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Spontaneous Combustibility Characterisation of the Chirimiri Coals, Koriya District, Chhatisgarh, India

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ABSTRACT

Representative coal samples were collected from different coal seams of the Chirimiri coalfield which covered the entire stratigraphic sequence. These samples were tested for Chemical analysis, Crossing Point Temperature (CPT), Petrography, Infrared studies (IR) and Differential Thermal Analysis (DTA). All the test results vindicated that the aforesaid parameters had a definite relationship with the stratigraphic disposition or the ranks of coal. The low rank coals found as younger seams in the stratigraphic sequence were more prone to spontaneous combustion whereas the higher rank coals found at the bottom of stratigraphic sequence were less prone to spontaneous combustion. Through combustibility characterisation by different tests, it was found that the upper Duman and Kaperti seams placed as younger seams in the stratigraphic sequence are highly prone to spontaneous combustion whereas the lower Karakoh and Sonawani seams seem to be least prone to spontaneous combustion.

KEYWORDS

Chirimiri Coalfield, Crossing Point Temperature (CPT), Infrared (IR) Studies, Differential Thermal Analysis (DTA), Spontaneous Combustion

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