
The System SiO_2 - AlOOH - Fe_2O_3 - H_2O and the Kaolinitic Stage of the Goethite Facies

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Abstract: A 25° C, 1 atm total pressure phase diagram for the system SiO_2 - AlOOH - Fe_2O_3 - H_2O , is determined using the Phase Rule and Shreinemaker's technique as in Chesworth (1974). The water-present assemblages so defined are equivalent to a kaolinitic stage of the goethite facies of the weathering zone. As such they constitute the ideal stable assemblages of several earth-surface deposits and the stage can therefore be used to construct models of these deposits.

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