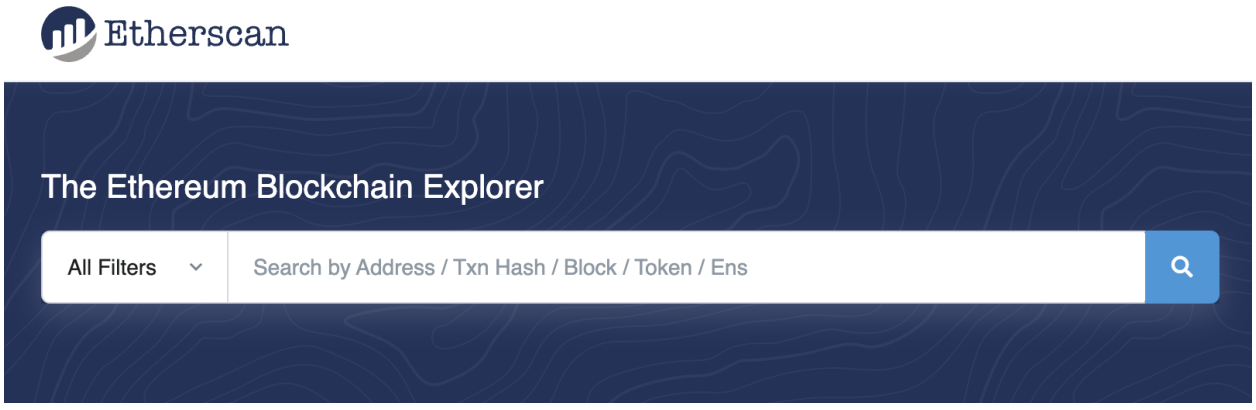
7 Blockchain Explorer Basics

When I first got into crypto and began to explore the Ethereum ecosystem, I really had no idea how to interact with the blockchain. Sure, I could fire up my MetaMask and look at the little ETH I had, but it wasn't until I decided to swap some of that ETH for another token that I began to think about what MetaMask was doing.

After swapping that ETH for UNI, I didn't see that token in my wallet. I panicked, thinking that I had done something wrong and had screwed up the transaction and somehow had lost my ETH. I noticed the 'Activity' tab in MetaMask and I clicked on that. From there, it looked like everything worked as expected, and it seemed I could click on that activity, so I did. That brought up another window that showed me new words: "View on block explorer'. What was that? It was in blue text like a hyperlink so I clicked on it, and a whole new world opened before me. Hello Etherscan!

What Is Etherscan?

Simply put, Etherscan is a blockchain explorer. In some ways, you can think about a blockchain explorer as a search engine for blockchains. There's a search bar, and you can use that field to search the blockchain by wallet address, transaction hash, block number, token name, ENS name, contract address, and I'm sure things I haven't listed here.

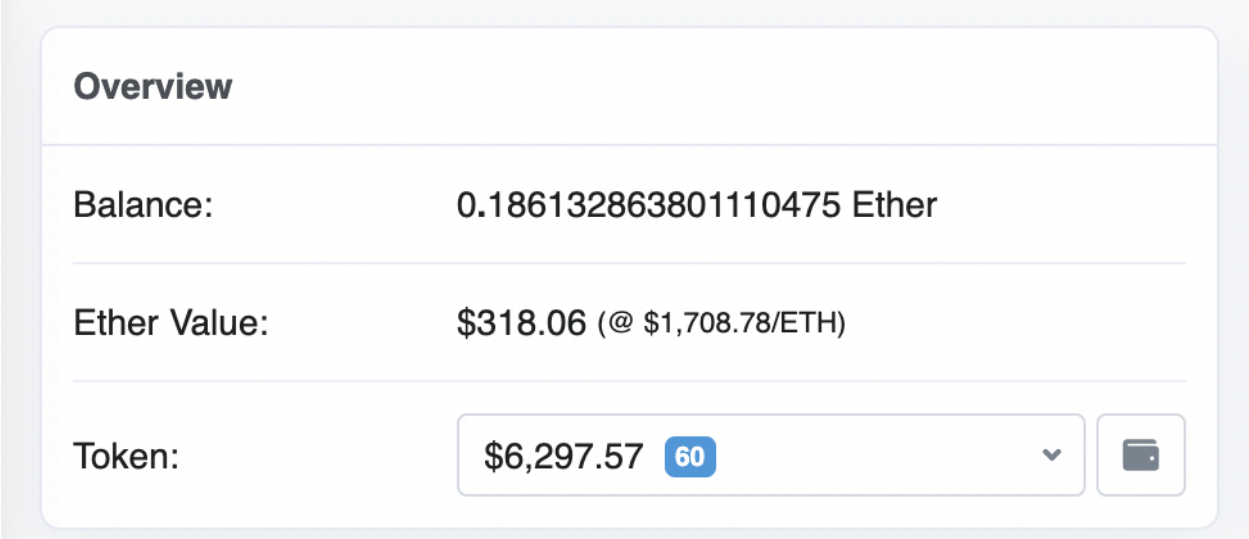


This kind of search functionality is great, but blockchain explorers are so much more than that. They act as makeshift front ends by allowing you to read and write to the blockchain, including interacting directly with smart contracts. This functionality will

prove to be invaluable as governments begin to more heavily regulate our blockchain usage. There's a ton going on under the hood in Etherscan, so let's start with the basics.

