

COAL TESTING SERVICES

SPECTRO is one of the India's leading analytical testing laboratory carrying out Inspection, Sampling, Analysis of coal at various ports in India.

SPECTRO lab is NABL accredited; ISO/IEC 17025 for inspection, sampling and analysis of coals and coke by ISO and ASTM methods. SPECTRO performs a wide range of services:

- Sampling (preparation) and analysis of coals and coke (ASTM, IS methods).
- Environmental solutions - professional environmental management.
- Superintending services - expert independent inspections.



Inspection, Sampling, Analysis

- Identify ground and environment hazards by desk study and ground investigation.
- Assess the risks using ground exploration, laboratory testing and evaluation techniques.
- Manage the risks using cost and time effective construction and remediation methods.
- Monitor and validate designs to prove their effectiveness.



SPECTRO can handle all coal sampling and analysis requirements, from on-site sampling of plants as well as lab testing. We offer expertise for a broad range of sampling and analytical requirements and full range of services from the pre-treatment and analysis of exploration samples. We'll respond to your testing project request and suggest an appropriate, responsive and cost effective approach to handle the analysis.



Coal Testing

We perform various coal testing such as:

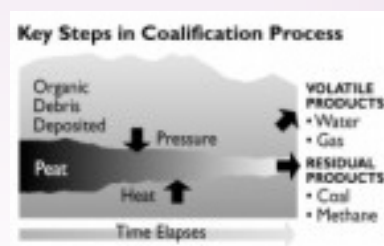
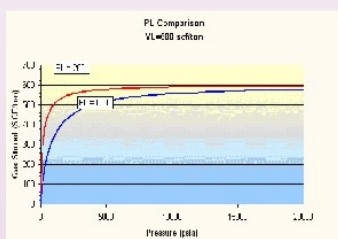
- % Sulphur
- % Ash
- % Moisture
- Heat value in BTU's
- Free swelling index
- Proximate analysis
- Volatile matter
- Fixed Carbon ultimate analysis
- Carbon
- Hydrogen



- Nitrogen
- Oxygen
- Crushing
- Dry Sizing (Manual, Sieve Shaker)
- Wet Sizing Wet Tumbling
- Sample Milling
- Hardgrove Grindability Index
- Total Moisture
- Size Adjusting
- Relative Density

Coalbed Methane

Coal is the most abundant nonrenewable energy source in the world. Coal beds are a major source of natural gas or methane during the transformation of organic matter into coal, methane, water and carbon dioxide are produced. CBM is extracted by drilling a well into a coal seam using similar techniques used for other gas wells. CBM Gas sample collection from the bore holes/ mine head and its Gas composition analysis by using Gas Chromatography. Spectro perform gas composition on unconventional gas reservoirs like coalbed methane and shale gas. Expertise includes adsorption isotherm analysis, which measures the total amount of gas that coal or shale can absorb to evaluate the saturation level of the reservoir. Coalbed Methane and Shale Gas Testing Services include On-site core catching and desorption, Residual Gas, Porosity, permeability, X-Ray Diffraction Mineralogy, Proximate Analysis, Adsorption Isotherms/ Langmuir coefficients, Capillary Pressure etc.



Coal is able to store a significant amount of gas. The mechanism by which this occurs is called adsorption. In adsorption molecules of one substance become attached to the surface of another. Adsorption can be visualized by imagining a magnet attached to a metal surface, or lint attached to a sweater. This is different from absorption where one substance becomes trapped inside another, such as a sponge soaking up water. Adsorption is a reversible process, because that involves weak attraction forces. The Langmuir adsorption isotherm assumes that the gas attaches to the surface of the coal and covers the surface as a single layer of gas (a monolayer).



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