

6. Development of “Gel System” Pressurized Colloid Solution by the Nature of Gravitation and Gelling Around Solid Void -New Concept Liner Facilities System for a Landfill-

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We have developed “Gel System”. Gel System is new liner facilities system for a landfill. This system made the realization of liner function of the unprecedented level possible by applying the physical and the chemical character, which a colloid solution have. The outside leakage of the pollutant, which is a big social problem recently in the various disposal places, can be prevented by this system.

The space to be filled with the colloid solution is built by using the material such as liner sheets in this system. As for this space, it is built in all the territories that the inside water of the landfill collects. This space is connected with the cylinder pipe called “Stand Pipe”, and colloid solutions collect inside the standpipe as well. The pressure of the colloid solution inside the space occurs due to the gravity action of the solution that collected at this standpipe. At this time, the height of the solution collected in the standpipe is controlled higher than the height of the water collected at the landfill. A colloid solution flows out into the outside without the water leaking out when a seat is damaged due to what is done so. The colloid solution flowed out into the outside repairs liner function by gelling around solid void on the damage part after that.

This paper describes about the problem of liner structure that only the sheet was used for as an example of the factor sheet is damaged and the summary components, the merits of Gel System and the tests enforced along with the development. At the end of this, we report the future development about Gel System as well.

Key words : Gel System, colloid solution, leak prevention technology, waste treatment establishment