See Everything Associated With A Wallet

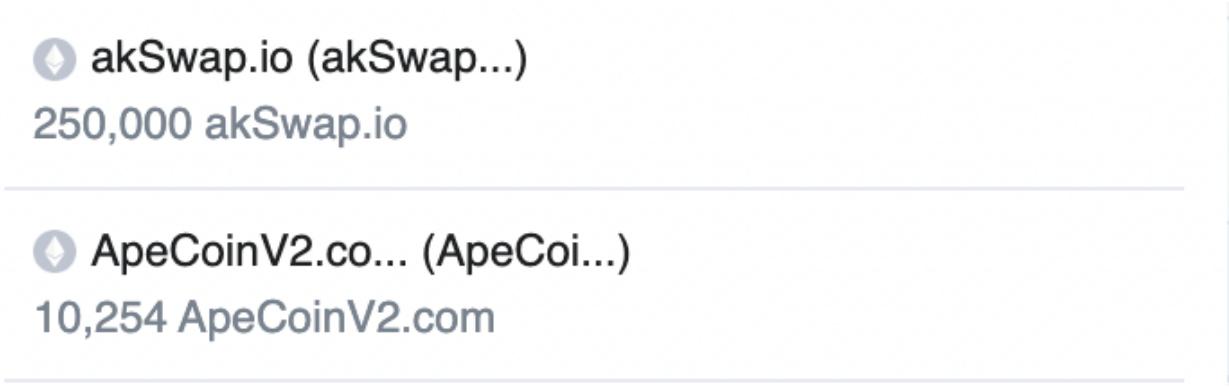
When I swapped ETH for UNI, I didn't realize you had to import tokens to be able to view them (recent upgrades to MetaMask have better token detection defaults). Once I got into Etherscan, I could see my UNI, which is when I really understood that while MetaMask was a wallet, its functionality was really quite limited. With Etherscan, I could see everything that was attached to my wallet address on the blockchain.



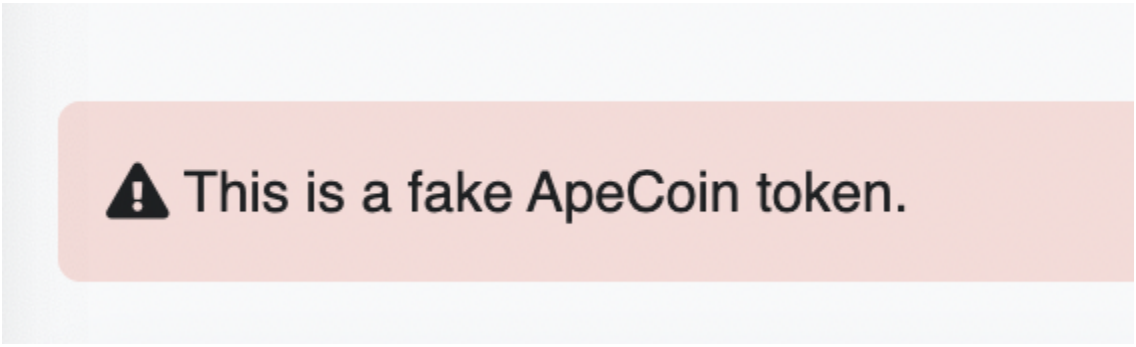
If you click on the dropdown menu under Token, you can see everything associated with your wallet address on the Ethereum network. Sixty tokens, really? Well…..

Etherscan Shows You Scams

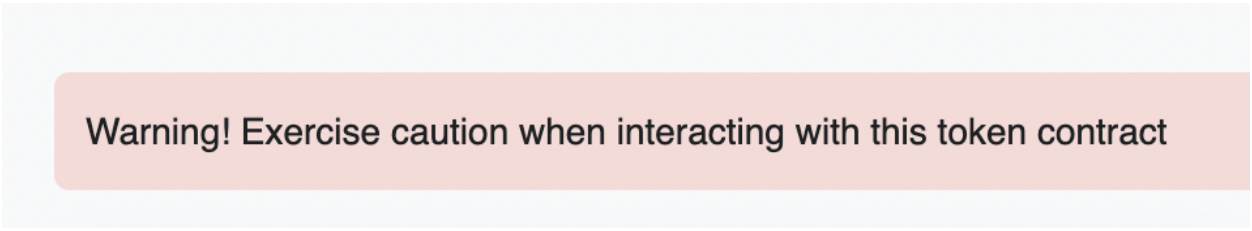
Let's be clear - I don't have 60 tokens, at least not ones I actively sought. One great thing about Etherscan is that it not only shows you all the tokens you have, if helps you to understand which of those tokens may be scams or otherwise malicious.



