

# PetroFecta\*

Unique approach combining XRF (PDQ-XRF\*), Trapped Fluid Analysis (FIS\*), and High Resolution Photography (RockEye\*) of the entire wellbore from well cuttings or core samples of any age.

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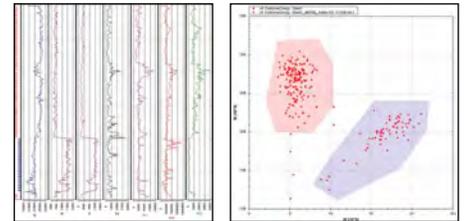


*In-depth information about mineral and chemical facies can be easily integrated with wireline logs, providing guidance for more advanced mineralogical or geochemical studies.*

## PDQ-XRF\*

High speed elemental profile of the entire well bore

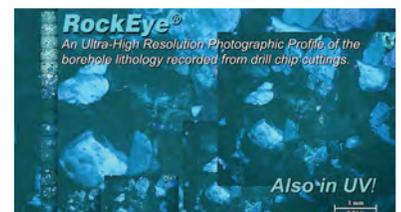
- Provides the lithologic/stratigraphic framework into which formation fluid chemistry can be placed
- Designed to be used in conjunction with FIS
- XRF Evaluates more than 30 major, minor, and trace elements
- Defining mineralogical components & chemical marker horizons that can be correlated from well to well
- Data contains information relevant to depositional environment, diagenesis, facies and provenance
- Applicable to rocks of any age and type, allowing it to be effectively integrated with biostratigraphic information to be used where such information is not available



## RockEye\*

High resolution photographic images of the entire well bore lithology in both visible light & UV fluorescence from cuttings and cores

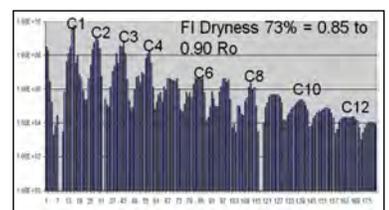
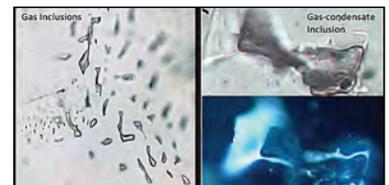
- Visual record of the exact sample aliquot that was analyzed via FIS and/or PDQ-XRF\*
- Photo resolution great enough to allow information to be obtained at the individual grain level
- Photos allow volatile chemistry and chemical stratigraphy trends to be placed into lithostratigraphic context without resorting to calculated rock types or well site sample descriptions
- Allows FIS data to be related to optically recognizable lithologic and textural features including characteristic mineral fluorescence
- Photo records are more transportable and survive when sample has been depleted, destroyed or misplaced



## Fluid Inclusion Stratigraphy (FIS\*)

Rapid and complete analysis of volatiles trapped in rock material

- Migration, charge/paleo-charge, fluid contacts
- Seals, compartmentalization
- Fractures/sweet spots in horizontal wells
- Source rock richness and maturity
- Microseepage, deeper potential
- Inferring nearby undrilled accumulations
- Petroleum type; quality; multiple charges



# PetroFecta\* Viewer

A unique approach placing entire well bore history on one viewer.

## Sample Requirements

Cuttings, core and/or outcrop  
 2-5 gms washed / 10-15 gms unwashed  
 Spacing: 10-30 ft (3-10 m) for cuttings;  
 1 ft (0.5 m) for core.

## Where to Send Samples:

Fluid Inclusion Technologies  
 Attn: FIS Analysis  
 2217 N. Yellowood Ave.  
 Broken Arrow, OK 74012 USA

## Suggested Supporting Information:

FIT service request form  
 Logs  
 Geochemistry

## Where to Send Support Information:

Fluid Inclusion Technologies  
 2217 N. Yellowood Ave.  
 Broken Arrow, OK 74012 USA

## Deliverable:

A high speed XRF elemental profile, high resolution photographic lithology (in white light and UV), and FIS report of entire well bore delivered on FIT Data Previewer. FIS includes sample analysis by mass spectrometry of each sample, thin section prep of samples of interest derived from the analysis, photo documentation of the sections, electronic data in .las and .pdf format, annotated track plot, executive summary and one final report in electronic format.

## FIT Geochemical Data Previewer

A unique approach placing entire well bore history on one viewer that includes:

- Fluid Inclusion Stratigraphy (FIS) analysis of trapped fluid in cuttings, core or outcrop samples
- X-ray Fluorescence (PDQ-XRF\*) provides a continuous elemental analysis
- High Resolution Photography (RockEye\*) in both UV & white light
- Mass Spectrometry Well Gas Analyzer (Dq1000\*) log done at the time of drilling

## Benefits of FIT one viewer approach are:

- The same sample of rock is analyzed at each step, preserving the interrelationships among rock type, rock chemistry and fluid type.
- The analysis is conducted on the entire bore hole from first returns to TD
- Lithology profiles in the absence of, or in place of, well site lithology descriptions
- Distribution and relative abundance of cements
- Cuttings volatile analysis for hydrocarbons and non-hydrocarbons
- Chemical stratigraphy for correlation in monotonous vertical or horizontal sections
- Depositional environment, facies, provenance
- High resolution photography in both White Light and under UV excitation
- Elemental analysis of rock material via X-ray Fluorescence
- Rock behavior relevant to completion (e.g., siliceous vs. clay rich)

## Key strengths of this process are:

- Process is automated
- Small sample requirements 2-5 gms washed
- All analyses are conducted on the same sample with up to 575 samples per well
- Fast response — analytical cycle of four days from preparation (washing, loading, etc.)

