

# Water Resources Division PUBLICATIONS GUIDE

## Volume 1. Publications Policy and Text Preparation

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Revised by Darwin F. Alt and Kathleen T. Iseri



U.S. GEOLOGICAL SURVEY  
Water Resources Division

1986

# DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

## U.S. GEOLOGICAL SURVEY

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## FOREWORD

In 1962, Donald Wiesnet conceived a guide for Water Resources Division authors that provided information on procedures and policies not readily accessible elsewhere. Wiesnet and James Warman prepared the earliest articles for the original "Publications Guide," most of which pertained to illustrations. In the late 1960's and early 1970's, the first edition of the "Water Resources Division Publications Guide" was completed under the able direction of Donald Hillier, who prepared many of the articles. Over the years, additional articles were added in response to changes in report policy and preparation.

The first edition of the "Water Resources Division Publications Guide" was regarded by those who worked with publications on a daily basis as the source for reliable guidance in the policy and mechanics of report preparation. In 1980, it became apparent that the evolution of the Water Resources Division, and the many changes in report policy, preparation, and production stemming therefrom, resulted in a need to update the "Publications Guide." The second edition was published in 1982. Further changes in policy since 1982 and other perceived needs to update the 1982 edition, resulted in the current edition (1986) of the "Publications Guide."

The new "Water Resources Division Publications Guide" consists of two volumes--Volume I discusses Geological Survey publication policy and text preparation and describes in detail the various aspects of report preparation, review, and publication; Volume II (in preparation, 1986) discusses Geological Survey policy regarding illustrations, and describes the various techniques for planning, designing, drafting, reviewing, and printing illustrations, including hydrologic maps. Until Volume II becomes available, the first edition of the "Publications Guide" should be retained for information on illustration policy and preparation not included in Volume I.

Philip Cohen  
Chief Hydrologist

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# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

## INTRODUCTION

The first edition of the "Water Resources Division Publications Guide" was begun during the 1960's to provide those involved in report preparation with a source of detailed information on the mechanics of report preparation and processing. It was designed to supplement our two other broader guides, "Suggestions To Authors of the Reports of the United States Geological Survey" and the "Government Printing Office Style Manual," with which all people involved with reports should be familiar. Procedures have changed throughout the years, and the Water Resources Division decided to revise the "Publications Guide" in 1982 and again with the present edition to reflect these changes and also to incorporate the comments that were received regarding needed improvements.

The present revised edition of the "Publications Guide" contains many of the older articles on planning, writing, reviewing, processing, and printing reports and maps; it also incorporates recent changes in publication policy and format made by the Division, the Bureau, and the Department. For ease of use, the "Publications Guide" is divided into two volumes: Volume I contains information on report policy and manuscript preparation; Volume II (in preparation, 1986) covers the preparation of maps and illustrations.

The most significant differences between the 1982 and current edition are that: (1) The content has been updated to incorporate newer publication policies and text preparation procedures and (2) several new articles have been added. Among the additions are articles on requests to authors from publishers for assignment of a copyright to a publication; non-English-language reports; water fact sheets; "Selected Papers in Hydrologic Sciences"; guidelines for selection of reports for Water-Supply and Professional Paper Series; use of computer-generated tables; WRIR and the GPO depository library programs (GPO SF-1 and form 2511); instructions for the preparation and distribution of oversized multicolored maps in WRIR's. Not new but significantly revised topics include: Revised manuscript routing sheet (July 1984); revised WRD reports tracking system; revised WRSIC abstract preparation procedures; updated instructions on the use of NGVD of 1929; revised instructions for general-interest publications; and revised instructions on the return of surplus book and map publications. Other less significant but needed changes were made throughout the "Publications Guide" to respond to comments raised by users of the 1982 edition.

The revised "Publications Guide" will help authors and others concerned with report preparation to complete their responsibilities with increased efficiency.

To keep the "Publications Guide" current, users of the "Guide" who see a need for new articles or revisions are encouraged to submit their suggestions. Please mail all suggestions to:

Chief, Publications Planning Unit  
Water Resources Division  
U.S. Geological Survey  
418 National Center  
Reston, Virginia 22092

Future editions of the "Publications Guide" will be published periodically in response to changes in Department, Division, and Bureau report policy.

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# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

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## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 1.01.1

Subject: U.S. GEOLOGICAL SURVEY POLICY--Written Reports

#### 1.01.1 References on report policy

Widespread respect for the U.S. Geological Survey is the result of its integrity and impartiality and its ability to release results of its investigations in a manner that serves the whole public rather than the interest of any special group or individual. For this purpose, the Geological Survey has devoted itself to the publication of reports that archive and disseminate its findings.

The following is a list of references that have affected the policy of the Geological Survey regarding written reports. They should be read in their entirety by all authors.

The Act of Congress (Organic Act) that created the Geological Survey in March 1879 established the Survey's obligation to make public the results of its investigations and research and to conduct, on a continuing, systematic, and scientific basis, the investigation of the geologic structure, mineral resources and products of the National domain."

Water Resources Division Policy Statement No. 1, June 4, 1959, by Luna B. Leopold, Chief Hydraulic Engineer (1957-66) lists report goals and author responsibility. (See article 1.01.2.)

Water Resources Division Memorandum No. 79.43, "Policy of Water Resources Division Regarding Written Reports," December 22, 1978, by Joseph S. Cragwall, Jr., Chief Hydrologist (1974-79) updates but does not change Policy Statement No. 1. (See article 1.01.3.)

Geological Survey Manual, No. 500.14, January 28, 1980, "Safeguard and Release of Geological Survey Information," enumerates general policy and requirements regarding release of Geological Survey information. (See article 1.02.1.)

Geological Survey Manual, No. 500.9, July 15, 1976, "Outside Publication and Oral Presentation - Clearance from the Director," states that all writings in which the Geological Survey has proprietary interest and all writings in which the author's Survey affiliation is shown should be submitted to the Director for approval prior to release for outside publication. (See article 1.02.5.)

Government Printing Office Style Manual, (March 1984), hereinafter referred to as "Style Manual."

Suggestions To Authors of the Reports of the United States Geological Survey (5<sup>th</sup> ed., 1958; 6<sup>th</sup> ed., 1978), hereinafter referred to as "Suggestions to Authors," describes Geological Survey publications policy and author responsibility.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 1.01.2

Subject: U.S. GEOLOGICAL SURVEY POLICY--Written Reports

#### 1.01.2 Policy of the Water Resources Division regarding written reports (Water Resources Division Policy Statement No. 1)

On June 4, 1959, the Chief Hydraulic Engineer, Luna B. Leopold, released a statement that, for the first time, gave the Water Resources Division a concise definition of the policy of the Division with respect to report preparation and publication. Leopold's statement is known as Water Resources Division Policy Statement No. 1. This statement has never been rescinded, although it was updated by Water Resources Division Memorandum No. 79.43, December 22, 1978. Both of these documents are included for your guidance. Although the Leopold statement makes reference to sections or job positions that no longer exist, such as Branch Area Chiefs, this minor obsolescence does not affect the policy concepts that were developed.



WATER RESOURCES DIVISION POLICY STATEMENT NO. 1

June 4, 1959

Memorandum

To: All Professional Personnel

From: Chief Hydraulic Engineer

Subject: PUBLICATIONS--Policy of the Water Resources Division

The effectiveness of the Water Resources Division depends largely on its ability to produce reports that meet the great variety of needs for water information. The solution to present and future water problems may well hinge upon the availability, quality, and timeliness of reports. Therefore, we must emphasize the production of reports that will appraise the Nation's water resources, describe techniques and methods to meet water problems, and inform the public generally about water.

Our reports should have the content, quality, and timeliness necessary to establish and maintain leadership in the field of water. Those who are responsible for project planning and execution should plan to use fully all publication media, including the Survey series, publications of cooperating agencies, journals of scientific organizations, and communications outlets to the lay public, such as newspapers, magazines, radio, and television. We must learn 1) to select from our water facts those that are newsworthy, and 2) to present those facts in a manner that will stimulate public interest and satisfy public curiosity.

