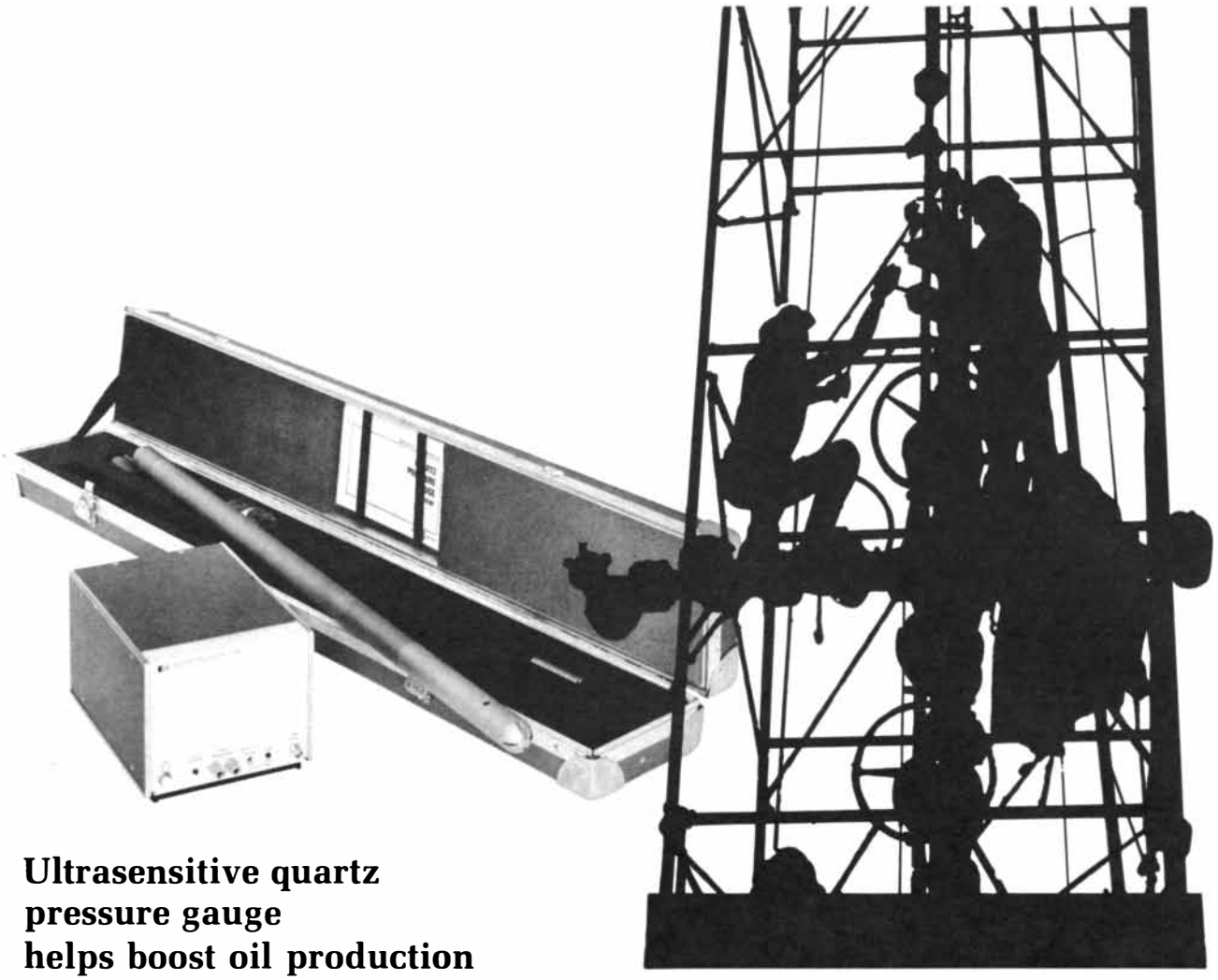


Ultrasensitive quartz pressure gauge helps boost oil production

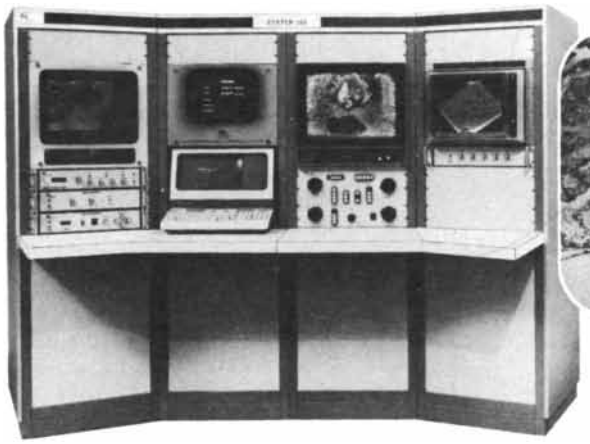
Able to measure a change as small as 0.01 psi at wellbore pressures up to 11,000 psi, the HP 2811B helps engineers evaluate reservoir parameters for optimal oil recovery.

