Petrophysics

Instructions to Authors and Guidelines for Manuscript Preparation

Effective September 1, 2004

The Instructions to Authors and Guidelines for Manuscript Preparation have been revised (June 2003) to make email the preferred method for submission of manuscripts. At the same time the document has been re-ordered and the description of the review process updated. The specific guidelines concerning types of contributions, writing style, and details for equations, headings, and avoidance of overt commercialism remain as before.

POLICY

Petrophysics publishes original contributions on theoretical and applied aspects of petrophysics, including both open hole and cased hole well logging. Case histories and interpretation papers are of special interest. Contributions may be in the form of Articles, Reports, Notes, Review Papers and Tutorials, and Discussions or Replies; they are accepted on the basis of quality and significance of subject matter, clarity of expression, and compliance with *Petrophysics* guidelines. Letters to the Editor are also accepted. When sending a Letter to the Editor, indicate if it is for publication.

Note that the statements and opinions expressed in *Petrophysics* are those of the authors and should not be construed as an official action or opinion of the SPWLA.

TYPES OF CONTRIBUTIONS

Articles are comprehensive papers on new interpretations or methods of analysis of well log data, new information or approaches to theoretical or applied topics, new instrumentation, or new research methods. Conclusions are firmly based on work reported in the paper. Speculation is kept to a minimum.

Case histories and field studies report on the success or failure of industry-standard techniques. Although they may not necessarily present original methods, they are nonetheless of great interest as examples.

Notes are shorter technical reports of preliminary discoveries, speculative hypotheses, new techniques, or new instrumentation. Based on mathematical derivations or empirically derived data, these manuscripts are brief, to the point, timely, and of general interest.

Discussions are comments on Articles or Notes published in *Petrophysics* and may offer useful additional information. A copy of the discussion is provided to the author of the original paper for the opportunity to prepare a Reply. Discussions and Replies should be offered by commentators and received by authors at a suitable technical level. Avoid any appearance of personal criticism in discussions and replies.

Tutorials are explanations of the principles of a petrophysical quantity, a measurement, or a technique for the education of readers. They are by invitation of the editor only.

MANUSCRIPT SUBMISSION

1. Submit only papers written in English.
2. Submit papers that are not under consideration for publishing elsewhere.
3. Papers that have appeared in non-refereed form in the transactions or proceedings of meetings are acceptable. Do not submit papers that have been refereed and published elsewhere unless invited to by the Editor.
4. Identify the date and location of papers presented orally or published in non-refereed form.
5. Submit the manuscript to the Editor of *Petrophysics* as an email attachment, preferably in a compressed (zip) file with text and figure captions in one file and figures in another.
6. If you cannot submit by email, please contact the Editor, whose contact details are in the current issue of *Petrophysics* and on the SPWLA website.
7. Provide the email address, regular mailing address, telephone number, and facsimile (FAX) number for the corresponding author.

Text Format

All text (including footnotes and references), tables, and figure captions should be placed in one file, preferably in MS Word with pages numbered consecutively from Abstract to References. Text files with embedded graphics

may be sent for review but are **not** acceptable for publication.

Figures Format

Figures should be created in a high-resolution electronic file. Low-resolution files will not reproduce well. Color digital images less than 300 dpi cannot be accepted. Note that authors are responsible for color charges (see below). Line art must be at least 1000 dpi. Electronic files should be saved in TIF, JPG, WMF, Corel-DRAW or Adobe Illustrator formats. If submitting color figures, they should be saved as CMYK and not RGB where the graphics software offers this option. Powerpoint files may be sent for review but are **not** generally acceptable for publication.

Most graphics will be set within the boundaries of a column of text with a nominal width of 3.5 inches (8.75 cm). The good appearance of your paper will depend on preparing the graphical material with this in mind. Ensure in particular that the length-to-width ratios and text sizes will look good when the figure is set to this size.

Where it is not possible for the author to provide high quality electronic graphics, graphic originals may be prepared at any size convenient for the author, but respecting the advice given above. High resolution color prints are preferred for better quality scans.

REVIEW PROCESS

Manuscripts that do not comply with *Petrophysics* guidelines may be returned to the corresponding author with a request from the Editor for compliance prior to review.

