Biased Book Reviews: Log Analysis Textbooks

Calgary, Alberta, Canada

Introduction

During the course of a log analyst's career, it is tempting to acquire all the reference material you can lay your hands on. This is a pretty good plan, but for newcomers to our industry, this can be both expensive and difficult. Some texts cost more than $400; others are dated, narrow, shallow, or one-sided.

To assist you in creating a worthwhile library, I have prepared a list which includes most textbooks and service company manuals of interest to log analysts. The list includes full title, first author, publisher, date, approximate cost, ISBN number, page count, a pages per dollar rating, and a very brief (and very personal) comment. From this, you should be able to high-grade your library acquisitions.

There are a number of books that cover much the same ground. The size of the book, it's age, the author's fame, and my personal comment may assist in making your choices.

There are, of course, many other sources of log analysis knowledge. These include service company brochures on specific tools and software products. Sometimes older versions are very useful while analyzing older logs. Journals and transactions of technical societies, such as CWSL, CSPG, CSEG, CIM, SWWA, AAPG, SEG, SPE and others, contain thousands of technical papers related to our industry. Saving, sorting, or cataloging these can be a major undertaking—but invaluable to your career.

And finally, consultants, service companies, and technical schools offer log analysis courses. You may also be offered in-house seminars where you work. Take advantage of these. Although its good to be nose-down and tail-up at the grindstone in the short term, superior skill and knowledge are needed for the long haul.

A note on the following list:

1. Prices are approximate, in 1993 Canadian dollars at the bookstore. GST and delivery are extra.
2. Prices in catalogs are often in US$, shipping, customs clearance, and GST are extra.
3. Service company manuals were all priced at $20—you may pay more or less (even nothing) depending on current company policy.

Acknowledgement

I am indebted to Paul Craig at DeMille Technical Books, Calgary, for providing prices.

Log Evaluation of Shaly Sandstones: A Practical Guide
Asquith, G.B.
Good shaly sand primer, 59 pages
Price approx C$20, Pages/$3.0

Basic Well Log Analysis For Geologists
Asquith, G.B.
More detailed analysis methods than above, 216 pages
Price approx C$45, Pages/$4.8

Log Analysis by Microcomputer
Asquith, G.B.
Price approx C$45, Pages/$2.3

Interpretive Methods for Production Well Logs
Atlas Wireline
Very necessary, 188 pages
Price approx C$20, Pages/$9.4
Neutron Lifetime Log
Atlas Wireline
You need this, even if its old, 100 pages
Price approx C$20, Pages/$5.0

Log Quality Control
Bateman, R.M.
IHRDC, Boston, 1985, ISBN 0-934634-89-0
Very good, slightly dated, 398 pages
Price approx C$96, Pages/$4.1

Cased-hole Log Analysis and Reservoir Monitoring
Bateman, R.M.
IHRDC, Boston, 1985, ISBN 0-934634-92-0
Good coverage, slightly dated, 311 pages
Price approx C$100, Pages/$3.1

Fundamentals of Diplog Analysis
Bigelow, E.L.
Very good on dipmeter basics, slightly dated, 216 pages
Price approx C$72, Pages/$3.0

Cores and Core Logging for Geologists
Blackburn, G.A.
Excellent wellsite procedures manual, 112 pages
Price approx C$70, Pages/$1.6

Determination Of Residual Oil Saturation
Bond, D.C. (Editor)
Interstate Oil Compact Commission, Tulsa, 1978,
ISBN 77-78927
No mention of moved oil from open hole log analysis— I wonder why?, 302 pages
Price approx C$70, Pages/$4.3

Acoustics of Porous Media
Bourbe, T.
Gulf Publishing Company, Houston, 1987,
Very deep, very scary if you like the sonic log, 331 pages
Price approx C$157, Pages/$2.1

Applied Open-hole Log Analysis
Brock, J.
Gulf Publishing Company, Houston, 1986,
Good coverage, one of the standard texts, 284 pages Price approx C$87, Pages/$3.3