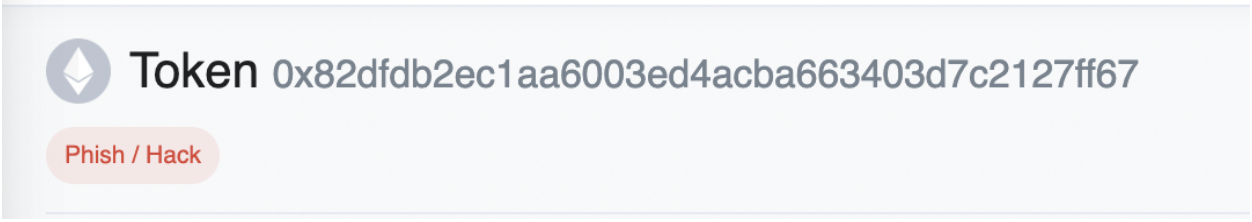
Let’s take these two for example. If you click on ApeCoinv2, Etherscan will display a message letting you know it’s not a real token.



For akSwap.io, it’s even a starker warning:



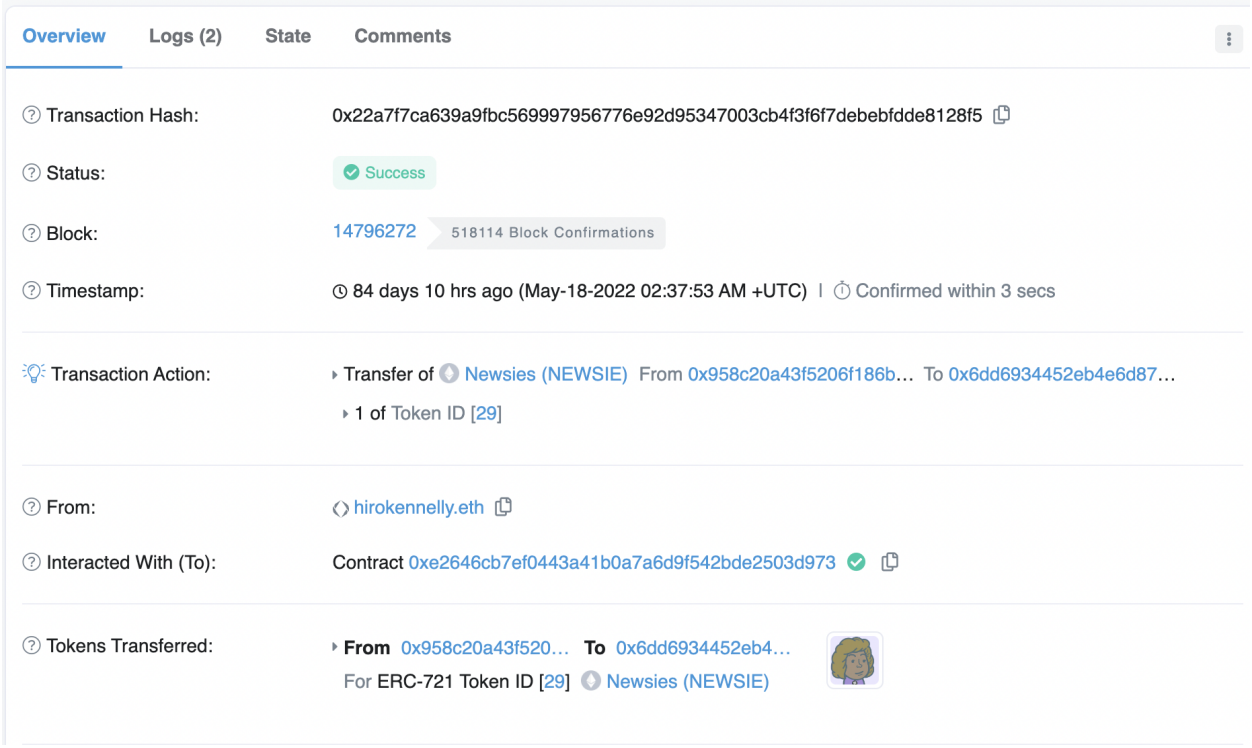
And next to the Token address, you see this:



As a general rule, if you don’t know what something is in your wallet, it’s a scam, phish, or malicious contract that could steal your legitimate crypto. Etherscan helps you understand this.

