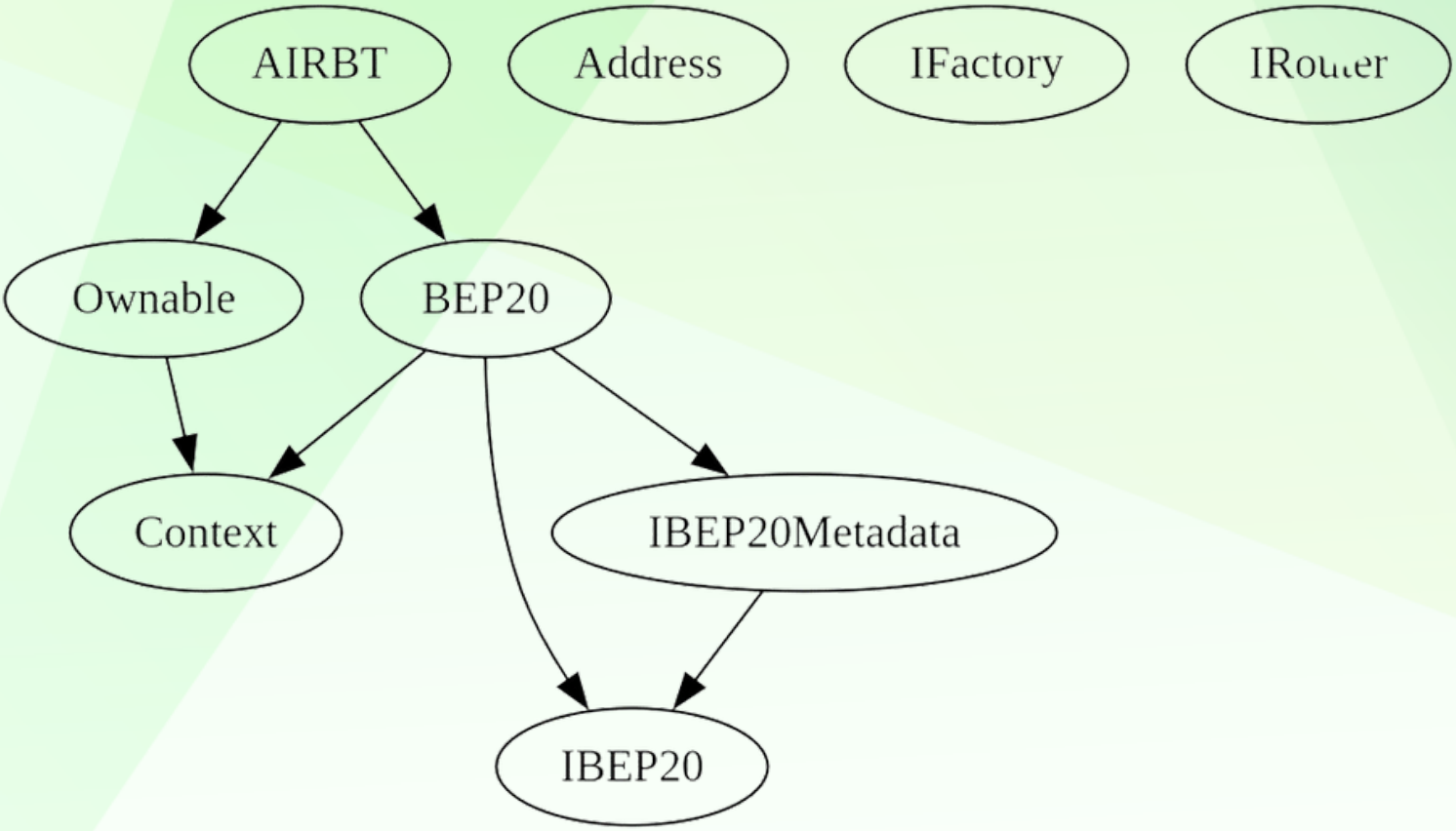
CLASSIFICATION OF RISK

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 (RESOLVED)
◆ Medium-Risk	0
◆ Low-Risk	0
◆ Gas Optimization / Suggestions	0

INHERITANCE TREE



POINTS TO NOTE

- Owner is not able to set buy/sell/transfer more than 5%
- **Owner must enable trading for investors to be able to trade**
- Owner is not able to disable trades
- Owner is not able to blacklist an arbitrary wallet
- Owner is not able to mint new tokens

