

Biased Book Reviews: Log Analysis Textbooks

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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, its 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 CWLS, CSPG, CSEG, CIM, SPWLA, 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.

AAPG, Tulsa, 1989, ISBN 0-89181-179-6

Good shaly sand primer, 59 pages

Price approx C\$20, Pages/\$3.0

Basic Well Log Analysis For Geologists

Asquith, G.B.

AAPG, Tulsa, 1982, ISBN 0-98181-652-6

More detailed analysis methods than above, 216 pages

Price approx C\$45, Pages/\$4.8

Log Analysis by Microcomputer

Asquith, G.B.

The Petroleum Publishing Company, Tulsa, 1980, ISBN

0-87814-118-9 Out of print—good basic book, 105 pages

Price approx C\$45, Pages/\$2.3

Interpretive Methods for Production Well Logs

Atlas Wireline

Atlas Wireline, 1990, ISBN AT90-163

Very necessary, 188 pages

Price approx C\$20, Pages/\$9.4

Neutron Lifetime Log

Atlas Wireline

Atlas Wireline, 1983, ISBN 3319

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.

Atlas Wireline Services, Houston, 1987, ISBN AT87-131

Very good on dipmeter basics, slightly dated, 216 pages

Price approx C\$72, Pages/\$3.0

Cores and Core Logging for Geologists

Blackbourn, G.A.

Whittles Publishing, Caithness, 1990, ISBN 1-870325-25-7

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 Commision, 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

Bourbie, T.

Gulf Publishing Company, Houston, 1987,

ISBN 0-87201-025-2

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,

ISBN 0-87201-638-2

Good coverage, one of the standard texts,

284 pages Price approx C\$87, Pages/\$3.3

Exploration Methods for Sandstone Reservoirs

Busch, D.A.

OGCI Publications, Tulsa, 1985, ISBN 0-930972-07-4

Great book for curve shapes, correlation, and depositional environments, 270 pages

Price approx C\$80, Pages/\$4.1

Handbook of Physical Constants

Clark, S.P. (Editor)

The Geological Society of America, New York, 1966, ISBN

66-19814 Out of print—find one at any cost, 587 pages

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.

PennWell Publishing Company, Tulsa, 1986, ISBN 0-81814-

298-3 Results oriented, wide coverage, computer ready 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/so.4

Applied Hydrodynamics in Petroleum Exploration
Dahlberg, E.C.
Springer-Verlag, New York, 1982, ISBN 0-387-90677-0
Log analysts need to know this stuff, 161 pages
Price approx C\$60, Pages/\$2.7

Essentials of Modern Open-hole Log Interpretation
Dewan, J.T.
PennWell Publ, Tulsa, 1983, ISBN 0-87814-233-9
A modern best seller and classical treatment, 361 pages
Price approx C\$109, Pages/\$3.3

Log Analysis of Subsurface Geology
Doveton, J.H.
John Wiley & Sons, New York, 1986, ISBN 0-471-89368-4
A regional, computerized approach, 273 pages
Price approx C\$83, Pages/\$3.3

Well Logging and Interpretation Techniques—The Course for Home Study Dresser Atlas
Atlas Wireline, 1985, ISBN 9333
A real bargain, get a current version, 100 pages
Price approx C\$20, Pages/\$5.0

Carbon/Oxygen Log
Dresser Atlas
Dresser Industries Inc., Houston, 1981, ISBN 9417
Topic is not covered well in the standard books, 250 pages
Price approx C\$20, Pages/\$12.5

Spectralog
Dresser Atlas
Dresser Atlas, 1980, ISBN 3334
Many examples, slightly dated, 250 pages
Price approx C\$20, Pages/\$12.5

Practical Log Analysis
Dresser Atlas
Petroleum Publishing Company, Tulsa, 1979, ISBN 9394
A collection of basic papers, 50 pages
Price approx C\$20, Pages/\$2.5

Rocky Mountain Formation Water Resistivities
DWLS
Petroleum Information Corporation, Denver, 1985 You might need this, 100 pages
Price approx C\$20, Pages/\$5.0

Well Logging for Earth Scientists
Ellis, D.V.
Elsevier Science Publishing Co. Inc., New York, 1987,
ISBN 0-444-01180-3 Lots of tool theory, 532 pages
Price approx C\$134, Pages/\$4.0