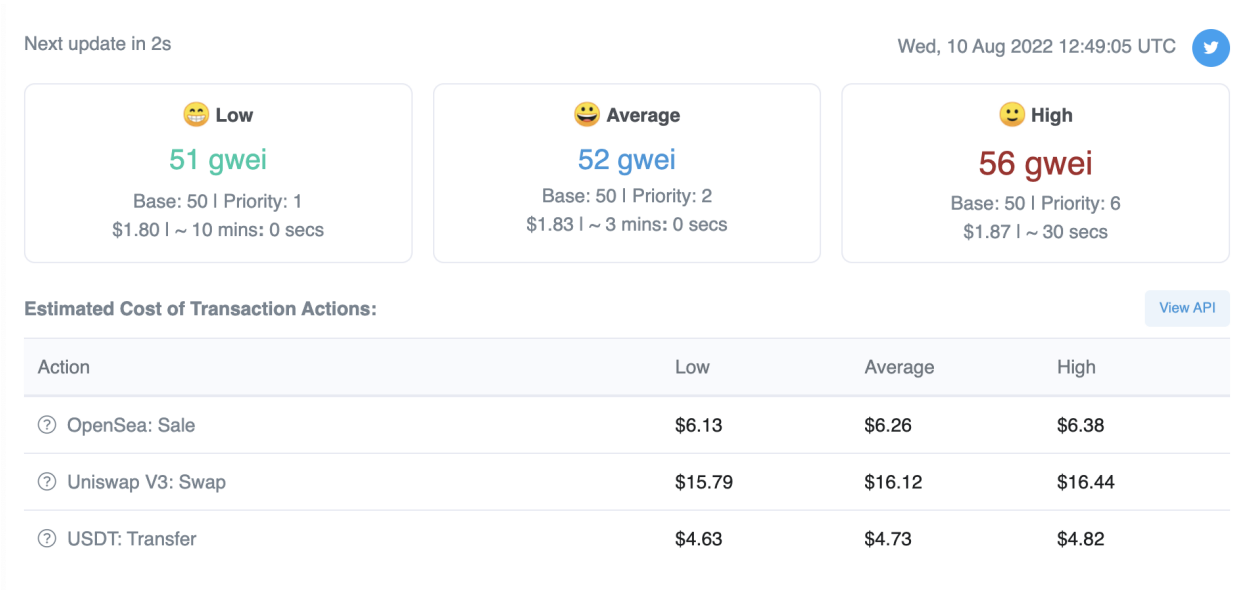
Etherscan Shows Transaction History

Say you sent your friend an NFT for her birthday. That's very nice of you. So you send your NFT over, but your friend says they haven't received it. This is another great use of Etherscan. Since Etherscan tracks all blockchain activity, you can show your friend that the NFT was indeed sent to her correct wallet address.



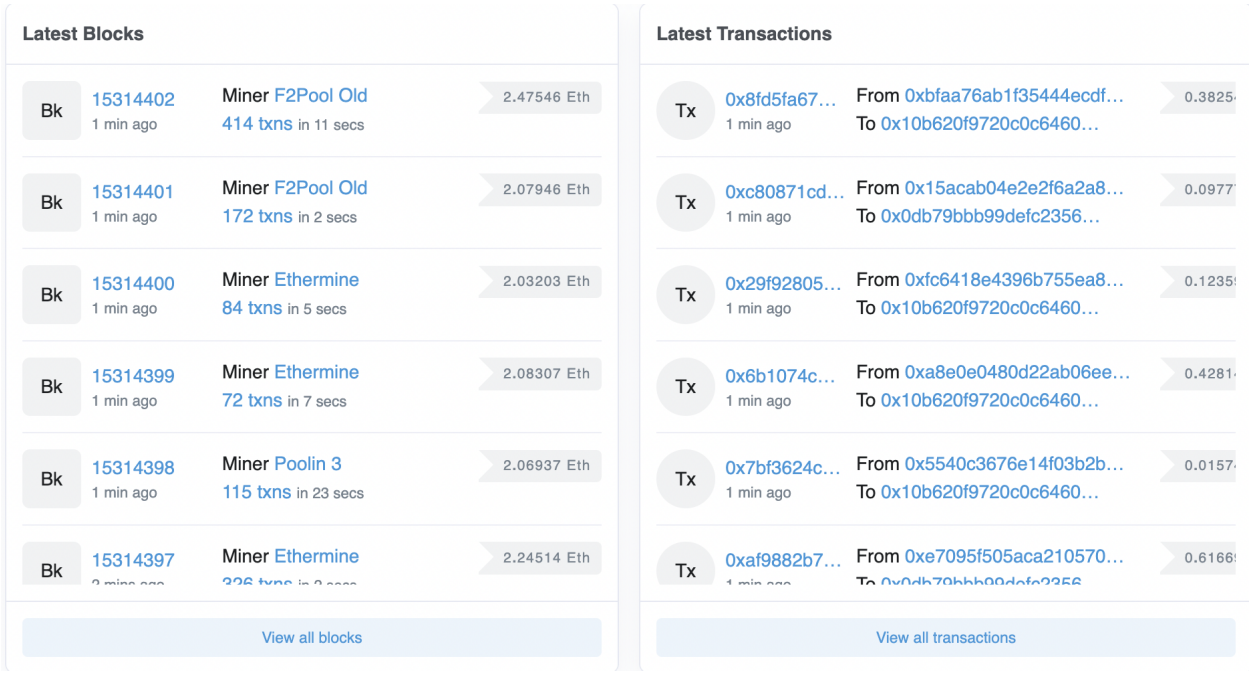
Etherscan Has a Gas Tracker

Although gas isn't what it was during the bull market, it's still great to have a sense of what a transaction may cost. Ethereum's gas tracker shows you estimated gas costs to interact with Ethereum in different ways.

