

## **The MSTLFLO Process for Waste Coal Beneficiation**

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The vast quantity of waste coal in the United States presents us an opportunity to recover it as an alternative energy source that otherwise would not only be unused but also be a threat to the environment. This paper describes a newly developed multi-stage loop-flow flotation column (the MSTLFLO Process) as an effective means for recovering waste coal from disposal sites and to produce a clean coal product for electricity generation. Tests conducted under different operating conditions were carried out with two different waste coal samples. The results have demonstrated that the MSTLFLO process is capable of producing low ash (less than 10 % ash) clean coal product with greater than 90 % heating value recovery. The cost of producing clean coal product from waste coal using the MSTLFLO process in a 2,000 ton/day plant is estimated to be \$2.38/ton. These findings indicate that the MSTLFLO process has the potential to be developed for commercial applications in producing utility quality clean coal products from waste coal deposits at a competitive cost.