If in compliance, the manuscript is sent out for review, first to an associate editor competent in the paper's subject; the associate editor then will forward the manuscript to a maximum of three reviewers also competent in the paper's subject matter. The associate editor may contribute to the review at his or her discretion. Based on the reviews, the associate editor will recommend that the manuscript be either accepted, accepted with revision, or rejected. No paper will be published without prior review of at least three peers including the chosen reviewers, the associate editor, and the editor.

The Associate Editor advises the corresponding author of the decision, accompanied, in the case of acceptance, by reviewer's comments and suggestions. Once these have been implemented to the Associate Editor's satisfaction the manuscript is sent to the Editor who arranges for further copy editing. After any changes have been accepted by the corresponding author, the manuscript is sent to the Managing Editor to prepare page proofs.

The corresponding author receives one set of page proofs to check for typographic errors and to answer queries from the copy editor. The Editor reserves the right to accept or reject changes in proof.

1. Keep corrections in the proof to a minimum; authors may be charged for excessive proof corrections that differ from their accepted manuscript. Some corrections may result in serious delay in publication.
2. Return proofs to the Managing Editor within 48 hours of receipt; tardiness in returning proofs delays publication.
3. Complete and return the reprint order form, sent to authors with page proofs, with the proofs.

Copyright Transfer: Copyright law requires a copyright transfer be obtained from authors of papers published in *Petrophysics*. Copyright forms must be signed and returned by the corresponding author before publication is scheduled.

Printing Costs/Color Charges: *Petrophysics* requests voluntary page charges of $75 per page. Costs of any special printing, such as foldouts or color, are borne entirely by the author. There is a color printing charge of $515 for papers containing color figures. In addition, there are preparation charges for each color figure, which are: $144 up to 4" X 6", $155 up to 5" X 6", $177 up to 7" X 9". The printer counts each file as a figure. Therefore, if a figure is composed of multiple files (i.e., Fig. 1 a, b, c, d), it is cheaper to combine everything in one graphics file than to submit each part of the figure as a separate file. There is no charge for printing color figures in grayscale.

MANUSCRIPT ORGANIZATION AND STYLE

Title: indicate professional affiliation for each author under the title.

Layout: organize as listed: abstract (required for Articles, but not for Notes, Discussions, or Replies), body of text (introduction, methods or techniques, results, interpretation or discussion, conclusions, etc.), nomenclature, acknowledgments, references, appendices, tables, figure captions, figures, brief paragraphs about author entitled "About the Author." A glossy portrait-type photograph of each author showing head and shoulders should accompany the manuscript. Color or black and white photographs are acceptable; passport or instant prints are acceptable. Digital images made by scanning photos are not acceptable but images made using a digital camera are okay.

Figure and Table Captions should explain succinctly what each figure or table illustrates. Together with captions, they should be understandable without reference to text. (For an example of this style of captioning see any figure caption in any article in any issue of *Scientific American*).

Nomenclature: Papers using extensive abbreviations, acronyms, and symbols require a separate section for defi-

nition. Avoid extensive use of abbreviations or commercial acronyms. Refer to *Glossary of Terms and Expressions Used in Well Logging*, 2nd ed., SPWLA, 8866 Gulf Freeway, Suite 320, Houston, TX 77017.

References: List all published works cited in the text alphabetically by author and then chronologically. If there are two or more papers by the same author(s) in the same year, add lowercase letters after the year: Jones (1989a), (Jones, 1989b). When citing references in text, list chronologically: (Smith, 1987; Jones et al., 1988; Jones, 1989). Do not use abbreviations in titles of articles, books, or journals. Use the following format: author, year, title, volume, number, pages. Refer to manuscripts in preparation and personal communications as such in the text and do not include in the references section.

Books:

Beinkafner, K. J., 1988, Computer processing of dipmeter log data; enhancement of a subsurface exploration tool, *in* D. F. Merriam, ed*., Current trends in geomathematics*: Plenum Press, New York, p. 181-206.

Journals:

Dupree, J. H., 1989, Cased-hole nuclear logging interpretation, Prudhoe Bay, Alaska*: Petrophysics* , v. 30, no. 3, May-June, p. 162-177.

Published meeting transactions or proceedings:

Khokar, R. W., and Johnson, W. M., Jr., 1989, A deep laterolog for ultrathin formation evaluation, paper SS, *in* 30th Annual Logging Symposium Transactions: Society of Professional Well Log Analysts.

Woodhouse, R., and Kerr, S. A., 1988, The evaluation of oil saturation through casing using carbon/oxygen logs, SPE-17610, *in* SPE International Meeting on Petroleum Engineering, Proceedings: Society of Petroleum Engineers, p. 621-632.