Much of the success of the Division results from the composite effort of individual authors; therefore, we must continue to recognize the importance of authorship in the Division, and make every effort to aid individuals in their training and growth in proficiency as authors.

Scope of Reports

Goals for reporting during the next decade should reflect the program goals outlined in the Division memorandum, "PROGRAMS AND PLANS: Policy Guides," dated March 27, 1959. The report aspects of those goals are summarized below:

1. Publication of basic data generally will be in one of the following types of presentation:
  - (a) Supporting evidence in a technical report. A technical report will not be used as a vehicle for publishing data in bulk form.

- (b) In reports designed specifically for the release of basic data, as exemplified by "Surface Water Supply of the United States." For extensive data tabulation, this form is to be used, whether the data are discharge records, well logs, chemical analyses, or others.
2. Comprehensive appraisal reports by basins, aquifers, or regions.
  3. Reports on principles and techniques. Publication of these reports would partly fulfill our responsibility for leadership in hydrology. These reports ordinarily would be published in the Survey series, but some might be published in professional journals.
  4. Long-range plans for water-resources investigations in a State may be published by the Survey if their contents have general interest.
  5. Interim or progress reports may appear either in the Survey's series or in series of the cooperating agencies. These reports would be written for many different readership levels and developed to fulfill better the needs for timely reports for our cooperating agencies.
  6. Technical handbooks and manuals describing current investigation methods used in the Division. These would include those for educational and training purposes.
  7. Lay-reader reports summarizing, by States, basins, or regions, the Nation's water situation.
  8. Nationwide summary reports presenting generalized hydrologic data in map or graphic form to meet general public needs. The National Atlas Series has advantages for this type of material.
  9. Hydrologic almanacs, or gazetteers, for each State.
  10. Books on hydrology and related fields.
  11. News releases, "popular" articles, speeches, and special topics of public interest, using all effective means of communications with lay audiences.

#### Attainment Guides

Achievement of goals will depend on the willingness of each individual in the Division to accept fully his responsibility. Each individual must also discipline his energies and actions, using the following guides in planning and executing work:

1. Reports are the principal tangible product of the Division; therefore, in the promotion of individuals whose duties include or are related to report preparation, great weight will be given to achievement in report production. In the case of an individual not directly participating in report preparation, report production in his unit and his effectiveness in report review will be considered in promotion. The Division will examine the record of such production in considering any promotion or transfer.

2. Leadership in the field of water is in great part related to our ability to achieve a well-balanced publication program. Therefore, the number of administrative and open-file reports not designed for publication should be kept to a minimum. An administrative report usually will be abstracted from material being prepared for publication.
3. The production of timely, well-written reports results from adequate project planning and scheduling of work to allow time for evaluation of basic data and report writing. It is imperative that an author develop a report outline early in his project, preferably before results and conclusions are available--before work begins, if possible. It is imperative also that maximum use of planning aids (project description, yearly work plan) be made in developing a well-thought-out publication schedule. This schedule should include as many as possible of the various forms of reports, such as lay-reader reports, progress reports, journal articles, and final reports.
4. The responsibility as project chief and as author must be assigned at the beginning of a project and administrative controls should be exercised to assure that the assigned responsibility is fulfilled according to plan.
5. The principal author or authors of a report must remain on their assignment at least until they have completed a manuscript which has had adequate technical review and acceptably meets editorial standards.
6. Work related to manuscript preparation, review, and revision has first priority over most other duties. All personnel who are competent to review manuscripts are expected to do some manuscript review on request. Once review responsibility is assigned, a reviewer must apply himself immediately and diligently to the review task and must meet the deadlines mutually agreed upon.
7. The immediate supervisor of an author is responsible to assure that the author's report adequately meets standards before transmitting it to higher levels for review. The Division policy is to provide an author with the assistance and constructive criticism of specialists who are qualified in the subject matter of his report.
8. The effectiveness of a supervisor in generating and handling reports will be judged on the quality of the reports that come out of his office, and this factor will be considered in appraisals of the supervisor's qualifications for greater responsibilities.
9. Within the general policy of the Geological Survey, it is the intent of the Water Resources Division to provide an author with the opportunity to publish his individual ideas, whether or not they are accepted by his colleagues. The author must, however, show that he is acquainted with previous work by others, present a clear and logical argument in defense of his own ideas, and show that he has responded constructively to the comments, suggestions, and criticism of reviewers.

## Responsibility of Author, Supervisor, and Review Personnel

We aim to release from the office of origin only those reports that meet reasonable technical and editorial standards. We intend to accomplish this by providing a workable and constructive procedure for quality control. The basic element in this scheme is to place on the supervisor from whose office a report originates the principal responsibility for these standards. A definition of responsibility at all levels is described in the following paragraphs:

1. It is an author's responsibility to keep his supervisor informed and to seek his help in planning for a report as the project proceeds.

An author bears the primary responsibility for the content of his report, but he is expected to seek and judiciously use the advice of his supervisor, of his colleagues, and of technical advisors recommended by any administrative level.

An author is expected to keep himself informed on correct editorial practices and to prepare his report conscientiously in accordance with high editorial standards. Review at higher levels shall not be depended upon to compensate for poor work on the part of an author.

When a manuscript is considered to be ready for review, the supervisor will arrange for review by one or more qualified professionals within the Survey (in some cases from outside the Survey). The author may assist his supervisor by suggesting appropriate reviewers. Comments by the reviewers must be considered in the preparation of a final draft to be presented to the author's supervisor for subsequent transmittal through channels toward ultimate publication. The manuscript should be accompanied on its movement to all administrative levels by a brief summary of the comments of each reviewer and of the changes that were made in response to the reviewer's suggestions. This summary should be matter-of-fact and dispassionate. If necessary, the supervisor will prepare the summary. If any significant suggestions made by the reviewers are not accepted, the author will present reasons why he found the suggestions unacceptable.

Regardless of where an author may be during the final stages of the review and publication of his paper, he has the responsibility to do whatever work on his manuscript that may be necessary at any time. Supervisors should assure that commitments on new projects will allow for work on unpublished manuscripts from previous projects.

2. The principal administrative responsibility for the technical and editorial adequacy of an author's report rests with his immediate supervisor. It is not the intent of this policy, however, to make an editor out of a supervisor. Nevertheless, a supervisor will be held accountable if he forwards to higher level a report that clearly is inadequate in any important respect. This responsibility requires that a supervisor will give each report passing through his hands sufficient review to assure himself of the worth of its content, the adequacy of the technical review it has received, and emphasizes that if a supervisor properly consulted and advised with an investigator throughout the progress of a project and in the planning of the report, little additional burden is imposed by the responsibilities outlined above.

The immediate supervisor of an author shall transmit a manuscript to the next higher administrative level along with his comments and recommendations on type of publication.

3. Branch Area Chiefs will receive report manuscripts from the originating offices, or project chiefs where appropriate. They will give sufficient review to reports to satisfy themselves that they are adequate in quality. Suitable reports will be forwarded with Area Chiefs' recommendations to the Branch headquarters through channels specified by the Branch Chief. Report appraisals will be a principal source of information on the performance of District Chiefs and Project Supervisors. A Branch Area Chief, having received a report deemed inadequate either by himself or by the Reports Section of his Branch, will inform himself fully on the nature of the inadequacies and give whatever help he can to the supervisor and to the author in preventing future recurrences of deficiencies, as well as in improving the report in question.
4. The principal purpose of review by the Branch Reports Sections is to judge the scientific and technical quality and the overall adequacy of the reports received, to make editorial and technical improvements of modest character, and to keep adequate records and control of report production and progress. The Branch headquarters will provide Branch Area Chiefs and the Division Chief with quarterly summaries showing the status of reports.

Reports found by a Reports Section to require more than minor adjustments shall be returned promptly to the originating office through appropriate channels.

