Block Header

Notation : H

Description : The information contained in a block besides the transactions list. This consists of:

1. PARENT HASH – This is the Keccak-256 hash of the parent block's header.

2. OMMERS HASH – This is the Keccak-256 hash of the ommer's list portion of this block.

3. BENEFICIARY – This is the 20-byte address to which all block rewards are transferred.

4. STATE ROOT – This is the Keccak-256 hash of the root node of the state trie, after a block and its transactions are finalized.

5. TRANSACTIONS ROOT – This is the Keccak-256 hash of the root node of the trie structure populated with each transaction from a Block's transaction list.

6. RECEIPTS ROOT – This is the Keccak-256 hash of the root node of the trie structure populated with the receipts of each transaction in the transactions list portion of the block.

7. LOGS BLOOM – This is the bloom filter composed from indexable information (log address and log topic) contained in the receipt for each transaction in the transactions list portion of a block.

8. DIFFICULTY – This is the difficulty of this block – a quantity calculated from the previous block's difficulty and its timestamp.

9. NUMBER – This is a quantity equal to the number of ancestor blocks behind the current block.

10. GAS LIMIT – This is a quantity equal to the current maximum gas expenditure per block.

11. GAS USED – This is a quantity equal to the total gas used in transactions in this block.

12. TIMESTAMP – This is a record of Unix's time at this block's inception.

13. EXTRA DATA – This byte-array of size 32 bytes or less contains extra data relevant to this block.

14. MIX HASH – This is a 32-byte hash that verifies a sufficient amount of computation has been done on this block.

15. NONCE – This is an 8-byte hash that verifies a sufficient amount of computation has been done on this block.

16. OMMER BLOCK HEADERS – These are the same components listed above for any ommers.

17. TRANSACTION SERIES – This is the only non-header content in the block.