AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR
Baby Aliens
DATED : 30 JAN 23'

AUDIT SUMMARY

Project name – Baby Aliens

Date: 30 January , 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	0	0	0	0
Acknowledged	0	0	0	0	0
Resolved	0	0	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 Testnet network, each test has its transaction has attached to it. . You can check this tests in **"functionality tests"** section of the report.

3- Slither : Static Analysis

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

https://testnet.bscscan.com/token/0x95f6c0f3cab303b55429a32ea580c0f69e8fe747

Token Information

Token Name : BabyAliens

Token Symbol: BAP

Decimals: 18

Token Supply: 100,000,000,000

Token Address:
0xdD2565E0561A4Fea6256f767f658CCcF09e55Fb3

Checksum:
4c3ff1d73018dc5a5cdd9721f536546adea313f505a8
a5f83b0a2935a19c5a85

Deployer:
0xF34CE2b1d2F94a432cF5b6e5D0F67e45f2835d67

Owner:
0xF34CE2b1d2F94a432cF5b6e5D0F67e45f2835d67

TOKEN OVERVIEW

Fees:

Buy Fees: - 8%

Sell Fees: - 8%

Transfer Fees: - 0%

Fees Privilige: Owner

Ownership : Owned

Minting: No mint function

Max Tx Amount: No

Blacklist: No

Other Priviliges: setting max buy & sell amounts

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

◆ **Critical**

◆ **High-Risk**

◆ **Medium-Risk**

◆ **Low-Risk**

◆ **Gas Optimization /Suggestion**

Description

These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.

A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.

A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.

A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.

A vulnerability that has an informational character but is not affecting any of the code.