A Reports Section should make only such technical review of a manuscript as is necessary to judge the overall quality, except in cases where, because of the nature of the subject, a member of the Reports Section staff is a logical technical reviewer. A Reports Section is expected to depend largely on the technical reviews made before the report is submitted. A Reports Section, however, must satisfy itself that the technical review has been competent and thorough. In the case of a report which has had inadequate technical review, the Branch should see to it that further review is arranged for. A Branch has the responsibility for setting up standards for appraising the adequacy of technical review, including prior approval of proposed reviewers, if appropriate.

Reports having met all requirements, including those of a Reports Section, shall be forwarded to the Division Publications Officer, through channels prescribed by the Branch.

5. The Division Publications Officer is responsible to assure himself of continuing adequate quality of reports submitted for release or publication. Although the Publications Officer does not have routine technical review functions, he will review reports to the extent necessary to discharge his responsibilities. He will devise and maintain records and control documents needed for constant surveillance of the quality, progress and production schedule of reports.

Reports for which release or publication is desired will be channeled through the Division Publications Officer, who is the central and principal contact with units outside the Division in all matters pertaining to reports. He transmits reports to the Director's Office, for example, and they are routed back through him from that office. Printer's proofs of reports also pass through the Division Publications Officer.

The Division Publications Officer will make summary quarterly reports to the Office of the Division Chief on the status of reports, and will furnish copies of this report to Branch Chiefs.

Luna B. Leopold

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 1.01.3

Subject: U.S. GEOLOGICAL SURVEY POLICY--Written Reports

1.01.3 Policy of the Water Resources Division regarding written reports (Water Resources Division Memorandum No. 79.43)

December 22, 1978

WATER RESOURCES DIVISION MEMORANDUM NO. 79.43

Subject: PUBLICATIONS--Policy of the Water Resource Division Regarding  
Written Reports

*This memorandum updates WRD Policy Statement No. 1 (June 4, 1959) and amendment (March 7, 1963). My purpose is to reemphasize the importance of the written report, to review and emphasize the placement of responsibility and credit for reports, and to reiterate that authorship enhances professional development and career opportunity.*

*I have refrained here from discussing the planning and writing of reports, the publications media available for Survey authors, and the organizational and hierarchial responsibilities and procedures for review and publication. These are important, but they are addressed in the several editions of Suggestions To Authors culminating in the Sixth Edition, recently published--and in the Publications Guide and technical memorandums of the Water Resources Division, with which you should be familiar.*

#### *The Written Report*

*The Act of Congress which created the U.S. Geological Survey in 1879 established the obligation to make public the results of its investigations. The written report (cartographic or textual) fulfills this obligation for the Survey's program of investigation and research. It serves to archive our findings and to disseminate them.*

*Three developments during the past dozen or so years--the advent of the computer age, the enlargement and diversification of the user audience, and the effects of inflation on the cost of the traditional Survey book publications--have influenced attitudes toward the written report. These developments have led to a reevaluation of the most suitable form for presenting the results of our work, and have engendered a feeling by some that the written report is being deemphasized as the principal product of the Division. Indeed, the computer printout and computer program are new forms of products, and others are likely to come. However, the written report will continue as a primary vehicle for disseminating and archiving results of research and investigations. Well-written, timely reports are more important than ever because of the enlarged user audience and increased relevance of our work to real world problems.*

## Responsibility and Credit for Reports

It is Geological Survey policy that its investigators bear primary responsibility for their findings and be credited publicly for their work. This policy stems from recognition that the success of the Survey in carrying out its mission is entirely reliant upon the skill and dedication of its employees. Implementation of this policy requires that Survey investigators document their work and findings, and that authorship of reports be displayed clearly.

The Geological Survey has a proprietary interest in, and is accountable for, the work performed by its employees. Accordingly, supervisors at all levels share the responsibility for assuring that reports prepared under their supervision are accurate, well-written, impartial, and in conformance with Survey policies.

Procedures exist to provide support to authors in the preparation, review, and publication of reports, and to facilitate the carrying out of supervisors' responsibility. Of particular note, because it is part of the nucleus of our system of assuring technical excellence, is the practice in the Water Resources Division of technical reviews by colleagues. As an integral part of their Survey responsibilities, all employees are expected to participate in technical review when asked. Participation in such reviews has priority over other duties, within realistic management constraints. The colleague should take responsibility for technical reviews as seriously as he does his responsibility for his own reports. The District Chief or Program Manager has primary responsibility for assuring the adequacy of colleague review--at both ends, the author's office and colleague reviewer's office.

### Authorship

I emphasize here the benefits of authorship to the individual. Authorship credits professional achievement for it associates, on the record for all to see, the individual and his contribution. There are, of course, other expressions of professional achievement, but none so clear and lasting in our kinds of work as that expressed by authorship. Careers are not made by bibliographies, but professional reputations are enhanced by good work as expressed in high-quality reports. The aid to career advancement should be self-evident.

### Summary

The written report will continue to serve the Survey as a most important medium of information transfer to the public. The timeliness and high quality of the written report brings credit to the Survey and enhances the professional reputation and chances for career advancement of the author. All levels of project and program supervision share the responsibility for assuring the timeliness and quality of our written reports.

J. S. Cragwall, Jr.  
Chief Hydrologist



## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 1.02.1

Subject: U.S. GEOLOGICAL SURVEY POLICY--Release of Information

1.02.1 Safeguard and release of Geological Survey information  
(modified from "Geological Survey Manual", Chapter 14,  
No. 500.14)

"Geological Survey Manual," Chapter 14, No. 500.14, dated January 28, 1980, discusses Geological Survey policy regarding the release of information. This article reproduces Chapter 14, with minor modifications.

Purpose.--Geological Survey Order No. 202, issued on September 25, 1950, enumerates general policies and requirements regarding release of Geological Survey information, including proprietary information received from private sources. The purpose of this chapter is to incorporate Geological Survey Order No. 202, with appropriate revisions, into the "Geological Survey Manual."

Background.--As a Federal agency dedicated to public service, the Geological Survey is under obligation to conduct its activities and to make the results of its scientific and engineering investigations available in a manner that will best serve the whole public, rather than the interest and benefit of any special group, corporation, or individual.

The widespread respect for the Geological Survey's integrity and impartiality, and its consequent value to the Nation, has been based, and will continue to depend, largely upon its careful fulfillment of that obligation.

For guidance of Geological Survey staff members in their day-to-day tasks and in their dealings with outside groups or persons, certain policies and requirements have been established for practical application of Geological Survey standards.

Safeguarding unpublished Geological Survey information.--All information (particularly information of economic significance) obtained through investigations and observations by the staff of the Geological Survey or by its contractors must be held confidential and not be disclosed to others until the information is made available to all, impartially and simultaneously through Director-approved formal publication or other means of public release, except to the extent that such release is mandated by law. (See article 1.03.6.) (The term "confidential" as used here is not to be confused with security classification, but merely means protection from disclosure before release to the public.)

With approval of the Director, the following information has been excluded or excepted from the requirements to hold unpublished information confidential:

1. Water Resources Division. Hydrologic measurements resulting from observations and laboratory analyses, after they have been reviewed for accuracy by designated Water Resources Division personnel.
2. National Mapping Division. Copies of unpublished or incomplete topographic maps, image products, and associated cartographic data in graphic and digital form including geodetic-control survey data, elevation data, reproductions of space and aerial photographs, and copies of color-feature separates.

The phrase "disclosed to others," as used in this chapter, does not include cooperative or other Federal, State, and local governmental agencies and their staffs, to whom, under joint funding agreement or in the public interest, the results of the investigations should be made available. However, it is important that when the results of an investigation are made available to an agency prior to general release to the public, the Geological Survey shall make it a condition of the release to the other agency that the report must not be made public until it has been released by the Geological Survey or until the Director has authorized release by the other agency. To meet the public need for timely information, formal publication or other approved methods of release should be accomplished as promptly as possible. When there is an immediate demand for Geological Survey data and prompt publication is impossible or unlikely, open-file releases should be appropriately announced, and where applicable, the reports thus released should contain an adequate statement of their preliminary nature and the fact that they are subject to change.

