



### Get the Additional Information You Need for Greater Reservoir Understanding Thru Casing

Allied-Horizontal Wireline's new Spectral Gamma Ray tool yields critical data for the reservoir insight you need to get the most productivity from your assets.

Surface data processing analyzes the Gamma ray spectrum of the natural radioisotopes Potassium (K), Uranium (U) and thorium (Th), delivering data for Clay Typing and Clay Volume calculations that are critical for advanced reservoir characterization.

In addition to providing clay type and volume, spectral Gamma ray readings may also be used to confirm isotope location and placement. Savings are realized not only from optimizing fracturing placement, but also in avoiding areas that are poor candidates for fracturing/stimulation.

Operating on Allied Horizontal's common tool bus, the Spectral Gamma Ray tool can be combined with the Reservoir Analysis Sonde (RAS) tool to evaluate the reservoir thru casing:

Run with the RAS tool, the Spectral Gamma Ray tool improves Clay Volume calculations and allows estimating Total Organic Content (TOC) from the uranium data, making this tool combination ideal for shale wells.

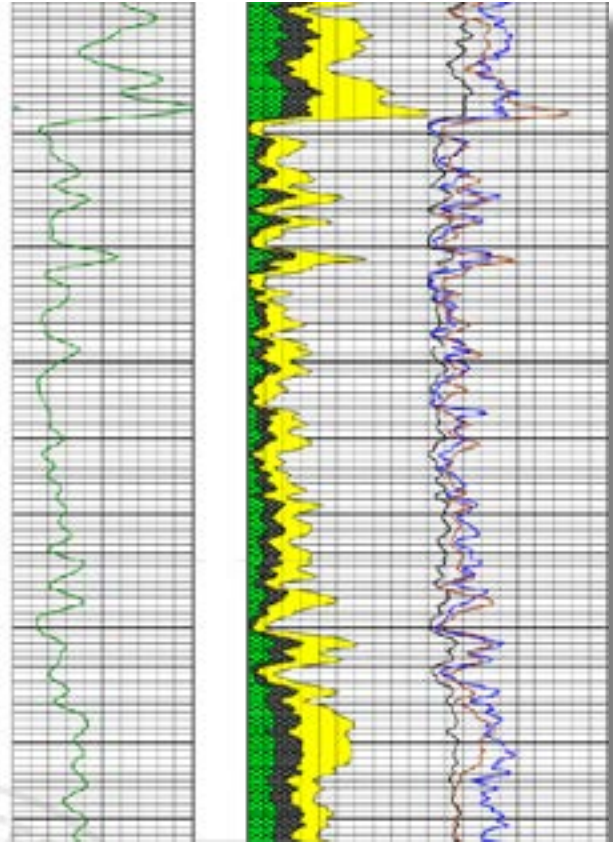
#### Benefits

- Increased confidence in reservoir characterization
- Greater accuracy in the computation of the clay content
- Assist in determining formation productivity
- Selection of most productive zones for perforating and fracturing
- Using the uranium component, help identify fractured zones in tight carbonates

Specifications		
Tool OD	2.75 in	70 mm
Makeup Length	47.7 in	1,212 mm
Pressure Housing Material	Titanium	
Pressure Rating	15,000 psi	
Temperature Rating	320°	160° C
Depth of Investigation	9.5 in	241 mm
Precision	0.5%	
Accuracy	K +/- 0.5%, U +/- 5Kppm, Th +/- 5Kppm	
Maximum Logging Speed	25 fpm	7.6 fpm

## Features

- Optimal source-to-detector spacing in a 2.75-inch diameter running assembly
- Common bus architecture for combining with RAS and/or production logging tools
- High-resolution detectors for natural Gamma ray spectroscopy
- Natural Gamma spectroscopy for Potassium (K), Uranium (U) and Thorium (Th)



Allied-Horizontal Wireline Services brings professional expertise and insight to bear on data analysis and interpretation. We can work closely with your in-house teams to provide information required for optimum hydraulic fracture placement and stimulation design.



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