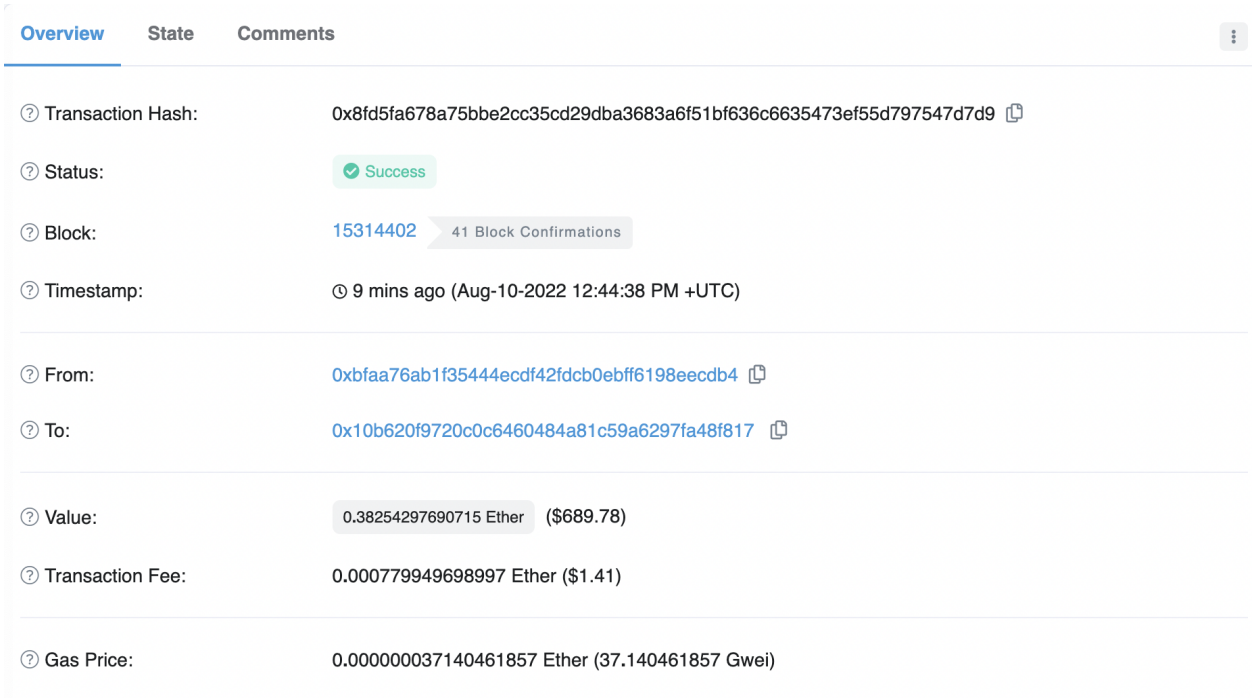


Etherscan Shows You Live Action

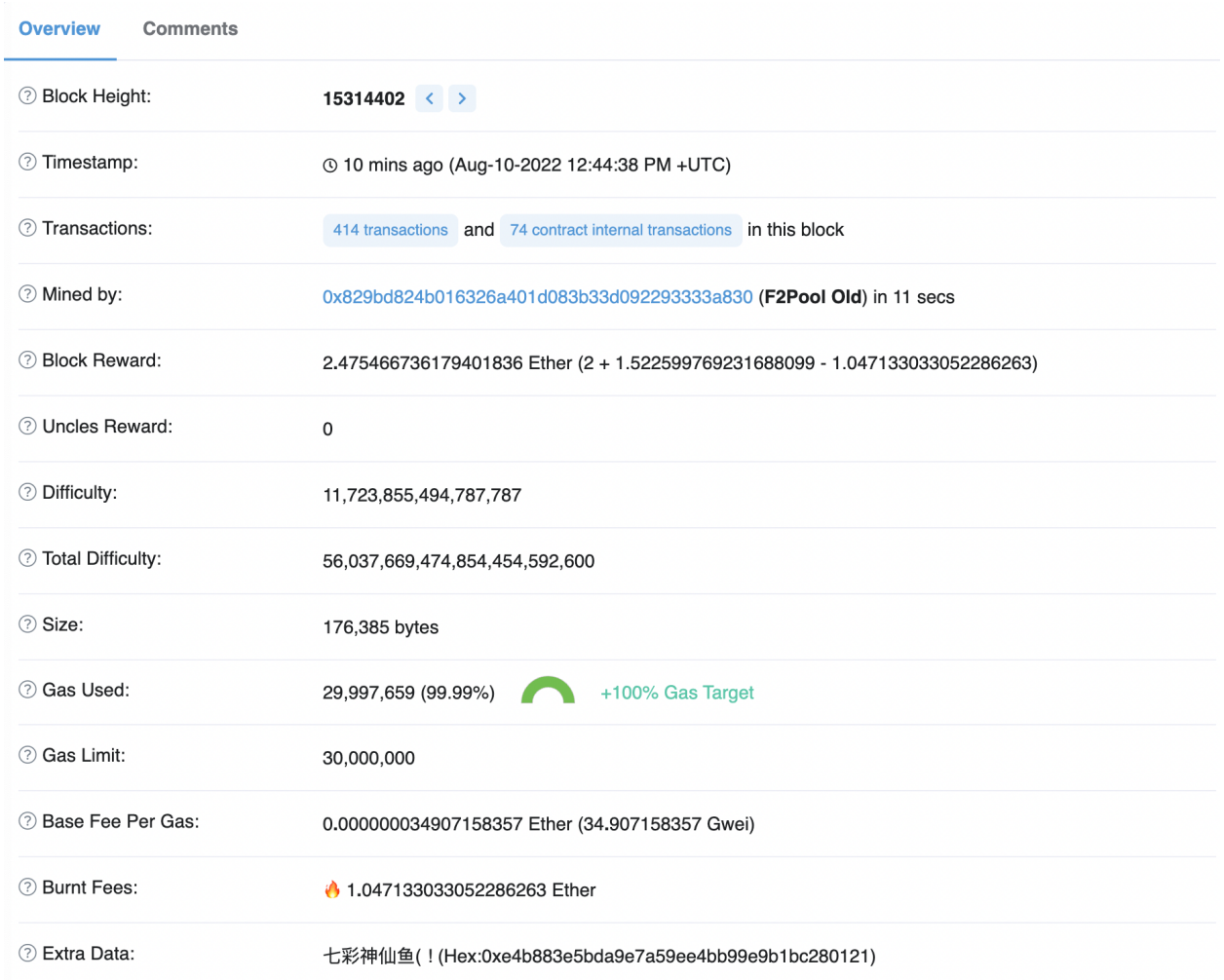
Etherscan lets you see both the latest transactions and the newest blocks.