Finding Oil and Gas from Well Logs
Etnrye, L.M.
Van Nostrand Reinhold, New York, 1989, ISBN
0-442-22309-9 Good basics, not much “Finding”, 305 pages
Price approx C\$82, Pages/\$3.7

Formation Evaluation
EXLOG Staff
IHRDC, Boston, 1985, ISBN 0-88746-054-2
Good geology primer, 183 pages
Price approx C\$70, Pages/\$2.6

Theory and Evaluation of Formation Pressures
EXLOG Staff
IHRDC, Boston, 1985, ISBN 0-88746-052-6
Thorough coverage, 231 pages
Price approx C\$70, Pages/\$3.3

Mud Logging
EXLOG Staff
IHRDC, Boston, 1985, ISBN 0-88746-044-5
Thorough coverage, 92 pages
Price approx C\$50, Pages/\$1.8

Theory and Application of Drilling Fluids Hydraulics
EXLOG Staff
IHRDC, Boston, 1985, ISBN 0-88746-045-3
Log analysts should read this once, 198 pages
Price approx C\$80, Pages/\$2.5

Coring Operations
EXLOG Staff
IHRDC, Boston, 1985, ISBN 0-88746-053-4
Thorough coverage, 174 pages
Price approx C\$70, Pages/\$2.5

Abnormal Formation Pressures
Fertl, W.H.
Elsevier Science Publishing Company Inc., New York, 1976,
ISBN 0-444-41328-6 Excellent coverage, 382 pages
Price approx C\$115, Pages/\$3.3

Prospecting With Old E-Logs

Frank, R.W.
Schlumberger Educational Services, Houston, 1986,
ISBN SMP-7013 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

Glass, D.J.
McAra Printing Limited, Calgary, 1990,
ISBN 0-9020230-23-7
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 Hallenborg, J.K.
PennWell Publishing Company, Tulsa, 1984,
ISBN 0-87814-235-5
Not very deep, some good examples, 234 pages
Price approx C\$42, Pages/\$5.6

HP41C Formation Evaluation Programs

Hallenborg, J.K.
PennWell Publishing Company, Tulsa, 1984,
ISBN 0-87814-253-3 Companion to above, 105 pages
Price approx C\$104, Pages/\$1.0

Russian Style Formation Evaluation

Harrison, B. (Editor)
Geol Soc (UK), 1994, ISBN 1-897799-20-9
On order _ haven't seen it yet, 700 pages
Price approx C\$400, Pages/\$1.8

Fundamentals of Formation Evaluation

Helander, D.P.
OGCI Publications, Tulsa, 1983, ISDN 0-930972-02-3
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.
Douglas W. Hilchie Inc., Boulder, 1990
Interesting and personal survey
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.
SPE, Richardson, 1990, ISBN 1-55563-030-8
Thorough coverage, 154 pages
Price approx C\$110, Pages/\$1.4

TI-59 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)
Geol Soc (UK), 1992, ISBN 0-903317-80-1
A collection of recent papers, European viewpoint, 404
pages Price approx C\$110, Pages/\$3.7

Geological Applications of Wireline Logs

Hurst, A. (Editor)
Geol Soc (UK), 1990, ISBN 0-903317-45-1
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,
ISBN-0-87814-329-7
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.
SPE, Richardson, 1986, ISBN 1-55563-002-2
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.
SPE, Richardson, 1984, ISBN 0-89520-323-5 Very concise,
consistent review, 167 pages
Price approx C\$100, Pages/\$1.7

Induction Logging

Kaufman, A.A.
Elsevier Science Publishing Co. Inc., New York, 1989,
ISBN 0-444-42949-2
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.
SEG, Tulsa, 1986, ISBN 0-931830-47-8
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)
Academic Press, New York, 1989, ISBN 0-12-424066-0
A collection of provocative papers, 722 pages
Price approx C\$110, Pages/\$6.6

Formation Evaluation

Lynch, E.J.
Harper & Row, New York, 1962, ISBN 62-13249
Out of print, but broad coverage, 414 pages
Price approx C\$90, Pages/\$4.6

Fundamentals of Electric Logging

Martin, R.I.
The Petroleum Publishing Company, Tulsa, 1955
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.
AAPG, Tulsa, 1984, ISBN 0-89181-315-2
The ultimate case history—100% Canadian content, 316
pages Price approx C\$150, Pages/\$2.1

HP-41 Reservoir Engineering Manual

Meehan, D.N.
PennWell Publishing Company, Tulsa, 1982, ISBN 0-87814-
186-3 Some useful math, 364 pages
Price approx C\$50, Pages/\$7.3

Well Log Formation Evaluation

Merkel, R.H.