Exploration Methods for Sandstone Reservoirs
Busch, D.A.
Great book for curve shapes, correlation, and depositional enviroiments, 270 pages
Price approx C$80, Pages/$4.1

Handbook of Physical Constants
Clark, S.P. (Editor)
Price approx C$90, Pages/$6.5

CWLS Log Analysis Handbook
CWLS
CWLS, Calgary, 1987
100% Canadian content—you need this, 100 pages
Price approx C$20, Pages/$5.0

The Log Analysis Handbook
Crain, E.R.
math, 100% Canadian examples, 684 pages
Price approx C$162, Pages/$4.2

Canadian Case Histories CWLS Reprint Volumes— Vols 1-3
Crain, E.R. (Editor)
CWLS, Calgary, 1991
The best bargain in town—3 volume set for $120 + CWLS
Bibliography on disc, 1500 pages
Price approx C$40, Pages/$37.5

North Sea Rw Catalog
Crawford, B.C.
SPWLA, London, 1984
A newer version is described below, 40 pages
Price approx C$90, Pages/$50.4
Applied Hydrodynamics in Petroleum Exploration
Dahlberg, E.C.
Log analysts need to know this stuff, 161 pages
Price approx C$60, Pages/82.7

Essentials of Modern Open-hole Log Interpretation
Dewan, J.T.
A modern best seller and classical treatment, 361 pages
Price approx C$80, Pages/83.3

Log Analysis of Subsurface Geology
Doveton, J.H.
A regional, computerized approach, 273 pages
Price approx C$83, Pages/85.0

Well Logging and Interpretation Techniques—The Course for Home Study Dresser Atlas
A real bargain, get a current version, 100 pages
Price approx C$20, Pages/85.0

Carbon/Oxygen Log
Dresser Atlas
Topic is not covered well in the standard books, 250 pages
Price approx C$20, Pages/81.25

Spectrolog
Dresser Atlas
Many examples, slightly dated, 250 pages
Price approx C$20, Pages/81.25

Practical Log Analysis
Dresser Atlas
A collection of basic papers, 50 pages
Price approx C$20, Pages/82.5

Rocky Mountain Formation Water Resistivities
DWLS
Petroleum Information Corporation, Denver, 1985 You might need this, 100 pages
Price approx C$20, Pages/85.0

Well Logging for Earth Scientists
Ellis, D.V.
Price approx C$134, Pages/84.0

Finding Oil and Gas from Well Logs
Etnyre, L.M.
Price approx C$82, Pages/83.7

Formation Evaluation
EXLOG Staff
Good geology primer, 183 pages
Price approx C$70, Pages/82.6

Theory and Evaluation of Formation Pressures
EXLOG Staff
Thorough coverage, 231 pages
Price approx C$70, Pages/83.3

Mud Logging
EXLOG Staff
Thorough coverage, 92 pages
Price approx C$50, Pages/81.8

Theory and Application of Drilling Fluids Hydraulics
EXLOG Staff
Log analysts should read this once, 198 pages
Price approx C$80, Pages/82.5

Coring Operations
EXLOG Staff
Thorough coverage, 174 pages
Price approx C$70, Pages/82.5

Abnormal Formation Pressures
Fertl, W.H.
Price approx C$115, Pages/83.3
Prospecting With Old E-Logs
Frank, R.W.
Schlumberger Educational Services, Houston, 1986,
ISBN 0-30972-02-3 Gulf Coast orientation, well presented,
161 pages
Price approx C$50, Pages/$3.2

Log Interpretation Reference Data Handbook
Gearhart-Owen Industries
Gearhart-Owen Industries Inc., Fort Worth, 1972
Really good data, but impossible to find, 150 pages
Price approx C$20, Pages/$7.5

Lexicon of Canadian Stratigraphy
Glas, D.J.
McAra Printing Limited, Calgary, 1990,
ISBN 0-88698-043-7
Good lithology descriptions, need a separate volume for
each area in Canada, 772 pages
Price approx C$70, Pages/$11.0