CONTRACT ASSESMENT

Contract	Type	Bases		
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
Context	Implementation			
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		
IBEP20	Interface			
└	totalSupply	External ❗		NO❗
└	balanceOf	External ❗		NO❗
└	transfer	External ❗	🛑	NO❗
└	allowance	External ❗		NO❗
└	approve	External ❗	🛑	NO❗
└	transferFrom	External ❗	🛑	NO❗
IBEP20Metadata	Interface	IBEP20		
└	name	External ❗		NO❗
└	symbol	External ❗		NO❗
└	decimals	External ❗		NO❗
BEP20	Implementation	Context, IBEP20, IBEP20Metadata		
└	<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 🔒	🛑	
└	_approve	Internal 🔒	🛑	
Address	Library			
└	sendValue	Internal 🔒	🛑	
Ownable	Implementation	Context		

CONTRACT ASSESMENT

└	<Constructor>	Public ❗	🛑	NO❗
└	owner	Public ❗		NO❗
└	renounceOwnership	Public ❗	🛑	onlyOwner
└	transferOwnership	Public ❗	🛑	onlyOwner
└	_setOwner	Private 🔐	🛑	
IFactory	Interface			
└	createPair	External ❗	🛑	NO❗
IRouter	Interface			
└	WETH	External ❗		NO❗
└	addLiquidityETH	External ❗	💵	NO❗
└	swapExactTokensForETHSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
AIRBT	Implementation	BEP20, Ownable		
└	<Constructor>	Public ❗	🛑	BEP20
└	approve	Public ❗	🛑	NO❗
└	transferFrom	Public ❗	🛑	NO❗
└	increaseAllowance	Public ❗	🛑	NO❗
└	decreaseAllowance	Public ❗	🛑	NO❗
└	transfer	Public ❗	🛑	NO❗
└	_transfer	Internal 🔒	🛑	
└	Liquify	Private 🔐	🛑	lockTheSwap
└	swapTokensForETH	Private 🔐	🛑	
└	addLiquidity	Private 🔐	🛑	
└	updateLiquidityProvide	External ❗	🛑	onlyOwner
└	updateLiquidityTreshhold	External ❗	🛑	onlyOwner
└	SetBuyTaxes	External ❗	🛑	onlyOwner
└	SetSellTaxes	External ❗	🛑	onlyOwner
└	EnableTrading	External ❗	🛑	onlyOwner
└	updatedeadline	External ❗	🛑	onlyOwner
└	updateMarketingWallet	External ❗	🛑	onlyOwner
└	updateExemptFee	External ❗	🛑	onlyOwner
└	bulkExemptFee	External ❗	🛑	onlyOwner
└	rescueBNB	External ❗	🛑	onlyOwner
└	rescueBSC20	External ❗	🛑	onlyOwner
└	<Receive Ether>	External ❗	💵	NO❗