Findings

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

INHERITANCE TREE
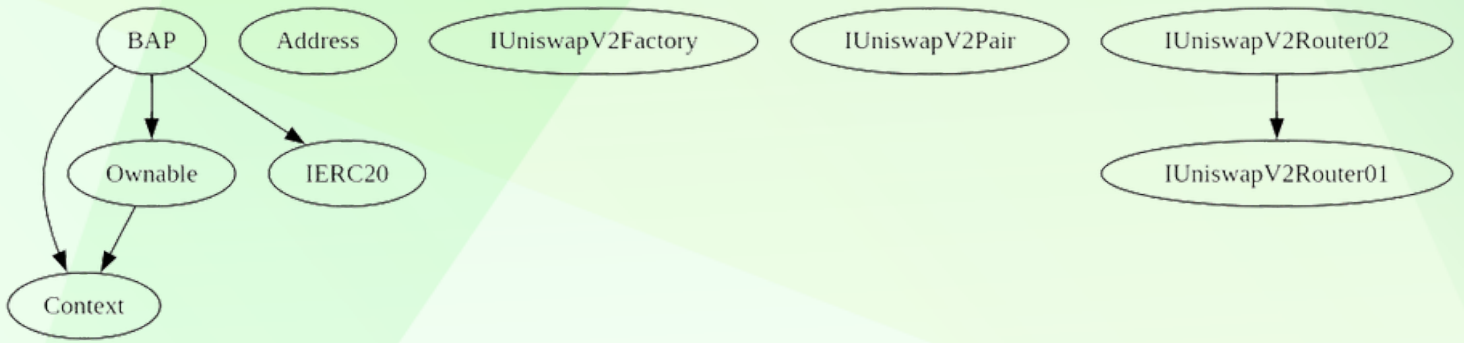
POINTS TO NOTE

- Owner is not able to set sell taxes over 12% and buy taxes over 8%

- Owner is not able to blacklist an arbitrary wallet

- Owner is not able to set max buy/sell/transfer amounts

- Owner is not able to disable trades

- Owner is not able to mint new tokens

CONTRACT ASSESMENT

Contract	Type	Bases		
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
Context	Implementation			
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		
Ownable	Implementation	Context		
└	\<Constructor\>	Public ❗	🛑	NO❗
└	owner	Public ❗		NO❗
└	renounceOwnership	Public ❗	🛑	onlyOwner
└	transferOwnership	Public ❗	🛑	onlyOwner
IERC20	Interface			
└	totalSupply	External ❗		NO❗
└	balanceOf	External ❗		NO❗
└	transfer	External ❗	🛑	NO❗
└	allowance	External ❗		NO❗
└	approve	External ❗	🛑	NO❗
└	transferFrom	External ❗	🛑	NO❗
Address	Library			
└	isContract	Internal 🔒		
└	sendValue	Internal 🔒	🛑	
└	functionCall	Internal 🔒	🛑	
└	functionCall	Internal 🔒	🛑	
└	functionCallWithValue	Internal 🔒	🛑	
└	functionCallWithValue	Internal 🔒	🛑	
└	_functionCallWithValue	Private 🔐	🛑	
IUniswapV2Factory	Interface			
└	feeTo	External ❗		NO❗
└	feeToSetter	External ❗		NO❗
└	getPair	External ❗		NO❗
└	allPairs	External ❗		NO❗
└	allPairsLength	External ❗		NO❗
└	createPair	External ❗	🛑	NO❗
└	setFeeTo	External ❗	🛑	NO❗
└	setFeeToSetter	External ❗	🛑	NO❗
IUniswapV2Pair	Interface			

CONTRACT ASSESMENT

└	name	External ❗		NO❗
└	symbol	External ❗		NO❗
└	decimals	External ❗		NO❗
└	totalSupply	External ❗		NO❗
└	balanceOf	External ❗		NO❗
└	allowance	External ❗		NO❗
└	approve	External ❗	🛑	NO❗
└	transfer	External ❗	🛑	NO❗
└	transferFrom	External ❗	🛑	NO❗
└	DOMAIN_SEPARATOR	External ❗		NO❗
└	PERMIT_TYPEHASH	External ❗		NO❗
└	nonces	External ❗		NO❗
└	permit	External ❗	🛑	NO❗
└	MINIMUM_LIQUIDITY	External ❗		NO❗
└	factory	External ❗		NO❗
└	token0	External ❗		NO❗
└	token1	External ❗		NO❗
└	getReserves	External ❗		NO❗
└	price0CumulativeLast	External ❗		NO❗
└	price1CumulativeLast	External ❗		NO❗
└	kLast	External ❗		NO❗
└	burn	External ❗	🛑	NO❗
└	swap	External ❗	🛑	NO❗
└	skim	External ❗	🛑	NO❗
└	sync	External ❗	🛑	NO❗
└	initialize	External ❗	🛑	NO❗
IUniswapV2Router01	Interface			
└	factory	External ❗		NO❗
└	WETH	External ❗		NO❗
└	addLiquidity	External ❗	🛑	NO❗
└	addLiquidityETH	External ❗	💵	NO❗
└	removeLiquidity	External ❗	🛑	NO❗
└	removeLiquidityETH	External ❗	🛑	NO❗
└	removeLiquidityWithPermit	External ❗	🛑	NO❗
└	removeLiquidityETHWithPermit	External ❗	🛑	NO❗
└	swapExactTokensForTokens	External ❗	🛑	NO❗
└	swapTokensForExactTokens	External ❗	🛑	NO❗
└	swapExactETHForTokens	External ❗	💵	NO❗
└	swapTokensForExactETH	External ❗	🛑	NO❗
└	swapExactTokensForETH	External ❗	🛑	NO❗

CONTRACT ASSESMENT

└	swapETHForExactTokens	External ❗	💵	NO❗
└	quote	External ❗		NO❗
└	getAmountOut	External ❗		NO❗
└	getAmountIn	External ❗		NO❗
└	getAmountsOut	External ❗		NO❗
└	getAmountsIn	External ❗		NO❗
IUniswapV2Router02	Interface	IUniswapV2Router01		
└	removeLiquidityETHSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
└	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
└	swapExactTokensForTokensSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
└	swapExactETHForTokensSupportingFeeOnTransferTokens	External ❗	💵	NO❗
└	swapExactTokensForETHSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
BAP	Implementation	Context, IERC20, Ownable		
└	<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❗
└	isExcludedFromReward	Public ❗		NO❗
└	totalReflectionDistributed	Public ❗		NO❗
└	deliver	Public ❗	🛑	NO❗
└	reflectionFromToken	Public ❗		NO❗
└	tokenFromReflection	Public ❗		NO❗
└	excludeFromReward	Public ❗	🛑	onlyOwner
└	includeInReward	External ❗	🛑	onlyOwner
└	<Receive Ether>	External ❗	💵	NO❗
└	claimStuckTokens	External ❗	🛑	onlyOwner
└	_reflectFee	Private 🔐	🛑	
└	_getValues	Private 🔐		
└	_getTValues	Private 🔐		
└	_getRValues	Private 🔐		
└	_getRate	Private 🔐		