AAPG, Tulsa, 1986, ISBN 89181-163-X

Course notes, pretty basic, 82 pages

Price approx C\$50, Pages/\$1.6

Geologic Well Log Analysis Bar Code Supplement

Pirson, S.J.

Gulf Publishing Company, 1983, ISBN 0-87201-903-9

Companion to below, 28 pages

Price approx C\$105, Pages/\$0.3

Geologic Well Log Analysis—Third Edition

Pirson, S.J.

Gulf Publishing Company, Houston, 1983,

ISBN 0-87201-902-0

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.

Gulf Publishing Company, Houston, 1970,

ISBN 0-87201-901-2

Older version—not much different than above, 475 pages

Price approx C\$95, Pages/\$5.0

Handbook of Well Log Analysis

Pirson, S.J.

Prentice-Hall Inc., Englewood Cliffs, 1963, ISBN 63-9396

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.

McGraw-Hill Book Company, Inc., New York, 1958, ISBN

57-10917 A classic out of print—find one if you can, 735

pages 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.

John Wiley & Sons, New York, 1982, ISBN 0-471-08603-7

Useful, hard to find, 213 pages

Price approx C\$50, Pages/\$4.3

The Geological Interpretation of Well Logs

Rider, M.H.

Halsted Press, New York, 1986, ISBN 0-470-20281-5

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
Superseded 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.
The Institute for Energy Development, Oklahoma, 1981,
ISBN 0-89419-112-8 Brief, somewhat dated, 168 pages
Price approx C\$20, Pages/\$8.4

Fundamentals of Well Log Interpretation - Interpretation
Serra, O.
Elsevier Publ, New York, 1986, ISBN 0-444-42620-5
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.
Elsevier Publ, New York, 1984, ISBN 0-444-42132-7
See above, 422 pages
Price approx C\$214, Pages/\$2.0

Reservoir Engineering Techniques Using Fortran
Sinha, M.
IHRDC, Boston, 1985, ISBN 0-934634-50-5
Some good algorithms, ready to code, 224 pages
Price approx C\$90, Pages/\$2.5

Production Logging
SPE
SPE, Richardson, 1985, ISBN 0-89529-328-6
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
Petroleum Extension Service, Austin, 1981, ISBN 3,30410
Course notes, dated, 85 pages
Price approx C\$30, Pages/\$2.8

Log Data Acquisition and Quality Control
Theys, P.P.
Gulf Publishing Company, Houston, 1991,
ISBN 2-7108-06010
Good stuff, slightly different viewpoint, 330 pages
Price approx C\$100, Pages/\$3.3

Practical Reservoir Engineering—Volume 2
Timmerman, E.H.
PennWell Publishing Company, Tulsa, 1982, ISBN 0-87814-
181-2 Really good overview, modern approach, 367 pages
Price approx C\$134, Pages/\$2.7

Practical Reservoir Engineering—Volume 1
Timmerman, E.H.
PennWell Publishing Company, Tulsa, 1982, ISBN 0-87814-
168-5 Really good overview, modern approach, 363 pages
Price approx C\$134, Pages/\$2.7

Geophysical Well Logging
Tittman, J.
Academic Press Inc., Florida, 1986, ISBN 0-12-691390-0
An industry classic at a good price, 175 pages
Price approx C\$66, Pages/\$2.7

Wireline Logging Tool Catalog
Verdier, M.
Editions Technip, Paris, 1984, ISBN 2-7108-0452-2
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)

Geol Soc (UK), 1994, ISBN 1-897799-07-1

New version, but I haven't seen it yet, 200 pages

Price approx C\$400, Pages/\$0.5

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.

AAPG, Tulsa, 1984, ISBN 0-89181-653-4

Not as useful as I had hoped, 237 pages

Price approx C\$100, Pages/\$2.4

Mud Logging Handbook

Whittaker, A.

Prentice-Hall, Englewood Cliffs, 1991, ISBN 0-13-155268-6

Good practical book, 531 pages

Price approx C\$106, Pages/\$5.0

The Fundamentals of Well Log Interpretation

Wylie, R.J.

Academic Press, New York, 1963, ISBN 0-12-767253-2

State of the art in 1962, useful insights into sonic logging,
238 pages

Price approx C\$66, Pages/\$3.6

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