## CAPACITIES OF RESERVOIRS.

It will now be proper to state the mode in which an approximation to the maximum contents of the reservoirs is made, and by which we obtain the approximate height for the dams. The following table from your report affords us the proportion of downfall water or rain for each month in the year which you consider safely applicable.

### TABLE

*Deduced from the monthly fall of rain for the year 1822, shewing the portions of that fall available monthly for collection,*

| No. 1. | No. 2. | No. 3. | No. 4. | No. 5. |
|---|---|---|---|---|
| Month. | Fall of water inches. | Per cent. drained. | Quantity drained. inches. | Quantity drained per sq. acre. cubic feet. |
| January, | 1.8 | 0.50 | 0.9 | 3267. |
| February, | 4.8 | " | 2.4 | 87120.0 |
| March, | 1.3 | " | 0 65 | 2359.5 |
| April, | 2.1 | 0.25 | 0.525 | 1905.7 |
| May, | 1.5 | " | 0.375 | 1361.2 |
| June, | 1.5 | " | 0.375 | 1361.2 |
| July, | 4.35 | " | 1.0875 | 3947.6 |
| August, | 0.80 | " | 0 2 | 726.0 |
| September, | 2.25 | " | 0.5625 | 2041.9 |
| October, | 2.5 | " | 0.625 | 2263.8 |
| November, | 51. | " | 1.275 | 4628.2 |
| December, | 1.2 | 0.50 | 0 6 | 2178.0 |
| Total, | 29.2 | 0.333 | 9.575 | 113165.1 |

The fourth column of the Table affords us the actual depths of rain applicable in the present case. These when multiplied into the extents of drainage, carried out monthly, and compared with the amounts required for all the purposes of the canal, and the amounts assumed as lost on the reservoirs by evaporation and filtration, enable us to arrive at the quantity remaining in the reservoir, at the end of any month, and the greatest quantity under these circumstances at any time in the reservoirs is assumed as the criterion of the capacities of the respective reservoirs. But the amount lost on the reservoirs not being known correctly until their capacities were determined, this amount was in the first instance assumed and afterwards corrected, by the application of the actual results. The actual loss as now estimated by us is now embodied in the following table. The only data which you have given us