CONTRACT ASSESMENT

└	_getCurrentSupply	Private 🔐		
└	_takeLiquidity	Private 🔐	🛑		
└	_takeMarketing	Private 🔐	🛑		
└	calculateTaxFee	Private 🔐		
└	calculateLiquidityFee	Private 🔐		
└	calculateMarketingFee	Private 🔐		
└	removeAllFee	Private 🔐	🛑		
└	setBuyFee	Private 🔐	🛑		
└	setSellFee	Private 🔐	🛑		
└	isExcludedFromFee	Public ❗		|NO❗
└	_approve	Private 🔐	🛑		
└	_transfer	Private 🔐	🛑		
└	swapAndLiquify	Private 🔐	🛑		
└	swapAndSendMarketing	Private 🔐	🛑		
└	setSwapTokensAtAmount	External ❗	🛑	onlyOwner
└	setSwapEnabled	External ❗	🛑	onlyOwner
└	_tokenTransfer	Private 🔐	🛑		
└	_transferStandard	Private 🔐	🛑		
└	_transferToExcluded	Private 🔐	🛑		
└	_transferFromExcluded	Private 🔐	🛑		
└	_transferBothExcluded	Private 🔐	🛑		
└	excludeFromFees	External ❗	🛑	onlyOwner
└	changeMarketingWallet	External ❗	🛑	onlyOwner
└	setBuyFeePercentages	External ❗	🛑	onlyOwner
└	setSellFeePercentages	External ❗	🛑	onlyOwner

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable

STATIC ANALYSIS

```
Address._functionCallWithValue(address,bytes,uint256,string) (contracts/Ace_Testing_BSC.sol#117-138) is never used and should be removed
Address.functionCall(address,bytes) (contracts/Ace_Testing_BSC.sol#100-102) is never used and should be removed
Address.functionCall(address,bytes,string) (contracts/Ace_Testing_BSC.sol#104-106) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256) (contracts/Ace_Testing_BSC.sol#108-110) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256,string) (contracts/Ace_Testing_BSC.sol#112-115) is never used and should be removed
Address.isContract(address) (contracts/Ace_Testing_BSC.sol#81-90) is never used and should be removed
Context._msgData() (contracts/Ace_Testing_BSC.sol#26-29) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

BAP._tTotal (contracts/Ace_Testing_BSC.sol#358) is set pre-construction with a non-constant function or state variable:
    - 100_000_000_000 * (10 ** _decimals)
BAP._rTotal (contracts/Ace_Testing_BSC.sol#359) is set pre-construction with a non-constant function or state variable:
    - (MAX - (MAX % _tTotal))
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#function-initializing-state

Pragma version0.8.17 (contracts/Ace_Testing_BSC.sol#19) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
solc-0.8.17 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/Ace_Testing_BSC.sol#92-98):
    - (success) = recipient.call{value: amount}() (contracts/Ace_Testing_BSC.sol#96)
Low level call in Address._functionCallWithValue(address,bytes,uint256,string) (contracts/Ace_Testing_BSC.sol#117-138):
    - (success,returndata) = target.call{value: weiValue}(data) (contracts/Ace_Testing_BSC.sol#121)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Function IUniswapV2Pair.DOMAIN_SEPARATOR() (contracts/Ace_Testing_BSC.sol#172) is not in mixedCase
Function IUniswapV2Pair.PERMIT_TYPEHASH() (contracts/Ace_Testing_BSC.sol#173) is not in mixedCase
Function IUniswapV2Pair.MINIMUM_LIQUIDITY() (contracts/Ace_Testing_BSC.sol#189) is not in mixedCase
Function IUniswapV2Router01.WETH() (contracts/Ace_Testing_BSC.sol#208) is not in mixedCase
Parameter BAP.calculateTaxFee(uint256)._amount (contracts/Ace_Testing_BSC.sol#634) is not in mixedCase
Parameter BAP.calculateLiquidityFee(uint256)._amount (contracts/Ace_Testing_BSC.sol#638) is not in mixedCase
Parameter BAP.calculateMarketingFee(uint256)._amount (contracts/Ace_Testing_BSC.sol#642) is not in mixedCase
Parameter BAP.setSwapEnabled(bool)._enabled (contracts/Ace_Testing_BSC.sol#781) is not in mixedCase
Parameter BAP.changeMarketingWallet(address)._marketingWallet (contracts/Ace_Testing_BSC.sol#865) is not in mixedCase
Parameter BAP.setBuyFeePercentages(uint256,uint256,uint256)._taxFeeonBuy (contracts/Ace_Testing_BSC.sol#872) is not in mixedCase
Parameter BAP.setBuyFeePercentages(uint256,uint256,uint256)._liquidityFeeonBuy (contracts/Ace_Testing_BSC.sol#872) is not in mixedCase
Parameter BAP.setBuyFeePercentages(uint256,uint256,uint256)._marketingFeeonBuy (contracts/Ace_Testing_BSC.sol#872) is not in mixedCase
Parameter BAP.setSellFeePercentages(uint256,uint256,uint256)._taxFeeonSell (contracts/Ace_Testing_BSC.sol#881) is not in mixedCase
Parameter BAP.setSellFeePercentages(uint256,uint256,uint256)._liquidityFeeonSell (contracts/Ace_Testing_BSC.sol#881) is not in mixedCase
Parameter BAP.setSellFeePercentages(uint256,uint256,uint256)._marketingFeeonSell (contracts/Ace_Testing_BSC.sol#881) is not in mixedCase
Variable BAP._taxFee (contracts/Ace_Testing_BSC.sol#371) is not in mixedCase
Variable BAP._liquidityFee (contracts/Ace_Testing_BSC.sol#372) is not in mixedCase
Variable BAP._marketingFee (contracts/Ace_Testing_BSC.sol#373) is not in mixedCase
Variable BAP.DEAD (contracts/Ace_Testing_BSC.sol#380) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

Redundant expression "this (contracts/Ace_Testing_BSC.sol#27)" inContext (contracts/Ace_Testing_BSC.sol#21-30)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements
```

