polishing head, the polishing pressure P is set to a predetermined value or less. For example, in the embodiment shown in Table 1, the polishing pressure is 2.00 or less.

[0048] Limiting condition D: In order to prevent condensation of slurry components, deterioration of the polishing pad, and thermal cracking of the surface plate, the maximum value of the temperature of the surface to be polished of the wafer being polished or in the vicinity thereof (hereinafter simply referred to as the "maximum value of temperature") is set to a predetermined value T or less. The details of the temperature of the surface to be polished of the wafer being polished or in the vicinity thereof are as described above. The predetermined value T can be obtained from "Formula 4: $T = Z_1 + Z_2\tau + Z_3P + Z_4\omega + Z_5f$" by correlation analysis. τ is the polishing time, f is the polishing slurry flow rate, P is the polishing pressure, ω is the surface plate/polishing head rotation speed, and Z_1, Z_2, Z_3, Z_4 and Z_5 are constants determined by correlation analysis, these constants having positive or negative values. As an example, in the embodiment shown in Table 1, Formula 4 is obtained as Formula (4) below by correlation analysis ($R^2 = 0.92$), and the predetermined value T can be calculated as, for example, 50°C.

Formula (4):

$$Tmax = 17.04 + 0.76\tau + 7.31P + 7.88\omega - 0.52f$$

[0049] Limiting condition E: In order to prevent the wafer from falling off during polishing, the surface plate/polishing head rotation speed ω is set to a predetermined value or less. For example, in the embodiment shown in Table 1, the rotation speed is 1.50 or less.

[0050] For example, in the embodiment shown in Table 1, under limiting conditions A to E, when the target value of ΔQ is set to 50 nm, 100 nm, 150 nm or 200 nm, and the slurry flow rate f of limiting condition A is fixed at 1.00, various polishing conditions shown in Table 2 (Tables 2-1 to 2-4) can be determined from Formula (3) as polishing conditions that satisfy Formula (3).

The polishing conditions can be determined, for example, as follows.

(i) After setting the target value of ΔQ, the slurry flow rate f is determined within a range that satisfies the limiting condition A.

(ii) Next, the surface plate/polishing head rotation speed ω is determined within a range that satisfies the limiting condition E.

(iii) After that, the polishing time τ is determined within a range that satisfies the limiting condition B.