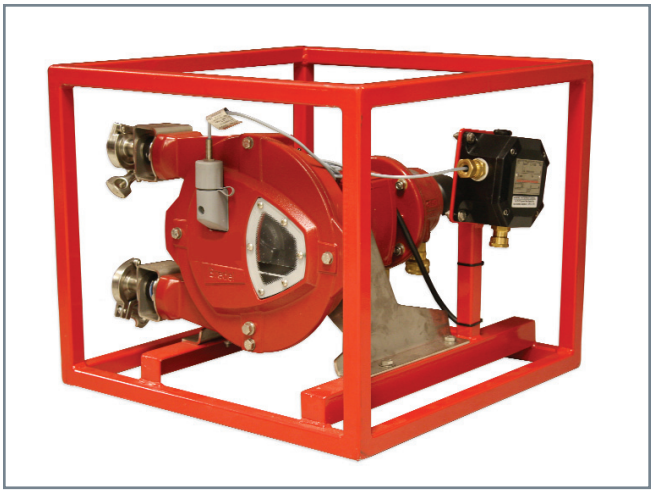
Constant Volume Extractor (CVE)

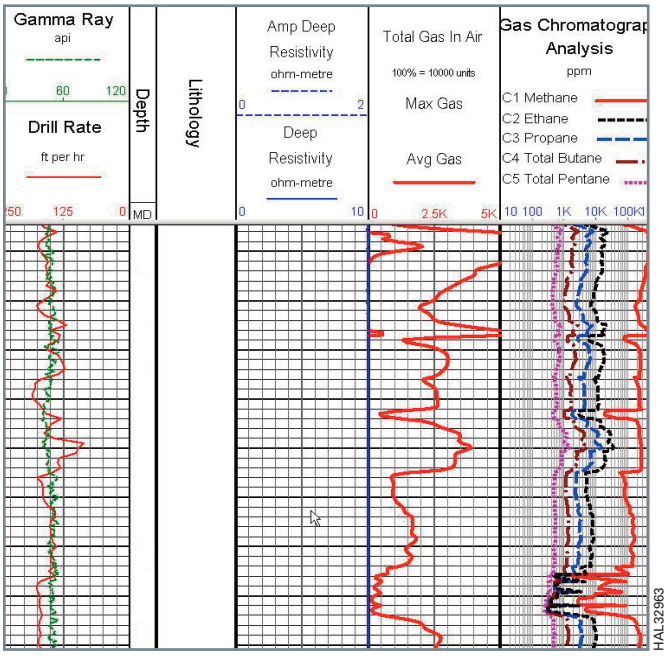
Analyze drilling mud-contained gases to make reliable predictions on formation fluid type

Today, many hydrocarbon gas measurements obtained while drilling lack the consistency important for geological correlation and gas ratio analysis. Certain aspects of the gas extraction process can influence gas response, skewing the measurement.

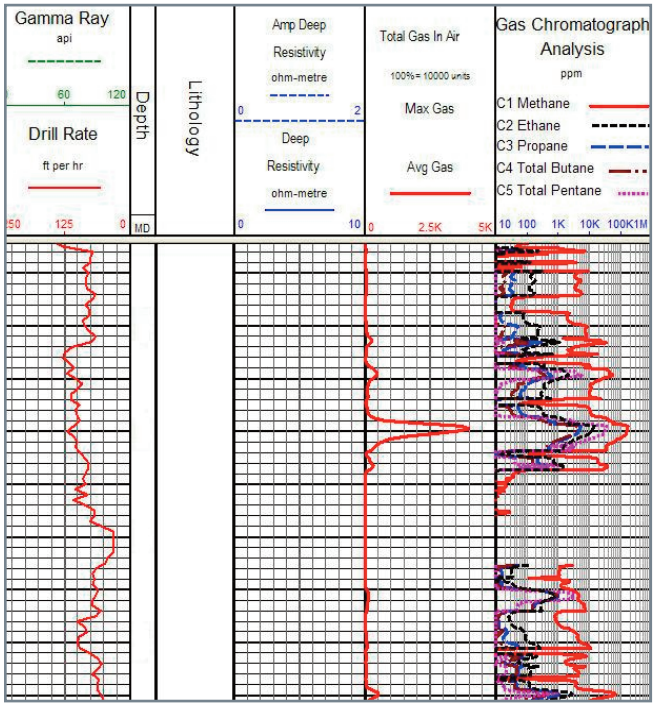
For years, the industry practice has been to install a standard gas trap either in the shaker or header box, but the fluid volume passing through this trap is continuously changing due to fluctuating mud levels. The mud is agitated to break down in order to liberate entrained gases, but lighter hydrocarbons can be liberated in the circulating system prior to being sampled in the gas trap resulting in inaccurate gas ratios. Log analysis is difficult and readings are erratic because of changing parameters that cannot be compensated. Connections, pump reconfigurations, slow pump rates and diverting of returns in shaker house can all cause erroneous spikes and valleys making interpretation difficult.

Responding to the need for consistent and reliable gas measurements, Sperry Drilling services developed the Constant Volume Extractor (CVE) gas system. The new system offers a true constant volume extraction with consistent and repeatable results. This helps to obtain more reliable information on hydrocarbons present in the fluid type.





CVE gas system log



Standard gas trap log

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Constant Volume Extractor System Features

- True constant volume gas extraction system with a hermetic degassing chamber
- Full software monitoring of all system parameters by the InSite® rig information system
- Extraction probe mounted at the highest point on the flow line close to the bell nipple
- Consistent volume of drilling fluid extracted from the flow line for sampling, then returned to the flow line or possum belly

Constant Volume Extractor Benefits

The CVE gas system addresses the deficiencies seen in standard gas traps.

- Delivers a continuous constant volume measurement while maintaining consistent gas extraction
- Helps analyze drilling mud-contained gases to make reliable predictions on formation fluid type
- Consistent volume provides log analysis with stable readings that more accurately define the mud system
- Gas readings are more coherent and make well analysis and log interpretation not only easier but also more accurate

Constant Volume Extractor System Specifications

Item	Specifications
Data connection	IS Circuits
Sample out flow rate range	0 – 10 L/min
Mud delivery and return rate	1 to 8 L/min (adjustable)
Gas trap (degasser)	Configurable air motor
Pump Type	Peristaltic, self priming with low shear

HAL32964

CVE degasser assembly

For more information, contact us at sperry@halliburton.com

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