

Cased Hole Services

Optimize production with HDD (high definition data) – only from RECON.

RECON's cased hole HDD logging service delivers unparalleled high definition data. With HDD, your view of the formation and wellbore is clearer than anything before. Make production decisions with greater confidence!

HDD is made possible through an advanced toolstring with the ability to obtain more samples per foot than any other system available. RECON's toolstring includes high quality accurate quartz pressure, fast flowmeter response temperature, fluid density, capacitance, gas holdup and circumferential capacitance array technology. You get precise measurements of a wide range of parameters that identify the nature and movement of fluids within, and close to the wellbore.

The end result – maximum value from your reservoir.

HDD = More Value

- The compact sensor array enables more data collection, providing better information for accurate reservoir and production evaluations
- Recon delivers a comprehensive down hole flow profile for intelligent production decisions.
- HDD increases your efficiency with improved accuracy and reliability in down hole flow regime characterization.
- Recon delivers fast, accurate interpretation and production evaluation results, helping you resolve wellbore and reservoir problems to gain maximum value from your property.
- With one of the industry's shortest, compact tool strings, running in real time or memory mode, RECON enables faster and safer rig ups and efficient deployment, saving you operation costs and minimizing shut-in time.
- RECON delivers high quality vertical and horizontal borehole fluid identification and holdup measurements with Capacitance Array and Gas Hold Up Technology, combined with the short compact PLT string.

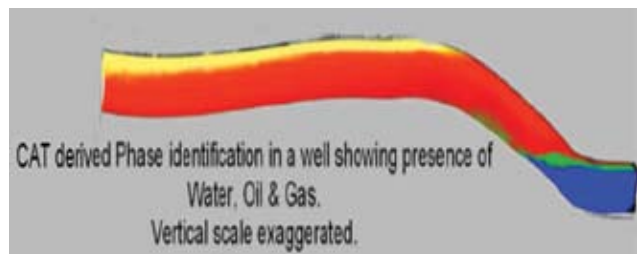
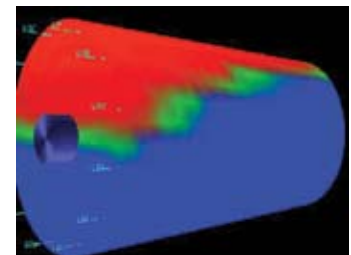
The Technology Behind HDD

CAPACITANCE ARRAY TOOL (CAT)

The CAT tool is designed to solve the problem of accurate fluid phase identification in vertical, horizontal or highly deviated wells. The tool has an array of 12 specially developed miniature capacitance sensors mounted on the inside of a set of bow-springs. Each sensor of the array measures the capacitance of the surrounding fluid close to the well casing. Since the measurements are taken in a single plane across the diameter of the well bore, rather than spaced along it, an accurate cross-sectional plot can be generated.

APPLICATIONS

- Accurate phase identification in horizontal & highly deviated wells
- Accurate identification of water entry areas
- Quantify % of each phase present in the wellbore



GAS HOLDUP TOOL (GHT)

The Gas Hold Up Tool provides reliable, cross well bore measurement of gas volume fractions in any flow regime at any deviation. The measurement represents the entire cross section of the well bore within casing and is independent of salinity, water cut and oil/water densities.

APPLICATIONS

- Accurate fluid identification and multi-phase profiling
- Accurate gas entry detection and bubble point determination

GAMMA RAY

APPLICATIONS

- Lithology identification for accurate depth correlation
- Identification of radio active scale to aid in water production diagnosis

QUARTZ PRESSURE

APPLICATIONS

- Accurate measurement of pressure draw-down and build-up for quality pressure transient reservoir analysis

RADIOACTIVE FLUID DENSITY (RFD)

APPLICATIONS

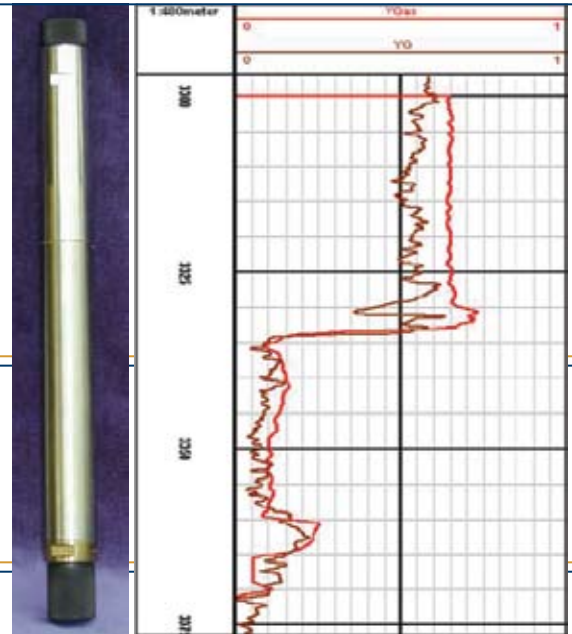
- Accurate measurements of fluid density to aid in understanding multi-phase production profiling
- Delivers accurate results in horizontal and highly deviated wells and in high fluid flow rates

CAPACITANCE / TEMPERATURE / FLOW

The combined Capacitance Water Holdup / Temperature / Flowmeter sensors are combined and focused within a short tool section. The short distance between the three sensors enables fluid measurements from the same sample of fluid, delivering accurate in-situ measurements.

APPLICATIONS

- Accurate measurement of fluid capacitance and temperature responses to aid in identifying fluid inflow diagnosis
- Accurate quantitative measurement of flowrate in casing and tubing



The log example is a comparison between the Gas Hold Up response, YG (in brown) represents the GHT measurement, the YGas (in red) is an interpretation derived gas holdup.



RECON

HDD

HIGH DEFINITION DATA

www.reconpetro.com

Calgary: Ron Krawchuk 403-517-3262
Kirk Stewart 403-517-3274

Fort Worth: Duncan Heddleston 832-798-5192