Unpublished meeting papers:

Hsu, K., Brie, A., and Plumb, R. A., 1985, A new method for fracture identification using array sonic tools, SPE-14397: Society of Petroleum Engineers, presented at 60th Annual Technical Conference and Exhibition, 8 p.

About the Author: Briefly outlines education, career accomplishments and contributions, professional position, and work on current projects. A photo may be submitted for print. You may also include any contact information for the corresponding author.

Measurement Units: SPWLA prefers metric units but accepts either English or metric units. When using English units, provide conversions to metric units in parentheses.

Style Guides: The SPE style guide, available from SPE, is a good summary of style, nomenclature, abbreviations and spelling for the oil industry.

For discussions on how to prepare a scientific/technical paper, SPWLA also recommends the *CBE Style Manual*, Council of Biology Editors, Inc., 9650 Rockville Pike, Bethesda, MD 20814 *and Geo-writing-A Guide to Writing, Editing and Printing in Earth Science*, American Geological Institute, 4220 King St., Alexandria, VA 22302. *The Chicago Manual of Style*, University of Chicago Press, 5801 South Ellis Ave., Chicago, IL 60637 is an excellent reference for general writing style and grammar.

APPENDIX

ADVICE ON WRITING YOUR ARTICLE FOR *PETROPHYSICS*

The technical journals of the world are filled with poorly written and therefore deservedly obscure papers. At *Petrophysics* these are referred to as inscrutable papers; these are articles beyond the reach and endurance of readers who might otherwise be interested in their topics. They must be read repeatedly and often and using references in order to fathom their message. At *Petrophysics* inscrutable papers are the enemy. The purpose of writing a technical paper is to *communicate* (not obfuscate) ideas to an audience. Part of the audience, of course, will be colleagues working in your field and familiar with the techniques and jargon of your discipline. You should also keep in mind that you are making a permanent record of your work, one that will be archived in the libraries of the world and that may be referred to by students and scholars unknown to you, some as yet unborn. This is the audience that you should aim to communicate with. To write effectively you should first introduce your subject and describe why your work was needed. The body of your article should describe your methods and results. Finally, you should discuss the significance of the results and summarize the paper.

Organization. Your finished article should be structured around a format that includes seven elements: a title, an abstract, an introduction, a description of methods, a description of results, discussion of the significance of the work, and a summary or conclusions section. There is latitude in selecting subtitles in the description of methods and results, but the abstract, introduction, and summary or conclusion section should be so named.

Title. Your title should evoke an accurate image of your work in your readers' mind's eye. There is nothing to prevent creativity or even a touch of poetry in crafting your title, using imagery as vivid and bold as you and your topic can support. Succinct and vivid titles will be remembered. However, your paper must deliver on what your title promises. The last question you should ask yourself before sub-

mitting your manuscript for review should be "Does my manuscript deliver what my title promises?" If not, work some more on the title.

Abstract. Your abstract will represent your work to many more people than will ever read your paper, therefore craft it carefully. Your abstract is a very short version of your paper. Its purpose is to briefly introduce why your subject is worthy of interest including its areas of uncertainty, one of which your paper will illuminate. Then move to the significant findings, conclusions, and the consequences of these conclusions for your technical community. You should avoid phrases such as "it is shown that" and "is discussed"; assert your points in direct declarative sentences. Avoid the use of equations. Limit the abstract to 250 words or less.

Introduction. Many readers will expose themselves only to your introduction and your conclusion section. Others may read past the introduction if the introduction is successful in explaining why the problem you are reporting is interesting. Use this section to introduce your reader to the imperatives that impelled you to do the work. Briefly explain the history of the problem including references to previous work. This is the place where connections to related problems can be made. After reading this section the audience should be able to explain what work you have done and why you have done it.

Methods. In some cases the paper will be *about* a method. If you have developed a new method and applied it to illustrate its usefulness your paper will be of this type. In these cases it is proper to present the method in detail. In other instances, the method used in your work is not original per se, but was used to obtain a new result. In these cases, detailed discussion of the method would detract from the chain of thought you are linking for the reader; these details should be relegated to an appendix. In either case, the description should contain enough detail to allow the work to be repeated by a competent and diligent reader.

Results. Explain your results. Results are often summarized graphically or in tables. Such graphs and tables should be supported with enough text to illuminate their content and significance. In this section you can direct the attention of the reader to various subtleties and caveats in your data.