Wireline Operations
Gore, N.
The University of Texas, Austin, 1984, ISBN 0-88698-043-7
Wireline workovers, not wireline logging, good stuff to
know, 80 pages
Price approx C$20, Pages/$4.0

Geophysical Logging for Mineral and Engineering
Applications Hallenburg, J.K.
PennWell Publishing Company, Tulsa, 1984,
Not very deep, some good examples, 234 pages
Price approx C$42, Pages/$5.6

HP41C Formation Evaluation Programs
Hallenburg, J.K.
PennWell Publishing Company, Tulsa, 1984,
ISBN 0-87814-253-5 Companion to above, 105 pages
Price approx C$104, Pages/$1.0

Russian Style Formation Evaluation
Harrison, B. (Editor)
On order, haven't seen it yet, 700 pages
Price approx C$400, Pages/$1.8

Fundamentals of Formation Evaluation
Helander, D.P.
Broad coverage, well beyond logging
Price approx C$94, Pages/$3.5

Log Wireline—A History of the Well Logging and
Perforating Business
Hilchie, D.W.
Interesting and personal surve
Price approx C$54, Pages/$3.7

The Geologic Well Log Interpreter
Hilchie, D.W.
Douglas W. Hilchie Inc., Golden, 1987,
Clear schematic and real examples, 150 pages
Price approx C$50, Pages/$3.0

Advanced Well Log Interpretation
Hilchie, D.W.
Douglas W. Hilchie Inc., Golden, 1982,
An industry standard, slightly dated, 300 pages
Price approx C$103, Pages/$2.9

Applied Open-hole Log Interpretation
Hilchie, D.W.
Douglas W. Hilchie Inc., Golden, 1982,
The basics covered well—some Canadian content, 300
pages Price approx C$79, Pages/$3.8

Applied Open-hole Log Interpretation—Solutions
Hilchie, D.W.
Douglas W. Hilchie Inc., Golden, 1982
Answers for above exercises, 50 pages
Price approx C$40, Pages/$1.3

Old Electrical Log Interpretation
Hilchie, D.W.
Douglas W. Hilchie Inc., Golden, 1979
The best of the three books that cover this subject, 164
pages Price approx C$54, Pages/$3.0

Production Logging—Theoretical and Interpretive Elements
Hill, A.D.
Thorough coverage, 154 pages
Price approx C$110, Pages/$1.4
Reservoir Engineering Manual
Hollo, R.
PennWell Publishing Company, Tulsa, 1980,
ISBN 0-87814-134-0 Some useful algorithms, 220 pages
Price approx C$90, Pages/$2.4

Geological Applications of Wireline Logs II
Hurst, A. (Editor)
A collection of recent papers, European viewpoint, 404 pages
Price approx C$110, Pages/$3.7

Geological Applications of Wireline Logs
Hurst, A. (Editor)
A collection of recent papers, European viewpoint, 357 pages
Price approx C$100, Pages/$3.6

Well Logging for the Nontechnical Person
Johnson, D.E.
PennWell Publishing Company, Oklahoma, 1988,
Well, not really non-technical, but their hearts were in the right place, 198 pages
Price approx C$90, Pages/$2.2

Formation Waters of Western Canada
Johnson, R.
Opus Engineering, Calgary, 1992
Complete chemical analysis of each sample, more complete than CWLS catalog, 500 pages
Price approx C$800, Pages/$0.6

Well Logging 2—Electric and Acoustic Logging
Jorden, J.R.
Very concise, consistent review—Volume III on radioactivity is overdue by 2-3 years, 182 pages
Price approx C$100, Pages/$1.8

Well Logging 1—Rock Properties, Borehole Environment, Mud and Temperature Logging
Jorden, J.R.
Price approx C$100, Pages/$1.7

