

USE OF X-RAY TECHNOLOGY IN THE CENTER OF TECHNOLOGY – ARGENTINA OF REPSOL YPF

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The Center of Technology – Argentina (CTA) of Repsol YPF is a corporate unit which technically assists all business units of our oil&gas company, specially in terms of research and development of new process and products. Consulting activities in order to solve problems and select equipment and technologies are some of the main objectives of this center.

The “Analytical Department” plays a very important role within the Center of Technology – Argentina. We perform determinations based on normalized analytical methods and/or specially developed techniques to help our specialists in the projects.

Elemental analysis is carried out in EDXRF and WDXRF spectrometers. The X-ray spectrometers are used for elemental determination in fuels, lubricants, crude oils, catalysts, residues, alloys, etc. in order to control the specifications, evaluate contaminants and characterize samples. To complete the analysis of this last issue, a phase identification is carried out with a powder diffractometer using an ICDD Database. The main application of the powder diffractometer is qualitative analysis of different kinds of samples. For example, wastes of process units, geological samples, catalysts and adsorbents, alloys, etc. Other usual analysis is the determination of unit cell dimension of zeolites.

The relationship between the Center of Technology - Argentina and the ICDD began some years ago, first using the ICDD Database. Then some specialists attended to ICDD clinics and some workshops of ICDD in different congress and seminars. The well known Denver X-ray Conference is the most important event about X-ray where specialists of our center have attended.

The plans of the Analytical Department for the near future regarding to X ray diffraction include to buy a new diffractometer and software, ICDD Database update and to add quantitative analysis in order to increase and improve the offer of analytical services to the business units of our company.