A longstanding but limited exception permits Geological Survey personnel to communicate orally with the owner or manager of a mineral property during the progress of its investigation, provided that the information relates to geologic results and observations that may be of value in the development of the property; however, written statements must be avoided, lest they be used for promoting or unduly enhancing values. The propriety of disclosing any such information orally must of course be appraised while considering local conditions and the possibility of misuse of information; no data that might be detrimental to a neighboring property owner should be released under this authorization. Individual Geological Survey personnel must not leave notes or sketches that could be used for promotional or other purposes that could be judged unethical.

#### Article 1.02.1

This information, to the extent it may be exempted from disclosure under the Freedom of Information Act, 5 U.S.C.<sup>1</sup> 522(b), must be carefully safeguarded in accordance with Geological Survey standards for the transmittal and storage of proprietary data. (See article 1.03.6.) Proprietary information furnished voluntarily, and information acquired through regulations and contracts (during their proprietary term), must not be disclosed outside of the Federal Government unless specific written permission is obtained from the person or organization that furnished the information or unless specific statutes require disclosure. If disclosure is required by statute, the person or organization receiving the information must agree to protect the proprietary nature of the information as required by the statute. (See "Geological Survey Manual," No. 450.2 for procedures for protecting such information if a Survey member is called upon to testify in court.)

If proprietary information is furnished voluntarily, it is desirable to obtain at the same time a memorandum of agreement that should be explicit in describing the material and the nature of its permissible use. If a letter is written requesting permission to include or use proprietary information in a report to be published or otherwise released, a similar procedure should be followed. However, except with specific prior approval of the Director, Geological Survey representatives may not submit to any person or organization the written text of a report or even the part of it based on the information furnished by that person or organization prior to public release of the report.

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<sup>1</sup> United States Code.

Subject: U.S. GEOLOGICAL SURVEY POLICY--Release of Information

1.02.2 Release of information to the news media (From  
"Geological Survey Manual," Chapter 5, No. 500.5.1)

Purpose and Scope.--This chapter establishes Geological Survey policy and procedures for the release of written information to the news media. Specific instructions for preparing news releases are given in article 3.02.4.

Policy.

- A. *The USGS Public Affairs Office, through established channels of review and clearance within the USGS and the Department, prepares and distributes most USGS news releases and other material released to the general public through the news media.*
- B. *Authorization for others in the USGS to issue news releases and initiate contact with the news media is generally limited to field and staff employees at senior supervisory levels located outside the National, Central Region, and Western Region headquarters, except where specific authority is granted otherwise. This provision to initiate contact with the media applies to news releases, formal statements, interviews, press briefings, and other information or material given to news media representatives, including reporters, editors and writers for newspapers, magazines, and trade publications; and radio or television stations or networks. It also applies to statements requested by cooperating agencies for inclusion in, or their use in drafting, news releases or statements for release to news media.*
- C. *The authorization for release of information is less restrictive when news media representatives, on their own initiative, request information from USGS employees. Employees approached by news media representatives should be as cooperative as possible, but should discuss only matters within their own specific areas of expertise and knowledge. If in doubt about the appropriateness of responding to a reporter or of the amount of disruptions to the work schedule, employees should not hesitate to refer questions to a supervisor or a public affairs officer. Interviews should be cleared with the employee's immediate supervisor, and if possible, the Public Affairs Office. USGS tradition encourages the flow of scientific information to the general public through the news media. Employees, however, are expected to use discretion, particularly with sensitive subjects that might involve personnel, other agencies or questions of public hazard or financial advantage, such as new mineral finds.*
- D. *In general, news releases or any information issued to or discussed with news media should be factual, noncontroversial and brief (in the case of written material, usually not more than one or two pages). Anything released should avoid highly scientific and technical terminology, and should be understandable by the general public. Anything involving broad policy matters, or that contains controversial or questionable material, should be referred to appropriate higher levels of authority in the bureau for decision before being released.*

- E. Information provided to news media representatives should be based on published work or data in the open files; no unpublished interpretation findings, or proprietary data should be provided. Geological Survey Manual, Chapter 500.14 gives detailed instructions on the release of information.

Procedures

- A. Copy Identification. A copy of each news release or formal statement must be sent to the Public Affairs Office through channels, with copies to appropriate USGS offices. Each release or statement should be identified by the name of the person who released it, the list of persons and news media to whom it was released, and the date of release.
- B. Release. News releases will be issued on the regular USGS letterhead of the releasing office, and will include below the letterhead the name and phone number of the spokesperson for the release and the release date or date of mailing. [See article 3.02.4.]
- C. Liaison. Each USGS division or office has specific people at National, Central Region, and Western Region headquarters who act as liaisons with the Public Affairs Office. The liaisons help in the orderly and timely assessment of subjects and circumstances that warrant news coverage; arrange for review and clearance of news releases in their divisions or offices; and, in general, work with the Public Affairs Office in planning, writing, clearing, and issuing news releases. If any USGS employees have questions relating to possible issuance of news releases, they should contact their divisional liaisons or the regional Public Affairs Office for guidance on subject matter, news release format, content, and distribution.

The liaison representative for the Water Resources Division is:

Water, Resources Division  
Chief, Scientific Publications Program  
U.S. Geological Survey  
439 National Center  
Reston, Virginia 22092  
(Phone FTS: 959-5653)

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 1.02.3

Subject: U.S. GEOLOGICAL SURVEY POLICY--Release of Information

#### 1.02.3 Transmittal of information through correspondence and conversation

Over the years, the Water Resources Division has advanced from merely providing data and facts toward developing interpretations and identifying trends. As a result, it has become increasingly difficult to retain our traditional unbiased role, and we have increased the risk of losing credibility by extending conclusions to areas outside our expertise, by advocacy or endorsement, or by premature or preferential release of findings or interpretations.

To guard against this danger in all writings and communications, including written and oral replies to inquiries, Division personnel must consider the following:

1. Avoid competition with private consultants.
2. Avoid preaching and lecturing.
3. Avoid advocacy. (Do not advise other agencies as to what they must, should, or ought to do.)
4. Avoid discussion of unannounced or unsettled Bureau or Division plans and policies.
5. Avoid premature disclosure of results of investigations, or of data not yet released to the open file. (See article 1.02.1.)
6. Avoid reference to publications and interpretations that have not yet been written, completed, or approved for release.
7. Avoid using the words "never," "must," "should," and "ought to."
8. Approach problem solving by examining alternatives rather than choosing solutions.
9. Use readily understandable terms in place of technical jargon and terms with specialized meaning that could lead to ambiguity or misunderstanding.

10. Use brand names only when necessary for purposes of identification, and include a disclaimer as a footnote. (Specific guidelines are given in article 1.03.4.)
11. Give credits and acknowledgments as appropriate. (See article 1.03.5.)

The above constraints do not preclude discussion of technical considerations based on information that has been published or formally released, or geohydrologic data available to the public. (See article 1.02.1.)

Note that any reply that requires interpretation of data is considered a report and not a letter, and must receive Director's approval through normal review procedures. The document may be issued either as an administrative report (for sole distribution to another Federal agency for which the report was prepared) or as an open-file report (for public inspection). To expedite processing, the report should be as concise as possible. The cooperator must be informed of the time needed to obtain Director's approval. If the material is needed urgently, processing for Director's approval may be expedited by the Chief, Scientific Publications Program. (See article 1.03.1.) Brief communications may be transmitted by any available electronic system to avoid delays caused by mailing.

Judgment concerning the above constraints is the responsibility of the program manager (District or Research Project Chiefs in most instances). The program manager is responsible for assuring adherence to Geological Survey policy as well as technical review and accuracy of the content of the report. If there is any doubt as to the content or tone of the report or whether it contains interpretive material, the report should be submitted to the appropriate Regional Hydrologist for review.

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Reference:

Water Resources Division Memorandum No. 76.05, "Policy Concerning Letter Responses to Requests for Information."

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 1.02.4

Subject: U.S. GEOLOGICAL SURVEY POLICY--Release of Information

#### 1.02.4 Preliminary transmittal of manuscripts to cooperating agencies

Interpretive reports prepared by the Geological Survey for other Federal, State, or local agencies with whom it is making a study commonly are transmitted in manuscript form to that agency for review before submittal to the Director.