If you click on the transaction hash, it will give you the details. The below is the transaction (Tx) beginning with 0x8fd:



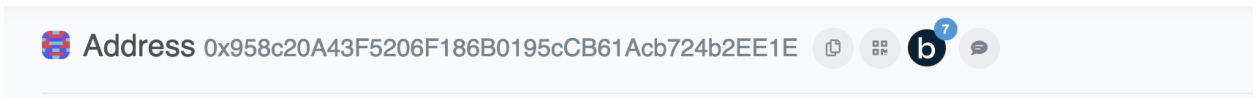
That's fun, but looking at blocks is much more interesting, for example the top block 1534402:



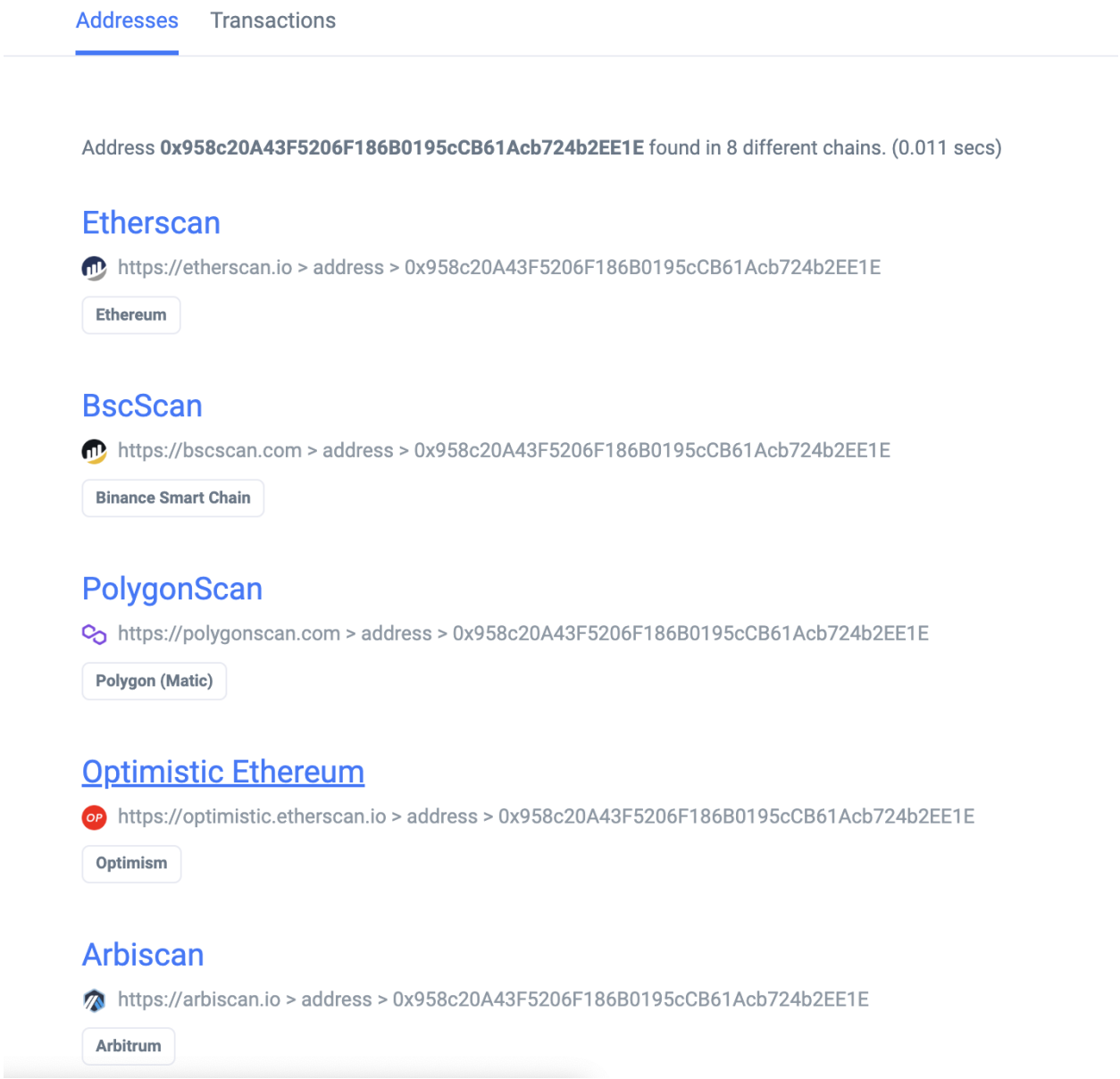
You can see this block had 414 transactions included within it, including 74 smart contract interactions. It will show you the miner, the block reward, and, among other things, the amount of ETH burned (over 1 ETH!). For those interested in this level of granular blockchain detail, there's no better place to go.

