

Development of Coal Washery Pollutant Dispersion Models in River System and its Effective Effluent Treatment Process

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Abstract — Indian coals are having high ash content, so it is necessary to wash them in washery. This paper examines the water pollution problems due to the discharge of coal washery effluents in the river Damodar and focuses on the characteristics of the solids in suspension and their dispersion behavior in the river system. Since most of the washeries are situated near the Damoder and discharge their effluents into the river, it looked black color. Apart from suspended solids, COD values were also found to be abnormally high. The approach for the selection of sampling locations, methodology adopted for sampling and analysis for the development of pollutant dispersion models in the river is presented. The results of pollution load at different points of the river stream were found to be comparable with those of the experimental results. Treatability study for the effective removal of SS was conducted and the optimum area required for clarification of the effluent has been evaluated. A treatment scheme has been proposed for the abatement of surface water pollution in the area.