One of the most effective methods of determining the production capacity of an oil reservoir is called pulse testing. By applying a series of pressure changes in a well and measuring the response in an adjacent observation well, engineers can determine the height and drainage characteristics of the underlying reservoir and thus calculate how to optimize its production.

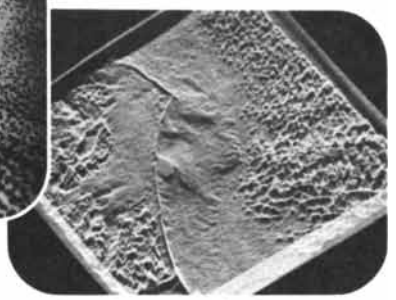
Although pulse testing theory has been thoroughly understood for ten years, it has not been widely used, for want of an adequately sensitive pressure gauge. With ordinary instruments, large pulses have to be applied over long cycle times in order to detect the greatly attenuated response in the observation well. The test therefore takes a long time, typically one or more weeks, and the loss in oil production is considerable since both wells are "shut-in" during the test.

The HP 2811B Quartz Pressure Gauge has changed things dramatically for the better. Because it can accurately measure a change as small as 0.01 psi at any reservoir pressure up to 11,000 psi—compared to 0.5 psi with ordinary instruments—the pressure changes can be much smaller, cycle times much shorter, and the duration of the test cut to a few days, depending on reservoir conditions.

Reservoir engineers find many other reasons to prefer the 2811B as a "bottom hole" pressure gauge for pulse testing. Strip chart recorder and digital printer options provide an instant and direct readout of pressure changes on *the surface*, even when the measuring probe lies 20,000 feet down the hole. The gauge maintains resolution and accuracy at any well pressure to 12,000 psia and any temperature to 300°F. And it holds its calibration for at least a full year despite mechanical vibration and rough handling. Cost of the complete gauge without recording options is $11,375*.



Electronic enhancement of Pamlico Sound, North Carolina, from a satellite photograph.



A three-dimensional enhancement of the same view.

Digital image processing system unlocks earth's secrets from satellite data.

Stanford Technology Corporation chooses HP 3000CX computer system to convert radio signals from the LANDSAT (ERTS) satellites into useful pictures of the earth's resources.

One of NASA's least known spacecraft is well on the way to making some of the most important "civilian" contributions of the space program.

Since 1972, the first Earth Resources Technology Satellite has been looking at the whole earth through a multispectral optical scanner. A second LANDSAT satellite has been in service since January 1975. When properly processed, the digital data transmitted to earth from these satellites provides spectral "signatures" of classes of objects on earth that can be used to inventory many of the world's resources. Agronomists have used the pictures to measure the total acreage of various crops and to project their yields; foresters, to detect timberland insect infestation; planners, to outline land-use patterns and flood-prone areas; geologists, to locate mineral deposits.

The potential usefulness of these pictures in many fields has created a great demand for equipment to interpret them. A new development by Stanford Technology Corporation—the System 101—is being offered to meet this demand.

This powerful new multi-user digital image processing system is configured around the HP 3000CX, chosen by STC engineers as the computer system best suited to the application.

While the HP 3000CX is fast and powerful enough to satisfy the full range of LANDSAT requirements, it is much easier to use than larger computers, especially by nonspecialists. Many scientists can use it at the same time, some processing images on-line while others develop programs. An extremely simple language with a "menu-prompting" mode is provided for inexperienced users, while advanced users can use a high-level language with efficient command lists.

The STC System 101 should go a long way in reducing the LANDSAT image-processing bottleneck. For more information on System 101, write or call Stanford Technology Corporation in Mountain View, California 94043.

System prices for the HP 3000CX start at $99,500*.

For more information on these products, write to us, Hewlett-Packard, 1503 Page Mill Road, Palo Alto, California 94304.

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