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Resolution of specific storage in rocks obtained by laboratory experiment.

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Hydraulic conductivity and specific storage in rocks are important properties of evaluating transport and storage ability in sedimentary layer and rock. These properties are decided rigorously in the fluid flow equation- one dimensional equation. According to the definite analysis, resolution of hydraulic conductivity is higher than that of specific storage. The hydraulic conductivity decrease with increasing confining pressure, but specific storage is not correlated with pressure and scatter within some variance. On the other hand, new analysis combined with poroelasticity theory and strain measurement under conventional triaxial compression test can decide well hydraulic conductivity, specific storage and various poroelasticity modulus. In addition, using a specimen after experiment stressed at various loading conditions, the porosity data obtained by mercury injection porosimetry and the gas adsorption method support the specific storage increase behavior.