GasFact™ Mass Spectrometry

BROAD-SPECTRUM, REAL-TIME MASS SPECTROMETRY FOR RAPID FLUID CHARACTERIZATION AT THE WELLSITE

OVERVIEW

The Halliburton GasFact™ mass spectrometry service was specifically designed to deliver advanced mud logging gas analysis, and characterization of hydrocarbon fluids in real time at the wellsite. It features a quadrupole mass analyzer that not only performs traditional analysis, but is also capable of detecting heavy C6–C13 hydrocarbons, as well as monitoring a variety of water-soluble species and evaluating inorganic gas chemistry. The Halliburton GasFact mass spectrometer can deliver up to 32 species in a 22-second cycle time.

To enable quantitative results, this GasFact solution must be run in conjunction with the EAGLE™ gas extraction system. To enable quantitative results, this GasFact solution must be run in conjunction with the EAGLE™ gas extraction system that measures gas out and gas in. This gas-out and gas-in data allows the elimination of recycled species, and gives semi-quantitative results when used with our Extraction Efficiency Correction (EEC) methodology.

FEATURES

» Detects hydrocarbons, inorganics and sulfurs
» Detects up to 32 species
» Single or dual sample source with a 22-second or 50-second cycle
» Delivers a choice of three levels of species detection – 17, 23, and 32 species
» Delivers more formational gas information to enable better decision making
» Enhances fluid identification for oil, gas, and water
» Enables better hydrocarbon identification
» Allows fault and fracture identification
» Enables bit metamorphism gas detection indicating bit wear

BENEFITS

Enhance Reservoir Understanding

Delivers the following information:
» Lithological changes
» Oil/water and gas/oil contacts
» Biodegradation
» Seal properties
» Recycled gas
» Compartmentalization

» Reservoir porosity and permeability
» Improves estimates of petroleum type and quality
» Eliminates recycled gases by utilizing gas-out and gas-in extractions with the EAGLE system
» Delivers quantitative results when using the Halliburton EEC methodology

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

Species Detected

Methane	Octane
Ethane	Ethylene
Propane	Propylene
Butane	Cyclohexane
Pentane	Toluene
Hexane	Carbon Dioxide
Heptane	Oxygen
Benzene	Nitrogen
Argon	Undecane
Nonane	Dodecane
Decane	Tridecane
Acetic Acid	Ethyl Benzene
Helium	Xylene
Neon	Carbonyl Sulfide
Hydrogen	Sulfur Dioxide
	Carbon Disulfide
	Triterpene

Level 1			Level 1 – 17 species
Level 2			Level 2 – 23 species
Level 3			Level 3 – 32 species

Example of Proximity to Water Leg
Plot of Hexane vs. Benzene vs. Toluene
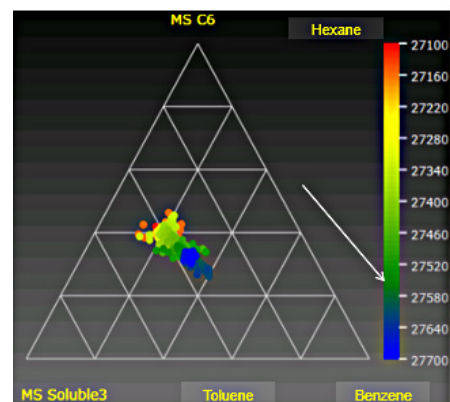
Excellent indicator of water saturation, proximity to water leg, and the phase of hydrocarbon. It can also infer gradation or zonation through the formation.

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