



Geophysics  
International

## CASE HISTORY - ZEOLITE DEPOSITS

Petro-Sonde Survey - Non-Metallic Minerals Division

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**LOCATION.** Bowie, Arizona.

**OBJECTIVE OF THE PETRO-SONDE SURVEY.** To determine the depth and thickness of a zeolite deposit.

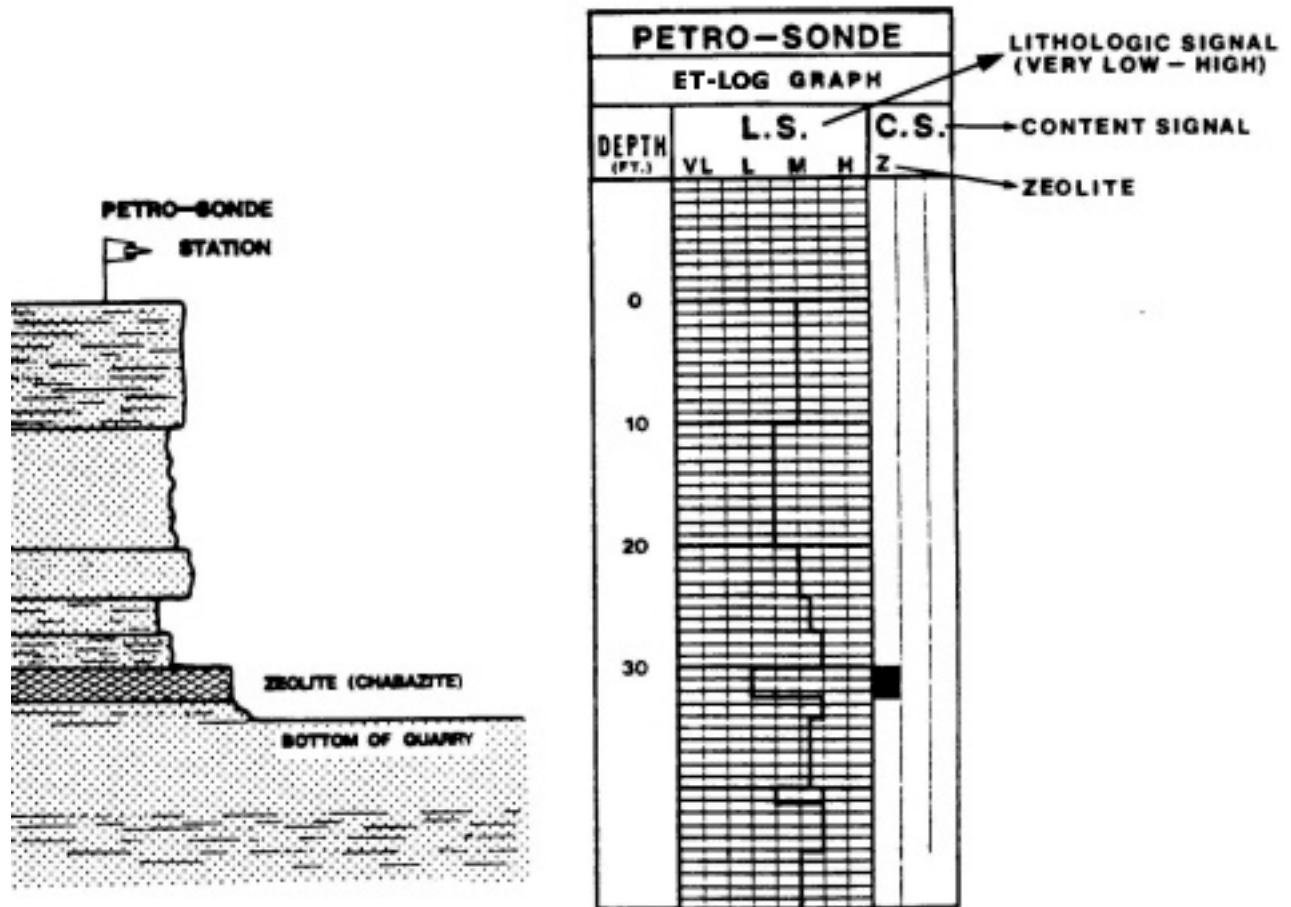
**GEOLOGY.** Unconsolidated lacustrine and fluvial deposits, ranging from clays to gravelly sand, overlaying a zeolite horizon. The zeolite bed is of volcaniclastic origin. (Chabazite  $(Ca_1Na_2)Al_2Si_0_{12} \times 6H_2O$ ).

**INFORMATION AVAILABLE.** Stratigraphic section exposed along cliff face or quarry.

**PETRO-SONDE SURVEY STRATEGY.** To record Petro-Log Graph patterns associated with the zeolite bed and overlying sediments. Then compare the results to the exposed stratigraphic section (See Figure).

**CONCLUSIONS AND COMMENTS.** The Petro-Log Graphs correctly detected the zeolite bed at the exact depth of occurrence and determined its thickness to within one foot. The Petro-Sonde proved to be an excellent device for locating and estimating reserves of non-metallic deposits.

**COMPARISON OF GEOLOGIC SECTION AND  
PRO/LOG GRAPH OBTAINED AT THE SURFACE.**



**LITHOLOGIC SIGNAL DETERMINES DEPTH AND THICKNESS OF FORMATIONS.**

**CONTENT SIGNAL INDICATES THE PRESENCE, DEPTH, AND THICKNESS OF  
ZEOLITE DEPOSITS AND OTHER RESOURCES.**