Whenever this is done, the cooperator should sign the routing sheet and follow the same procedure as any colleague reviewer. Furthermore, it must be stated in writing to that agency that results contained therein must not be quoted or released in any way, and that the report must be regarded as preliminary and subject to revision until approved by the Director. (See article 1.02.1.) As a precaution, each page and illustration should be stamped with a disclaimer as shown below, indicating that the material is provisional and not to be quoted or released. A page or illustration used out of context could be more damaging than the entire report.

### **PROVISIONAL DRAFT**

Subject to Revision  
DO NOT QUOTE OR RELEASE  
Pending Approval by Director,  
U.S. Geological Survey

Exceptions to this policy are noninterpretive reports containing only data that would be normally available to the public, such as streamflow records; these may be transmitted to the cooperating agency without the above restrictions.

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#### References:

Geological Survey Manual, Chapter 9, No. 500.9.5.  
Geological Survey Manual, Chapter 14, No. 500.14.



## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 1.02.5

Subject: U.S. GEOLOGICAL SURVEY POLICY--Release of Information

#### 1.02.5 Outside publication and oral presentation

All interpretive writings in which the Geological Survey has a proprietary interest, and all writings in which author's title, Geological Survey affiliation, or both will be shown, must be submitted to the Director through the Offices of the Regional Hydrologist (or Regional Research Hydrologist) and Assistant Chief Hydrologist for Scientific Information Management for approval before release.

The Geological Survey is considered to have a proprietary interest in all manuscripts based on research or investigations under Geological Survey auspices, and on data obtained under those auspices that have not already been released to the public.

Guidelines for obtaining Director's approval for reports are given in Section 3 of the "Publications Guide". Exceptions to that policy are described below.

- A. Non-Survey manuscripts in which the Geological Survey has no proprietary interests and in which the author's official connection with the Geological Survey is not to be shown do not require Director's approval for publication. For example, a member of the Geological Survey may wish to publish results of some investigation conducted under other auspices prior to joining the Geological Survey, and for which a manuscript was prepared on non-Survey time and wholly without cost to the Geological Survey. However, the author should send a memorandum briefly outlining the intention and circumstances through his supervisor to the Chief, Scientific Publications Program. This action will make the transaction a matter of record. Information on outside employment and nonofficial expression is given in "Geological Survey Manual," Nos. 370.735.5 and 370.735.4. (See also article 2.03.7.)
- B. Abstracts to be published in conference proceedings, and so forth, must be approved by the Director<sup>1</sup> in the usual manner, unless the abstract is from a report that has previously been approved for publication or for another meeting. (See article 1.02.1.)
- C. Oral presentations must safeguard the Geological Survey against embarrassment, must use discretion in discussing controversial topics, must not discuss unsettled or unannounced Department or Bureau plans and policies, nor prematurely disclose the results of investigations. If the propriety of the content or tone of a proposed speech is in doubt, the statements should be submitted in writing for review and evaluation by Division officers. NOTE: If copies of the speech are to be given out, the speech must be approved by the Director.

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<sup>1</sup> Currently (1986), authority to approve abstracts is delegated to the Regional Hydrologists by the Director.

- D. Letters must not prematurely disclose results of investigations or include interpretations not yet approved for release. If the person responsible for the letter is in doubt as to the content, tone, or technical accuracy of the letter, he should refer it to the next level supervisor for review. (See articles 1.02.3 and 1.03.6.)

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Reference:

Geological Survey Manual, Chapter 9, No. 500.9.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 1.03.1

Subject: U.S. GEOLOGICAL SURVEY POLICY--Other Significant Items

#### 1.03.1 Time needed for approval of reports and abstracts

Authors are advised to allow 6 weeks for Director's approval of symposium abstracts and administrative and open-file reports, and as much as 12 weeks for other reports and other lengthy documents, from the time the manuscript is transmitted to the Regional Hydrologist.

If an abstract or report must be processed in less than 6 weeks, a detailed justification for priority processing must be given in the transmittal memorandum, and the material should be submitted in the usual manner with all necessary support documents listed on the chart in article 3.01.1. A red tag marked "SPECIAL" should be attached to the transmittal memorandum. "SPECIAL" tags must reflect realistic needs, otherwise they will become meaningless.

If the material has not been approved by the requested deadline, the author is responsible for ensuring either that the material is not published, or that the author's name and all reference to the Geological Survey are deleted from the publisher's copy.

It also is the author's responsibility to ensure that all changes made during Division review are transferred to the copy transmitted to the publisher. Failure to do so is regarded by the Geological Survey as a breach of professional ethics.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 1.03.2

Subject: U.S. GEOLOGICAL SURVEY POLICY--Other Significant Items

#### 1.03.2 Use of copyrighted material

It is the author's responsibility to secure the permission of the owner of any copyrighted material quoted or reproduced in a report. Such permission generally is given for use in scientific publications, but many publishers require specific forms of acknowledgment, and a few charge a fee. Copies of the letter granting permission must be forwarded with the manuscript when it is submitted for Director's approval for publication.

Works originally copyrighted on or after January 1, 1978 (Copyright Act of 1978) are protected throughout the author's life plus an additional 50 years. For works prepared by two or more authors, the copyright lasts for 50 years after the death of the last surviving author.

Works copyrighted before the Copyright Act of 1978 are protected for a first term of 28 years from the copyright date. The 1978 copyright law has extended the renewal term from 28 to 47 years for material that was copyrighted as of January 1, 1978. Copyrights not renewed during the 28th year of the first term may be considered in the public domain.

If an author wishes to reproduce or adapt an illustration or section of text from a copyrighted document, permission must be obtained from the copyright holder(s). The following letter is a suitable example of a request for permission:

(Department, Bureau, and office letterhead)

Date:

Gentlemen:

The U.S. Geological Survey is publishing a report titled \_\_\_\_\_  
\_\_\_\_\_, and requests permission to  
reproduce figure/plate/page (select one or more as appropriate) \_\_\_\_\_  
from the paper by \_\_\_\_\_ in your copyrighted  
publication \_\_\_\_\_. The source will  
be cited in full. Please send us your response on this page at your earliest  
convenience.

Thank you in advance for your attention to this request.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

Permission is granted for the U.S. Geological Survey to reproduce at no  
cost the above cited illustration(s) or page(s):

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title

If permission to reproduce an illustration is granted, the statement of permission must be given in the caption. If a text passage is quoted or closely paraphrased from a copyrighted document, a statement of permission must be given directly before or after the passage or in a footnote. If the copyright holder does not request specific wording, the note may be written as follows:

Reprinted [or paraphrased] from .... and published with permission.

After Director's approval, the letter of permission will be returned to the author and should be retained for several years.

Federal Government publications are not copyrighted; therefore, a journal or other outside publisher may not legally claim copyright on material written by a Federal employee as part of his official work, although some may attempt to do this. This policy is stated in 17 U.S.C., Section 105, which states:

Copyright protection under this title is not available for any work of the U.S. Government, but the U.S. Government is not precluded from receiving and holding copyrights transferred to it by assignments, requests, or otherwise.

A "work" in the above statute is defined in 17 U.S.C., Section 101 as follows:

A work of the U.S. Government is a work prepared by an officer or employee of the U.S. Government as part of that person's official duties.

It is the obligation of all Geological Survey employees to inform journals or other outside publishers that, for all Geological Survey reports to be published, the Government may publish, reproduce, and use all technical data in any manner and for any purpose, without limitations, and may authorize others to do the same. Manuscripts submitted to journals for publication, therefore, must be accompanied by the following notation in the letter of transmittal:

This manuscript is submitted for publication with the understanding that the United States Government is authorized to reproduce and distribute reprints or may authorize the reproduction and distribution of reprints for governmental purposes.

Sometimes the Geological Survey and individual authors receive requests for permission to republish part or all of a Survey-generated report. Geological Survey publications are in the public domain and may be reproduced in quantity by anyone who wishes to do so. Accordingly, such requests are always to be acknowledged and granted, but it is customary to request that the Geological Survey and author be credited as the source, and that the original title be retained and the series number given.

