Bibliography of Well-Log Applications
Annual Update: October 1, 1992 to September 30, 1993

by

Stephen E. Prensky

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This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature

1U.S. Geological Survey, Box 25046, MS 971, Denver, CO, 80225
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Introduction

The purpose of this bibliography is to emphasize the *application* and various uses of well-log data. The topical organization is loosely based on research interests within the U.S. Geological Survey (USGS). The following general criteria are applied to papers to determine whether they will be included: 1) the paper must be written in English, 2) it must be obtainable by a research library, and 3) most of the paper should discuss a particular application of well-log data or have immediate impact on the use of such data. Consequently, papers concerning theoretical or mathematical subjects (i.e., modeling), instrumentation design and development, and laboratory research, are generally excluded. For lack of space, abstracts are excluded (except for extended abstracts) and cross-indexing has been kept to a minimum. This update has over 650 new and updated references.

I wish to acknowledge the assistance of the staff at the Denver branch of the USGS library, especially that of Ms. Susann Powers. Their diligence, in tracking down and obtaining the papers listed herein, has made this bibliography possible.
PART A: BASIC WELL LOGGING

1. FUNDAMENTALS OF WELL LOGGING AND WELL-LOG INTERPRETATION

I. Books and General Review Papers


II. General Log Analysis and Log Interpretation

(See also III. General petrophysics; IV. Electromagnetic logging; IX. Shaly sand; 18. Mineral evaluation)


Becker, K., 1988, A guide to ODP tools for downhole measurements: Texas A&M University, Ocean Drilling Program, College Station, Texas, Technical Note No. 10, 68 p.


Salem, H.S., 1993, Derivation of the cementation factor (Archie’s exponent) and Kozeny-Carman constant from well log data, and their dependence on lithology and other physical parameters, SPE-26309: Society of Petroleum Engineers, unsolicited paper.


III. General Petrophysics (including Core Analysis); Core Imaging and Image Analysis
(See also II. General log analysis; IV. Electromagnetic logging; IX. Shaly Sands)


Salem, H.S., 1993, Derivation of the cementation factor (Archie's exponent) and Kozeny-Carman constant from well log data, and their dependence on lithology and other physical parameters, SPE-26309: Society of Petroleum Engineers, unsolicited paper.


IV. Electromagnetic Loggings (Includes Resistivity; Nuclear Magnetic; Magnetic)
(See also II. General log analysis)


V. MWD (Measurement While Drilling): Horizontal Wells Drilling/Logging

(See also II. General log analysis)


VI. Cased Hole and Production Logging: Determination of ROS
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Curnutt, R.C., Maas, R.B., Whittaker, S., and Mas, C., 1991, A new approach to tracer surveys with pulsed neutron
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Wyatt, D.F., Jr., 1993, Advances in carbon/oxygen logs clarify reservoir behind casing: Oil and Gas Journal, v. 91, no. 6, February 8, p. 54-61.


VII. Acoustic Logging
(Including P and S, Full Waveform, Borehole Seismic, and VSP)
(See also 15. Fracture detection)


Stein, N., 1992, Seismic data used to predict formation pressures: Oil and Gas Journal, v. 89, no. 48, November 30, p. 57-58.


VIII. Nuclear Logging: Geochemical Logging (Elemental Analysis)
(See also VII. Cased hole logging; 18. Mineral evaluation)


**IX. Shaly Sands**

(See also II. General log analysis; IV. Electromagnetic logging)


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X. Borehole Gravimetry

XI. Permeability and Determination of Permeability From Logs
(See also VII. Acoustic logging; IX. Shaly sands; 15. Fracture detection)


XII. Borehole Imaging: Nearwell and Crosswell Imaging and Tomography
(See also IV. Electromagnetic logging; VII. Acoustic logging; 6. Dipmeter applications; 15. Fracture detection)


Li, Q., and Williamson, P.R., 1992, Crosshole reflection imaging at a borehole test site [abs.], P024, in 54th meeting and technical exhibition, technical programme and abstracts: European Association of Exploration Geophysicists, p. 506-507.


Shima, H., 1992, Vertical electric imaging—a new technique to image electric reflectivity near borehole [abs.], D037, in 54th meeting and technical exhibition, technical programme and abstracts: European Association of Exploration Geophysicists, p. 360-361.


XIII. Temperature Logging, Determination of Static BHT; Applications of BHT Data; Heat-flow and Geothermics
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XIV. Conditions and Special Situations Affecting Tool Response
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XV. Crossplot Techniques and Applications
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XVI. Computer and Programmable Calculator Programs for Log Analysis


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XVII. Schlumberger International Well Evaluation Conferences

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3. DETERMINATION OF FACIES AND DEPOSITIONAL ENVIRONMENT


4. IDENTIFICATION OF DEPOSITIONAL ENVIRONMENTS BY SP AND GR PATTERNS; SEQUENCE STRATIGRAPHY


5. DIPMETER APPLICATIONS


6. APPLICATIONS OF ARTIFICIAL INTELLIGENCE (AI) AND EXPERT SYSTEMS

(See also 7. Well-Log Data Processing)


7. WELL-LOG DATA PROCESSING
(INCLUDING LOG AUTOMATED CORRELATION AND ANALYSIS)


8. NATURAL GAMMA-RAY SPECTROMETRY


9. ORGANIC CARBON DETERMINATION AND SOURCE ROCK EVALUATION


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(See also IX. Shaly Sands)


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12. OIL AND GAS SHALES


13. HEAVY OIL AND TAR SANDSTONES


14. COAL AND COALBED METHANE


15. Fracture Detection and Evaluation; Wellbore Breakouts and In Situ Stress Analysis

(See also 19. Ground water; 20. Igneous rocks; 21. Geothermal logging)


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16. PERMAFROST AND GAS HYDRATES


17. EVAPORITES

NONE

18. MINERAL EXPLORATION AND EVALUATION


19. GROUND WATER APPLICATIONS
(See also 15. Fracture detection; 20. Igneous rocks)


20. IGNEOUS AND METAMORPHIC ROCKS (Including DSDP and ODP Results)
(See also 15. Fracture detection; 19. Ground water; 21. Geothermal)

Becker, K., 1988, A guide to ODP tools for downhole measurements: Texas A&M University, Ocean Drilling Program, College Station, Texas, Technical Note No. 10, 68 p.


21. GEOTHERMAL WELL-LOG EVALUATION

(See also XIII. Temperature logging; 15. Fracture detection; 19. Ground water; 20. Igneous rocks)


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