Discussion and Conclusions. In a very real sense these last two items are the heart and soul of a paper. There are many styles that work equally well at this point in a manuscript. However, many papers fail at this point, so I offer some constructive comments for you to consider in crafting these sections. Although in some cases one may wish to omit an explicit Discussion section in favor of a more lengthy Conclusion section, the discussion section is used to convey the significance of your result; how does your result illuminate the problem stated in your introduction; how does it relate to other similar work in the field; can your result be used to make a new connection between disciplines? A Conclusion section should begin with a paragraph summarizing your work—this is for readers who will sample only the Introduction and the Conclusions before deciding to read your paper. Follow this with the main points to be drawn from your work, avoid redundancy but the Conclusion need not necessarily be brief. Describe how well the study objectives were met. If there are logical conclusions that need to be drawn they should appear here. Discuss new problems that have arisen as a result of your study and/or future work that might be done to further the development of understanding in your topic of study.

General Caveats

Commercialism. Articles printed in *Petrophysics* may well confer competitive advantage to authors and their employers from the point of view that their reputations as industry leaders or experts are enhanced in the eyes of their readers and customers. However, the SPWLA sells advertisements in *Petrophysics* for the purpose of commercial communication of service providers and consumers. Your article in *Petrophysics* should carefully avoid any semblance of an advertisement. For example, where possible it should avoid using trade names when generic names are available. The editors of *Petrophysics* are aware that because of the nature of our industry the use of tradenames are sometimes unavoidable, for example when no generic name exists or when the competitor's tradename has become the generic name for an instrument or service. However, authors should do their best, with help from the editors, to minimize or eliminate commercialism in *Petrophysics* articles.

Equations. If your paper contains equations, use an equation editor to create them. If you do not have access to an equation editor then write them out longhand approximately as they would appear when typeset.

Most one-line equations can be typeset with ordinary MS Word. Word supports Greek characters in its Symbol font, and subscripts and superscripts can be made with the Font menu in the Format menu. Do not type your equations using Fortran-like conventions (e.g., E = m * c ** 2 ; c = 2 * pi * rho). In some cases your copy editors and you may agree on the visual appearance of equations so specified, but in general you should assume the copy editor and typesetter are not familiar with mathematics and equations and you must leave no doubt as to how your equations should look. Your manuscript may be returned to you for revision *before* the commencement of peer review if your equations are not perfectly clear to the editor.

Equations should be punctuacted as if they were being read aloud. Do not set equations off from the text using a colon. Equations can come at any position in a sentence; but usually not at the beginning, frequently in the middle and

sometimes at the end. The symbols used in the equation should be defined either just prior to or just following the text of the equation.

If you are unaware of the typesetting conventions used with equations, look at your old algebra or calculus textbook and give your formulas a similar appearance. Another source of acceptable examples is the SEG journal *Geophysics*.

Bullets and item numbering. Do not use "bullets" and use specific enumeration sparingly. Although "bullets" are now very common in presentations, your paper is a narrative and you are not required to make your point in a single abbreviated line of text as on a slide—you have the luxury of using full-blown prose. Compose a topic sentence for a paragraph and then write the paragraph. Similarly, enumerated items should have a fair amount of discussion in order to justify their use. For lists without much discussion just use a simple list. Consider whether a table would meet the needs of your exposition.

Topic and subtopic headings. Headings should be followed by some reasonable amount of discussion. If you find that each of your headings merits only a sentence or two, this is an indication that you are merely enumerating items with headings; consider a table instead.

Author's Editing and Revision—Preparing for Peer Review

After preparation of a draft manuscript the author should put his manuscript out to sympathetic colleagues with the request that the manuscript be thoroughly and critically, even brutally, evaluated; then be prepared to receive criticism and use it to improve the paper. This should be repeated until the manuscript is judged as good as it can be. A paper vetted in this way may spend considerably less time in peer review than an uncritiqued paper.

Although the membership of the SPWLA is international, *Petrophysics* is an English language journal. Authors, whatever their native languages and their level of fluency in English, will want their contributions to *Petrophysics* to be in English of the highest caliber. For co-authored papers, the native English speaking co-authors, if there be any, should take charge of the revision process at this point. For this large subset of papers, the native English speakers on the writing team can save incalculable time in the copy editing process by editing the paper for high quality English prose before submitting the paper for peer review. This seems obvious but is not done in many cases.