Although federally published maps and texts are not subject to copyright, authors citing or reproducing parts of Federal documents must give proper credit. It also is courteous to notify the original author that his work is being used.<sup>1</sup> Additional information concerning the 1978 copyright law may be obtained from:

Library of Congress  
Copyright Office  
Public Information Office  
Washington, D.C. 20559  
(202) 287-8700

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<sup>1</sup> See Water Resources Division Memorandum No. 82.97, dated June 15, 1982.

References:

Suggestions To Authors of the Reports of the United States  
Geological Survey (6th ed.), p. 34, 35.

U.S. Library of Congress, Copyright Office, 1980, Copyright  
basics: Washington, D.C., Library of Congress Circular R1, 11 p.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 1.03.3

Subject: U.S. GEOLOGICAL SURVEY POLICY--Other Significant Items

1.03.3 Requests for assignment of a copyright to a publisher

In the event a copyright waiver request is received from a journal or other publisher, the following may be used as a standard response to this request.

In regard to your request to assign the copyright for the article \_\_\_\_\_ to (company), any work prepared by or for the U.S. Government is public property, and as such, cannot be copyrighted by private parties.

In addition, for work prepared by the U.S. Government, printed by private firms, the U.S. Government holds a prior nonexclusive, royalty-free license to publish, translate, reproduce, use, or dispose of the published form of the work, or allow others to do so for U.S. Government purposes.



WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 1.03.4

Subject: U.S. GEOLOGICAL SURVEY POLICY--Other Significant Items

1.03.4 Trade-name disclaimer

The use of brand, firm, or trade names should be avoided in Geological Survey reports where possible; a named product should be used only to identify the type of equipment used in a specific process. When a brand, firm, or trade name must be referred to, or is visible in a photograph, a trade-name disclaimer must be used. A trade-name disclaimer states that the Geological Survey does not specially endorse the named firm, company, or product.

If the report mentions only one trade name, the trade name should be footnoted, and the footnote should state:

Use of the brand/firm/trade names [select one or more as appropriate] in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.

If the report mentions two or more brand, firm, or trade names, the first name should be footnoted as indicated below:

Use of brand/firm/trade names [select one or more as appropriate] in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.

Additional brand, firm, or trade names in the report do not require a footnote.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 1.03.5

Subject: U.S. GEOLOGICAL SURVEY POLICY--Other Significant Items

#### 1.03.5 Credit statement in reports prepared in cooperation with other agencies

Many scientific and technical reports of the Water Resources Division are prepared in cooperation with other government agencies. Such cooperation must be acknowledged. Serious problems have occurred because of inadvertent omission of appropriate credit to cooperating agencies.

A cooperating agency is: (1) A Federal agency that has a memorandum of agreement to work with the Geological Survey, or (2) a State or local agency that has a joint-funding agreement with the Geological Survey, whereby water-resources surveys, investigations, or research in the public interest are performed by, or jointly with, the Geological Survey as authorized by law.

Supervisors, such as District Chiefs and Regional Research Hydrologists are responsible for ensuring that proper credit to cooperating agencies appears on the cover and title page, in the acknowledgment section of book reports, and in the center of the upper margin of maps and plates. They also are responsible for ascertaining the exact name and spelling of the cooperating agency. The statement must be added to a report before colleague review. For WRI and Open File Reports, the name of the cooperating agency should be given in the same type size (in capitals) as the words "U.S. GEOLOGICAL SURVEY," and the form of statement that is selected for a report should have concurrence of the cooperator.

Examples of credit statements for the cover and title page of book reports and separate maps and atlases are:

Prepared in cooperation with the  
COLORADO DEPARTMENT OF NATURAL RESOURCES

Prepared in cooperation with the  
CITY OF DALLAS and the TEXAS WATER DEVELOPMENT BOARD

Prepared in cooperation with the STATES OF ALABAMA, FLORIDA,  
and MISSISSIPPI and with other agencies

Report prepared on behalf of the U.S. ENVIRONMENTAL PROTECTION AGENCY

Report prepared jointly by the U.S. GEOLOGICAL SURVEY and the NATIONAL  
OCEANIC and ATMOSPHERIC ADMINISTRATION

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#### Reference:

Water Resources Division Memorandum No. 80.73, "Credit Statement in Reports Prepared in Cooperation With Other Government Agencies," April 23, 1980.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 1.03.6

Subject: U.S. GEOLOGICAL SURVEY POLICY--Other Significant Items

1.03.6 Release of information under the Freedom  
of Information Act

Purpose.--The purpose of this article is to present general guidelines for release of information under the provisions of the Freedom of Information Act. Detailed guidelines are contained in Part 318 of the "Geological Survey Manual," which also incorporates the Department of the Interior codified text (43 CFR<sup>1</sup> 2.11).

Background.--The Freedom of Information Act of 1966 was enacted by Congress to deal with the problem of government secrecy. The Act made it clear that it was Congress' intent that "any person" should have access to identifiable records without having to identify a need or even a reason. The burden of proof for withholding information, moreover, was placed on the Government. The Act also broadened the scope of information available to the public and provided judicial remedies for those wrongfully denied information. It was amended during 1974 to assure full compliance by Federal agencies.

It is unrealistic to expect Geological Survey employees to be totally familiar with all provisions, requirements, and related legislation of the Act. However, certain guidelines have been established by the Geological Survey for applying the requirements of the Act to information requests by outside groups or persons.

Guidelines.--If your office receives a Freedom of Information Act request, Region and Headquarters (Chief, Scientific Publications Program) should be notified. All responses should be coordinated through Headquarters. Upon receipt of a Freedom of Information Act request, the date it is received and the date processing begins should be recorded. The request should be forwarded as quickly as possible to the office or person who will prepare the response. The responder has 10 working days in which to inform the requestor of the Government's disclosure intentions. If the records are not exempt from disclosure they must be released. If they are exempt and sound grounds exist for nondisclosure, a letter of denial must be prepared for the Director's signature. Copies of all correspondence must be sent to the Freedom of Information Act Officer, 206 National Center, Reston, VA 22092.

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<sup>1</sup> Code of Federal Regulations

Exemptions to the Act.--Government agencies can refuse to disclose information in nine specified categories. However, the legislative history of the Act makes it clear that Congress did not intend for agencies to use these exempt categories to justify the automatic withholding of information. Rather, the exemptions are intended to designate those areas in which, under certain circumstances, information may be withheld. Two of the exemptions (5 and 9) have special significance regarding requests for information made to the Water Resources Division.

The Act provides that disclosure is not required for:

Exemption 5--Inter- or intra-agency memoranda or letters such as discussions and recommendations;<sup>1</sup>

Exemption 9--Geological and geophysical information and data, including maps, concerning wells.

These exclusions do not necessarily apply to requests from other Federal agencies and their staffs, except as noted in article 1.02.1 of this Guide.

Relation of Freedom of Information Act to Geological Survey Policy.--When processing requests for information, consideration should be given to both Freedom of Information Act and Geological Survey policy. Geological Survey policy regarding the release of information, as summarized in article 1.02.1, largely reflects, and in many ways parallels, the provisions of the Act. However, should a conflict arise, it should be brought to the attention of the Geological Survey's Freedom of Information Act Officer before final disclosure action is begun. (See "Guidelines," above.)

Appeals to Denial Under the Act.--If a request for information is refused, the requestor must be notified of the specific reasons for the denial; the reasons given should refer to specific statutes of the Act. Also, the person(s) responsible for the denial must be identified. An improper denial may subject the person(s) responsible to suspension, or dismissal, or a fine. If a denial is made, the requestor may appeal to the Assistant Secretary of the Department of the Interior for Policy, Budget, and Administration by writing to:

U.S. Department of the Interior  
Office of the Assistant Secretary  
Policy, Budget, and Administration  
Freedom of Information Act Officer  
Washington, D.C. 20240

An appeal must be in writing and must be received by the Interior Department's Freedom of Information Act Officer within 20 days (Saturday, Sunday, and public legal holidays excepted) of the date of the letter of refusal.

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<sup>1</sup> Report review comments and unapproved drafts of manuscripts also are exempted.