Etherscan Isn't Limited to Mainnet

Etherscan lets you explore blockchains besides Ethereum mainnet. When you search by wallet address, the top of the result page appears like:



Although it's totally unintuitive, if you click on the 'b' (which stand for 'blockscan'), it takes you to a new pages that has the names of other blockchains:

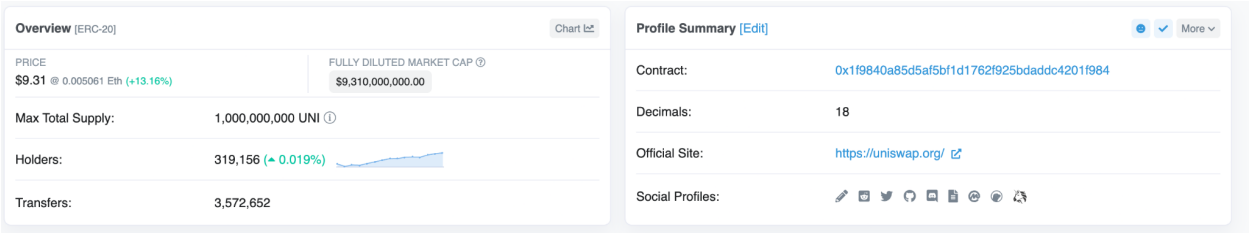


In addition to Binance Smart Chain, which, honestly, is a pretty random inclusion (but it is an EVM chain), you'll see three scaling solutions: the Polygon side chain and Layer 2 solutions Optimism and Arbitrum. If you click on any of these, you'll be brought to a block explorer just like you use for Ethereum.

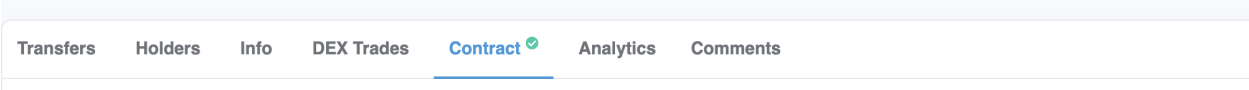
Etherscan Lets You Interact With Smart Contracts

The final thing we'll cover today is perhaps the most important. Many users don't realize that the dApps we interact with, like Uniswap and PoolTogether, are really just front ends that allow you to interact with the blockchain. Although you need some level of technical sophistication, you can view and interact with any deployed contract directly through Etherscan.