Result => A static analysis of contract's source code has been performed using slither, no major issues were found

FUNCTIONAL TESTING

Router (PCS V2):
0xD99D1c33F9fC3444f8101754aBC46c52416550D1

0- Deploying (Passed):

https://testnet.bscscan.com/tx/0x528c78f4ee4bdbedc8ab9815f7b2680e17a4287af795e24edd7c33cebedc0b7a

1- Adding Liquidity (Passed):
liquidity added on Pancakeswap V2:

https://testnet.bscscan.com/tx/0x40b1649a19395452e1e04aa4cca36128e783bbc0a2e472b9749bf4beca1e284c

no issue were found on adding liquidity.

2- Excluding deployer's wallet from taxes (to test taxes) (Passed):

https://testnet.bscscan.com/tx/0xc10652f51e0459f45a33dc31adf4c55a944f4c25bda207ae0936db7931117a38

3- Setting buy and sell fees (Passed):

https://testnet.bscscan.com/tx/0x1f3f8404485c65825d2ac773095deb7250c17b28633d7b37604ae6174e74d3c5

https://testnet.bscscan.com/tx/0x9a24afc5e67263d8c5111c2d0bdf047036a611dce8e568c57aa06c2cc56cdac1

FUNCTIONAL TESTING

4- Buying from a non-whitelisted wallet (Passed):

https://testnet.bscscan.com/tx/0x53674b43d37effbd3e8f4d38db069b186da40289c2a9595f7c212fd94aa5c04d

8% tax applied

5- Selling from a non-whitelisted wallet (Passed):

https://testnet.bscscan.com/tx/0xb0e3e8cf27684df16aed07752730957574d08c7f96117cf4bb6e3f6ec99fee94

12% static tax on sells

6- Internal Swap (Passed):

taxes were swapped to BNB and sent to staking and marketing wallets:

marketing:
https://testnet.bscscan.com/address/0x23a01037deeed9f2fd84400ae8a1d5f84a91ea16#internaltx

FUNCTIONAL TESTING

7- Auto-Liquidity (Passed):

dead wallet received LP generated tokens:

https://testnet.bscscan.com/token/0x0baa85fed8d9dc6a507e7e4543438e0e5827581b?a=0x000000000000000000000000000000000000dead

MANUAL TESTING

NO ISSUES WERE FOUND

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