#### Article 1.03.6

Legal interpretations or advice also can be obtained from the Office of the Solicitor. A list of the Solicitor's Washington, D.C. and Regional Specialists is included at the end of this article. Each specialist is familiar with the Act and will provide useful advice and assistance upon request. Inasmuch as certain addresses may have changed since the completion of the list, the correct address should be verified before writing.

Fee for Supplying Information Under the Act.--A requestor seeking information under the Act may be charged a fee based on actual costs involved in searching for, compiling, duplicating, and transmitting the information. The fee must be agreed upon by the requestor before the information is released. A billing document (form 1028) should then be sent with the response. Fees of \$3.00 or less generally are waived in the public interest.

List of U.S. Department of the Interior Solicitors

U.S. Department of the Interior  
Office of the Solicitor  
Room 6116  
Washington, D. C. 20240

U.S. Department of the Interior  
Office of the Solicitor  
Regional Solicitor  
510 L Street, Suite 408  
Anchorage, Alaska 99501

U.S. Department of the Interior  
Office of Field Solicitor  
Valley Bank Center, Suite 280  
201 N. Central Avenue  
Phoenix, Arizona 85073

Office of Field Solicitor  
c/o Bureau of Indian Affairs  
Window Rock, Arizona 86515

U.S. Department of the Interior  
Office of the Solicitor  
Field Solicitor  
3610 Central Avenue, Suite 104  
Riverside, California 92506

U.S. Department of the Interior  
Office of the Solicitor  
Regional Solicitor  
2800 Cottage Way E-2753  
Sacramento, California 95825

U.S. Department of the Interior  
Office of the Solicitor  
Field Solicitor  
450 Golden Gate Avenue, Room 14126  
San Francisco, California 94102

U.S. Department of the Interior  
Office of the Solicitor  
Regional Solicitor  
P.O. Box 25007  
Denver, Colorado 80225

U.S. Department of the Interior  
Regional Solicitor  
148 E. Cain Street, N.E.  
Atlanta, Georgia 30303

U.S. Department of the Interior  
Field Solicitor  
P.O. Box 020  
Federal Building, U.S. Courthouse  
550 West Fort Street  
Boise, Idaho 83724

U.S. Department of the Interior  
Office of the Regional Solicitor  
Suite 306  
One Gateway Center  
Newton Corner, Massachusetts 02158

U.S. Department of the Interior  
Office of the Solicitor  
Field Solicitor  
Room 686 Federal Building,  
Ft. Snelling  
Twin Cities, Minnesota 55111

U.S. Department of the Interior  
Office of the Solicitor  
Field Solicitor  
P.O. Box 1538  
Billings, Montana 59103

U.S. Department of the Interior  
Office of the Solicitor  
Field Solicitor  
P.O. Box 427  
Boulder City, Nevada 89005

U.S. Department of the Interior  
Office of the Solicitor  
Field Solicitor  
P.O. Box 1696  
500 Gold Avenue, S.W.  
Albuquerque, New Mexico 87103

U.S. Department of the Interior  
Office of the Solicitor  
Field Solicitor  
P.O. Box 1042  
Santa Fe, New Mexico 87501

U.S. Department of the Interior  
Office of the Solicitor  
P.O. Box 397  
Anadarko, Oklahoma 73005

List of U.S. Department of the Interior Solicitors (continued)

U.S. Department of the Interior  
Office of the Solicitor  
Field Solicitor  
P.O. Box 1508  
Muskogee, Oklahoma 74402

U.S. Department of the Interior  
Office of the Solicitor  
Field Solicitor  
c/o Osage Indian Agency  
Grandview Avenue  
Pawhuska, Oklahoma 74056

U.S. Department of the Interior  
Office of the Solicitor  
Regional Solicitor  
P.O. Box 3156  
Tulsa, Oklahoma 74101

U.S. Department of the Interior  
Office of the Solicitor  
Regional Solicitor  
P.O. Box 3621  
Portland, Oregon 97208

U.S. Department of the Interior  
Office of the Solicitor  
Field Solicitor  
P.O. Box 549  
Aberdeen, South Dakota 57401

U.S. Department of the Interior  
Office of the Solicitor  
Field Solicitor  
Box H-4393, Herring Plaza  
Amarillo, Texas 79101

U.S. Department of the Interior  
Office of the Solicitor  
Regional Solicitor  
125 S. State Street, Federal Building  
Suite 6201  
Salt Lake City, Utah 84111

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 1.03.7

Subject: U.S. GEOLOGICAL SURVEY POLICY--Other Significant Items

1.03.7 Non-English-language reports

Reports that are to be published in a language other than English must be submitted for review and approval in English. The English translation must accompany the non-English-language manuscript along with the names of the translators.





# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

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## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 2.01.1

Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

#### 2.01.1 List of available publication outlets

The publication outlets available to Water Resources Division authors include the Geological Survey's Federal book series, the map series, and slide cassettes or video-tape presentations. Authors also are encouraged to use non-Survey outlets, such as scientific journals, cooperator-published series, or privately published books.

A list of publication outlets is given below; their characteristics and requirements are given in article 2.01.2.

#### A. SURVEY

##### 1. Book publications

###### a. Formal Series

- 1) Water-Supply Paper
- 2) Professional Paper
- 3) Bulletin
- 4) Circular
- 5) Techniques of Water-Resources Investigations
- 6) Special Reports

###### b. Informal Series

- 1) Water-Resources Investigations Report
- 2) Open-File Report
  - a) Data reports
  - b) Preliminary interpretive reports
  - c) Reports pending formal publication
  - d) Fact sheets
- 3) Administrative Report

##### 2. Map publications

###### a. Formal Series

- 1) Hydrologic Investigations Atlas
- 2) Miscellaneous Investigations Maps

###### b. Informal Series

- 1) Water-Resources Investigations Report
- 2) Open-File Report
- 3) Miscellaneous Field Studies Map

B. NON-SURVEY

1. Reports published by cooperators
2. Scientific and trade journals, and conference proceedings
3. Symposium abstracts
4. Speech handouts and poster sessions.
5. Contractor-prepared reports

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 2.01.2

Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

#### 2.01.2 Characteristics of Water Resources Division book publications

Book publications of the Water Resources Division include those published in the formal and informal series.

##### FORMAL SERIES

- |                       |   |
|-----------------------|---|
| 1. Water-Supply Paper | 5. Techniques of Water-Resources              |
| 2. Professional Paper | Investigations                                |
| 3. Bulletin           | 6. Special reports                            |
| 4. Circular           | 7. Selected Papers in the Hydrologic Sciences |

Reports in the formal book series are printed through the U.S. Government Printing Office (GPO). Illustrations generally are prepared inhouse. Most reports are paperbound, although some may be produced in hard cover for official use. Production time from manuscript approval to receipt of printed copies is generally from less than 1 year to 3 years.

Distribution of formal reports is by the GPO from mailing lists provided by the Geological Survey. Those reports selected for sale by the GPO are available through the Superintendent of Documents; reports not selected for sale by the GPO are sold in limited number by the Branch of Distribution (a Superintendent of Documents licensee). Major libraries worldwide serve as depositories. Public announcement of a report's availability is made through Geological Survey news releases and the monthly pamphlet "New Publications of the U.S. Geological Survey." In certain cases, a special flyer or other advertising device may be used to announce a publication that is particularly important. Reports approved for the formal series sometimes are released to the open file pending publication to accommodate the immediate needs of cooperating agencies; upon release of the formal publication, undistributed open-file copies are destroyed.

#### 1. Water-Supply Paper

- a. Purpose.--To present significant interpretive results of hydrologic investigations of broader than local interest.
- b. Format.--Page size is 8 1/2 X 11 inches as of 1981. Reports of wide interest or major significance may be given special covers. Folded plates, glossy paper, and color are permitted if essential. Either International System (SI) or inch-pound units may be used.

- c. Distribution.--Major libraries and hydrologic agencies nationwide. Availability is announced in "New Publications of the U.S. Geological Survey" and through news releases. Offered to the GPO as a sales item.