Induction Logging
Kaufman, A.A.
You need to be weird to own this book, 600 pages
Price approx C$322, Pages/$1.9

Thermodynamics for Geologists
Kern, R.
Freeman, Cooper and Company, San Francisco, 1967,
ISBN 0-87735-305-0 Explains diagenesis—sort of, 304 pages
Price approx C$28, Pages/$10.9

A Practical Introduction to Borehole Geophysics
Labo, J.
Well done, but not well known, very good on seismic applications, 330 pages
Price approx C$120, Pages/$2.8

Reservoir Characterization
Lake, L. (Editor)
A collection of provocative papers, 722 pages
Price approx C$110, Pages/$6.6

Formation Evaluation
Lynch, E.J.
Out of print, but broad coverage, 414 pages
Price approx C$90, Pages/$4.6

Fundamentals of Electric Logging
Martin, R.J.
Reprints of old papers—interesting but not essential, 68 pages
Price approx C$20, Pages/$3.4

Elmworth—Case Study of a Deep Basin Gas Field
Masters, J
The ultimate case history—100% Canadian content, 316 pages
Price approx C$150, Pages/$2.1

HP-41 Reservoir Engineering Manual
Meehan, D.N.
Price approx C$50, Pages/$7.3
Well Log Formation Evaluation
Merkel, R.H.
Course notes, pretty basic, 82 pages
Price approx C$50, Pages/$1.6

Geologic Well Log Analysis Bar Code Supplement
Pirson, S.J.
Companion to below, 28 pages
Price approx C$105, Pages/$0.3

Geologic Well Log Analysis—Third Edition
Pirson, S.J.
An industry standard, very good geology, less reservoir applications, 475 pages
Price approx C$93, Pages/$5.1

Geologic Well Log Analysis
Pirson, S.J.
Older version—not much different than above, 475 pages
Price approx C$95, Pages/$5.0

Handbook of Well Log Analysis
Pirson, S.J.
State of the art in 1962, still useful for older logs, 326 pages
Price approx C$116, Pages/$2.8

Oil Reservoir Engineering
Pirson, S.J.
Price approx C$80, Pages/$9.2

Glossary of Terms and Expressions Used in Well Logging Second Edition
Ransom, R.C.
SPWLA, Houston, 1984
Some entries are misleading, 116 pages
Price approx C$20, Pages/$5.8

Exploration for Carbonate Petroleum Reservoirs
Reeckmann, A.
Useful, hard to find, 213 pages
Price approx C$50, Pages/$4.3

The Geological Interpretation of Well Logs
Rider, M.H.
Newer than Pirson, heavy on tool theory, 175 pages
Price approx C$80, Pages/$2.2

The Art of Ancient Log Analysis
Ross, D. (Editor)
Society of Professional Well Log Analysts, Houston, 1979
Mostly reprints plus course notes, 300 pages
Price approx C$25, Pages/$12.0

Cased Log Interpretation Principles/Applications
Schlumberger
Schlumberger, Houston, 1989, ISBN SMP-7025
Very tool oriented, you may need older versions for old logs, 200 pages
Price approx C$20, Pages/$10.0

Log Interpretation Principles/Applications
Schlumberger
Schlumberger, Houston, 1987, ISBN SMP-7017
Very tool oriented, you may need older versions for old logs, 198 pages
Price approx C$20, Pages/$9.9

Sedimentary Environments from Wireline Logs
Schlumberger
Schlumberger, Houston, 1985, ISBN M-081030/SMP-7008
Condensed version of book by Oberto Serra, see below, 210 pages
Price approx C$50, Pages/$4.2

Well Seismic Techniques
Schlumberger
Schlumberger, Houston, 1985, ISBN SMP-9040
No other reference covers these topics, 24 pages
Price approx C$20, Pages/$1.2