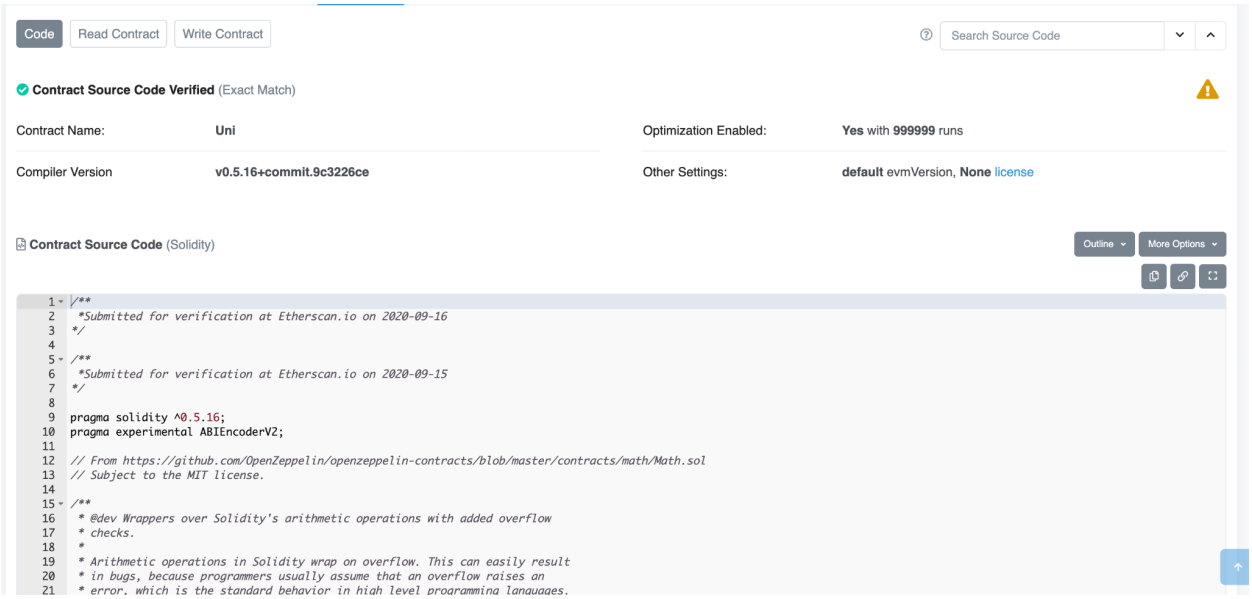
For most people, the most practical use of interacting with contracts is to make sure the contract is legit and verified. Let's take the UNI token contract for example:



So far so good. Everything looks right, but you might be surprised how easy it is to spoof this stuff. A great way to verify that the address you're interacting with is legitimate is to scroll down a bit until you see this:

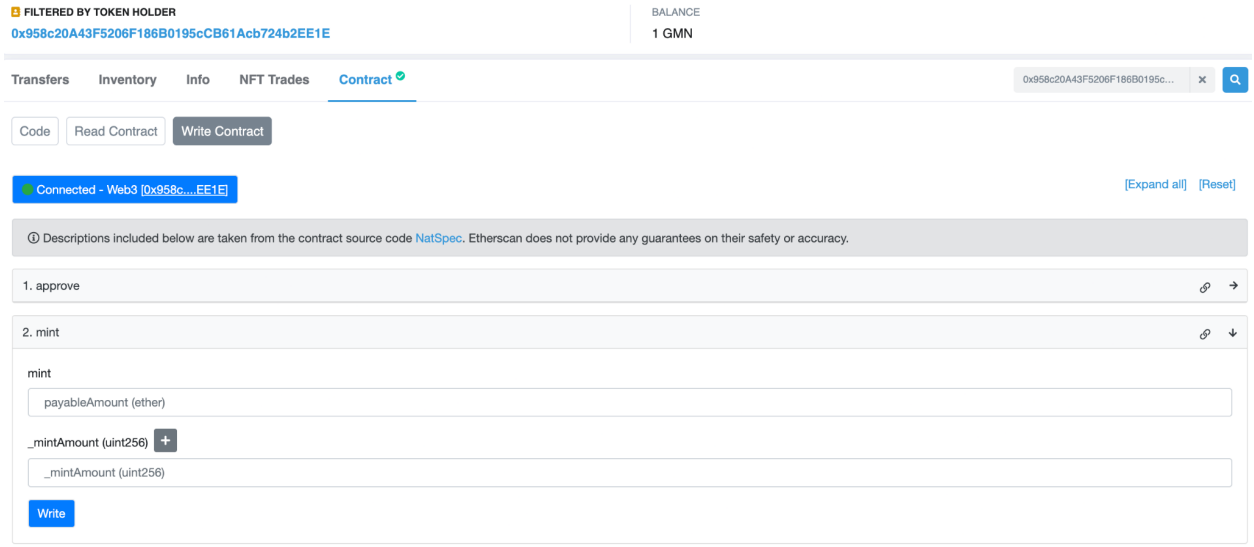


These are tabs you can interact with. The green check mark means the contract source code has been verified, and this tab also allows you to examine the smart contract code.



While that's over most of our heads, it's awesome to know there is a place where we can review the contract.

Perhaps the most functional part of this “Contract” tab for most people is the read/write functionality, specifically for NFT contracts. Below is the contract for Good Morning News. If you click on “Write Contract”, connect your wallet, and aren’t afraid to learn things from YouTube, it’s a great way to mint during a frenzy when front end applications can go down. Interacting directly with a smart contract to bypass faulty front ends is a web3 superpower.



Etherscan Is a Web3 Toolkit

Etherscan can do so much more than what we mentioned, but these basics are a fantastic way to start getting familiar with blockchain explorers. The more you spend time with Etherscan, the more comfortable you’ll become and you’ll be cruising blocks and minting from contracts before you know it.