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable

STATIC ANALYSIS

```
Reentrancy in AIRBT.transferFrom(address,address,uint256) (contracts/Token.sol#494-509):
        External calls:
        - _transfer(sender,recipient,amount) (contracts/Token.sol#499)
                - router.addLiquidityETH{value: ethAmount}(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (contracts/Token.sol#665-672)
                - (success) = recipient.call{value: amount}() (contracts/Token.sol#344)
                - router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (contracts/Token.sol#651-657)
                - address(marketingWallet).sendValue(marketingAmt) (contracts/Token.sol#637)
        External calls sending eth:
        - _transfer(sender,recipient,amount) (contracts/Token.sol#499)
                - router.addLiquidityETH{value: ethAmount}(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (contracts/Token.sol#665-672)
                - (success) = recipient.call{value: amount}() (contracts/Token.sol#344)
        Event emitted after the call(s):
        - Approval(owner,spender,amount) (contracts/Token.sol#333)
                - _approve(sender,_msgSender(),currentAllowance - amount) (contracts/Token.sol#506)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-3

Context._msgData() (contracts/Token.sol#14-17) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

Pragma version^0.8.17 (contracts/Token.sol#7) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
solc-0.8.19 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity

Low level call in Address.sendValue(address,uint256) (contracts/Token.sol#338-349):
        - (success) = recipient.call{value: amount}() (contracts/Token.sol#344)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Variable BEP20._balances (contracts/Token.sol#70) is not in mixedCase
Variable BEP20._allowances (contracts/Token.sol#72) is not in mixedCase
Function IRouter.WETH() (contracts/Token.sol#402) is not in mixedCase
Function AIRBT.Liquify(uint256,AIRBT.Taxes) (contracts/Token.sol#601-640) is not in mixedCase
Parameter AIRBT.updateLiquidityTreshhold(uint256).new_amount (contracts/Token.sol#679) is not in mixedCase
Function AIRBT.SetBuyTaxes(uint256,uint256) (contracts/Token.sol#691-697) is not in mixedCase
Parameter AIRBT.SetBuyTaxes(uint256,uint256)._marketing (contracts/Token.sol#692) is not in mixedCase
Parameter AIRBT.SetBuyTaxes(uint256,uint256)._liquidity (contracts/Token.sol#693) is not in mixedCase
Function AIRBT.SetSellTaxes(uint256,uint256) (contracts/Token.sol#699-705) is not in mixedCase
Parameter AIRBT.SetSellTaxes(uint256,uint256)._marketing (contracts/Token.sol#700) is not in mixedCase
Parameter AIRBT.SetSellTaxes(uint256,uint256)._liquidity (contracts/Token.sol#701) is not in mixedCase
Function AIRBT.EnableTrading() (contracts/Token.sol#707-712) is not in mixedCase
Parameter AIRBT.updatedeadline(uint256)._deadline (contracts/Token.sol#714) is not in mixedCase
Parameter AIRBT.updateExemptFee(address,bool)._address (contracts/Token.sol#725) is not in mixedCase
Variable AIRBT.genesis_block (contracts/Token.sol#437) is not in mixedCase
Constant AIRBT.deadWallet (contracts/Token.sol#442-443) is not in UPPER_CASE_WITH_UNDERSCORES
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

Redundant expression "this (contracts/Token.sol#15)" inContext (contracts/Token.sol#9-18)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements

AIRBT._lastSell (contracts/Token.sol#456) is never used in AIRBT (contracts/Token.sol#425-752)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-state-variable

AIRBT.launchtax (contracts/Token.sol#439) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant

AIRBT.pair (contracts/Token.sol#429) should be immutable
AIRBT.router (contracts/Token.sol#428) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
```

Result => A static analysis of contract's source code has been performed using slither,

No major issues were found in the output

FUNCTIONAL TESTING

Router (PCS V2):
0xD99D1c33F9fC3444f8101754aBC46c52416550D1

All the functionalities have been tested, no issues were found

1- Adding liquidity (passed):
https://testnet.bscscan.com/tx/0xc99eb6a4019fd62b371506ae7bdd8b471a2da46daadbc8d0cab5cbc2d54c93ce

2- Buying when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x5690908e8bebb99144d74fff9ade06ddc05dfe404db189bd0ca95c448c0375d2

3- Selling when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x8a1b70da37e22fb603828979379d83d131f1a9c907946073b05ff776ca38b08a

4- Transferring when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0xfab986681026e28a0e1861b96e25cf2c837408c63fede4459f5a99bfd6895b74

5- Buying when not excluded (upto 5% tax) (passed):
https://testnet.bscscan.com/tx/0x8a40013db4a47cec1297180c5b91a049de33e372e26d599f3cbb16845783b18b

6- Selling when not excluded (upto 5% tax) (passed):
https://testnet.bscscan.com/tx/0x01e239d688406aae7640561752415301c05f5acda976310a0d3f6eb77a14bd06

FUNCTIONAL TESTING

7- Transferring when not excluded (upto 5% tax) (passed):
https://testnet.bscscan.com/tx/0xe1c46fc5c89ba12b778e1fa2ce715a8af5be51f1da10394b063d5c560a0fd4e6

8- Internal swap (passed):
Marketing wallet received ETH
https://testnet.bscscan.com/address/0x87a011ac9eb79bfd042643a09fe20358b4b34cc7#internaltx

MANUAL TESTING

Centralization - Owner must enable trading

Severity: High
Function: EnableTrading
Lines: 710
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 EnableTrading() external onlyOwner {
    require(!tradingEnabled, "Cannot re-enable trading");
    tradingEnabled = true;
    providingLiquidity = true;
    genesis_block = block.number;
}
```

Since contract is owned by safu dev, enabling trades is guaranteed.

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