Cased Hole Applications
Schlumberger
Schlumberger, Houston, 1975, ISBN C-11976
Older version—you need it for older tools, 123 pages
Price approx C$20, Pages/$6.2
Fluid Conversion in Production Log Interpretation
Schlumberger
Schlumberger, Houston, 1974, ISBN C-11952
Absolutely essential—topics not covered elsewhere, 57 pages Price approx C$20, Pages/$2.9

The Essentials of Log Interpretation Practice
Schlumberger
Schlumberger, Houston, 1973
A concise review of techniques as done in the 70's, 30 pages Price approx C$20, Pages/$1.5

Fundamentals of Dipmeter Interpretation
Schlumberger
Schlumberger, Houston, 1970, ISBN C-11797
Superceded by Sedimentary Environments, but you need this version too, 147 pages Price approx C$20, Pages/$7.4

Handbook on Well Logging
Sengel, E.W.

Fundamentals of Well Log Interpretation - Interpretation
Serra, O.
These two volumes are the best, especially the illustrations, but not cheap, 679 pages Price approx C$265, Pages/$2.6

Fundamentals of Well Log Interpretation - Acquisition
Serra, O.
See above, 422 pages Price approx C$214, Pages/$2.0

Reservoir Engineering Techniques Using Fortran
Sinha, M.
Some good algorithms, ready to code, 224 pages Price approx C$90, Pages/$2.5

Production Logging
SPE
Very concise, consistent review, 375 pages Price approx C$70, Pages/$5.4

Formation Water Resistivities of Canada
Struyk, C. (Editor)
cwls, Calgary, 1987, ISBN na
You need this, 77 pages Price approx C$20, Pages/$3.9

Formation Water Resistivities of Canada on Disc
Crain, E.R.
cwls, Calgary, 1992
Companion to above, 77 pages Price approx C$20, Pages/$3.9

Oil and Gas Production—Openhole Logging
The University of Texas
Course notes, dated, 85 pages Price approx C$30, Pages/$2.8

Log Data Acquisition and Quality Control
Theyse, P.P.
Good stuff, slightly different viewpoint, 330 pages Price approx C$100, Pages/$3.3

Practical Reservoir Engineering—Volume 2
Timmerman, E.H.

Practical Reservoir Engineering—Volume 1
Timmerman, E.H.

Geophysical Well Logging
Tittman, J.
An industry classic at a good price, 175 pages Price approx C$66, Pages/$2.7

Wireline Logging Tool Catalog
Verdier, M.
Good, but gets out of date quickly, 169 pages Price approx C$126, Pages/$1.3
Exploration Stratigraphy
Visher, G.S.
PennWell Publish Company, Tulsa, 1990,
ISBN 0-87814-342-4 Really good illustrations, 433 pages
Price approx C$123, Pages/$3.5

North Sea Formation Waters
Warren, E.A. (Editor)
New version, but I haven't seen it yet, 200 pages
Price approx C$400, Pages/$0.5

Well Log Digitizing
High-Precision, Low Cost, Fast Turnaround
Digitizing by Oilpatch Digitizing Experts

- Any Curve, Any Scale
- QI Overlays to scale
- All Output Formats Supported
- Russian Logs no problem

Contract Digitizing of Maps and Seismic
Contouring and Posting of Full "E" Size Maps

diGiRULE Ph. (403) 292-0320 • Fax (403) 229-4853
2001 - 10 Ave. S.W. Calgary, Alberta T3C 0K4

Mud Logging Handbook
Whittaker, A.
Good practical book, 531 pages
Price approx C$106, Pages/$5.0

The Fundamentals of Well Log Interpretation
Wylie, R.J.
State of the art in 1962, useful insights into sonic logging,
238 pages
Price approx C$66, Pages/$3.6

Welex Basic Concepts of Well Log Interpretation
Welex
Haliburton Company, Houston, 1950?
An oldie but goodie—one of the best explanations of
Archie's Laws, 42 pages Price approx C$20, Pages/$2.1

SEM Petrology Atlas
Welton, J.E.
Not as useful as I had hoped, 237 pages
Price approx C$100, Pages/$2.4