## 2. Professional Paper

- a. Purpose.--To present comprehensive or topical reports on any field in the earth sciences. This series commonly is used for summaries of wide popular, scientific, or geographic interest, and for significant scientific contributions--generally on topics other than hydrology.
- b. Format.--Large page size (9 1/4 X 11 3/8 inches) accommodates most illustrations. Folded plates, glossy paper, and color are permitted if essential. A specially designed cover may be provided for reports of wide interest. SI units are preferred.
- c. Distribution.--Major libraries and appropriate scientific agencies nationwide and worldwide. Availability is announced in "New Publications of the U.S. Geological Survey" and through news releases. Offered to GPO as a sales item.

## 3. Bulletin

- a. Purpose.--To present comprehensive or short topical reports on geologic or natural resources subjects; some of these are byproducts of hydrologic studies. The series is also suitable for reports that deal principally with the computer science or programs related to water resources or geologic studies.
- b. Format.--Page size is 8 1/2 X 11 inches. Oversize plates, color, and glossy paper are permitted where necessary. Either SI or inch-pound units may be used.
- c. Distribution.--Major libraries and geologic agencies nationwide. Availability is announced in "New Publications of the U.S. Geological Survey" and through news releases. Offered to GPO as a sales item.

## 4. Circular

- a. Purpose.--To present to general or scientific audiences short summaries or articles of short-term, popular, or local interest. Circulars are also used to present speeches and policy addresses by Geological Survey officials; examples are Circulars 527 and 645.

- b. Format.--Page size is 8 1/2 X 11 inches. Oversize illustrations are occasionally permitted. Illustrations are restricted to simple linework and black-and-white photographs. A cover design is permitted. Color is not permitted. Either the (SI) or inch-pound units may be used.
- c. Distribution.--Selected libraries and scientific agencies. Circulars are distributed by means of regular Geological Survey mailing lists. Availability is announced in "New Publications of the U.S. Geological Survey" and through news releases. Available to the public on request.

#### 5. Techniques of Water-Resources Investigations

- a. Purpose.--To present to technically oriented audiences reports on methods and techniques used in collecting, analyzing, and processing hydrologic data.
- b. Format.--Page size is 8 1/2 X 11 inches. Color or glossy paper is not permitted. Oversize illustrations are occasionally permitted. Either SI or inch-pound units may be used.
- c. Distribution.--Major libraries and appropriate scientific agencies nationwide. Availability is announced in "New Publications of the U.S. Geological Survey" and through news releases. Offered to GPO as a sales item.

#### 6. Special Reports

A few reports that are prepared for special purposes are published outside the regular Geological Survey series. These have no prescribed format; an example is "Suggestions to Authors." Because this series is seldom used, most Geological Survey authors should not consider it as a potential outlet.

#### 7. Selected Papers in the Hydrologic Sciences

The "Selected Papers in the Hydrologic Sciences," published within the U.S. Geological Survey Water-Supply Paper (WSP) series, provides Water Resources Division (WRD) authors a Survey-managed journal-type publication for short topical papers on hydrosience subjects. "Selected Papers" was proposed by the Chief Hydrologist after the Survey's "Journal of Research" was discontinued. A journal-type publication, in the WSP series, allows WRD authors to publish on varied hydrosience disciplines, within a single journal. This option is not readily provided by most outside journals. Although the WSP's and outside journals have broad geographic distribution, almost all such journals reach a narrow audience within the hydrosience community. "Selected Papers" is designed to reach a broad audience and accepts for publication papers which address all aspects of hydrosience disciplines practiced in WRD. These include papers that describe significant technical advances, summarize

understanding of some aspect of hydrology, describe specific aspects of hydrology of an area or region if deemed to have transfer value, and describe new techniques or innovative uses of established techniques applied to existing problems. Also, "Selected Papers" is aimed at meeting a widespread public and professional need for results on broad-based-integrated hydrologic studies derived from the Federal research program, Federal-State cooperative program, and to some extent work done on behalf of other Federal agencies. There is no formal periodic call for papers, but papers can be submitted at anytime suitable contributions are prepared.

As a journal-type publication, "Selected Papers" is intended to serve as a forum that encourages dialogue between readers and authors. A discussion section for readers' comments and authors' replies is included in each issue.

The following WRD memorandums describe selective criteria, format, manuscript preparation and processing, evaluation check list, and style for referring "Selected Papers" articles.



WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 2.01.2

February 1, 1985

WATER RESOURCES DIVISION MEMORANDUM NO. 85.29

Subject: PUBLICATIONS--Water-Supply Paper Series "Selected Papers in the Hydrologic Sciences"

I am pleased to announce that Seymour (Sy) Subitzky has accepted editorship of Selected Papers following the retirement of Eric Meyer. Sy can be contacted at 423 National Center, Reston, Virginia 22092, FTS 928-7556<sup>[1]</sup>.

The first issue of the Selected Papers was published in July 1984 as Water-Supply Paper (WSP) 2262. The second issue, Water-Supply Paper 2270, will be published early in 1985. Papers presently are being evaluated for the third issue which should be published in July 1985.

If you would like to receive a copy of WSP 2262, please contact the Chief, Scientific Publications Program, 439 National Center, Reston, Virginia 22092, FTS 928-6681<sup>[2]</sup>. An adequate number of copies of future issues will be sent to each District, Research, and Regional Office for distribution to interested personnel. Requests for copies should be submitted to the Chief, Scientific Publications Program.

Attached are updated and expanded guidelines and an evaluation checklist for selection and preparation of manuscripts for Selected Papers. The evaluation checklist was developed for two purposes:

1. A guide for the editor and/or advisory committee during evaluation of a paper for technical and editorial quality.
2. A guide for authors.

As has been addressed in earlier memoranda and during personal discussions with many of you, I want to reemphasize my encouragement to everyone in the Division to consider submitting papers for publication in this series. Your support of this endeavor is much appreciated. Its continuing success is dependent on the uninterrupted flow of quality papers and discussions of the published papers.

Philip Cohen  
Chief Hydrologist

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1 As of April 15, 1986: FTS 959-5682, Mail Stop 444.

2 As of April 15, 1986: FTS 959-5650.

GUIDELINES FOR SELECTION AND PREPARATION OF MANUSCRIPTS FOR

"SELECTED PAPERS IN THE HYDROLOGIC SCIENCES"

Selection Criteria

1. Paper must deal with at least one aspect of the broad science of hydrology as practiced in the Water Resources Division. If other scientific disciplines are included, they must relate to hydrology.
2. Paper describing significant technical advances in hydrology will be given priority.
3. Other acceptable papers are those that:
  - o Summarize understanding of some aspects of hydrology.
  - o Describe specific aspects of the hydrology of an area or region if deemed to have transferable values.
  - o Document innovative uses of established techniques or describe new techniques applied to existing problems.

Preparation of Manuscripts

1. Papers may be submitted at anytime for inclusion in "Selected Papers."
2. Papers are submitted through regular Water Resources Division report approval channels (through transmittal to Headquarters).
3. Routing sheet and transmittal memorandum must indicate that paper is for Water-Supply Paper--"Selected Papers in the Hydrologic Sciences."
4. Standard requirements for report processing of Water-Supply Paper apply, see article 3.01.1. Cover page and back of title page not needed.
5. Manuscript (text and tables) should be placed on the Prime to allow for access by Headquarters for preparation of revised hard copy and subsequent transmittal for typesetting. Details will be forthcoming for transfer of text to Headquarters through the Prime Network.
6. If the paper was prepared in cooperation with another Federal agency, a copy of documentation authorizing publication should be attached.

Processing and Approval of Manuscripts at Headquarters

1. Papers are received in the Publications Management Unit (PMU) and logged into the Headquarters Reports Tracking System (RTS).

2. Papers are routed to the editor who, within 10 working days, performs screening review and informs author of preliminary acceptance or rejection (usually with suggestions for improving the paper and/or possible alternative publication outlets.) Rejected paper will be returned to author through SIM channels, indicating reasons for rejection.
3. Editor evaluates paper. If questions arise, consults appropriate member or members of advisory committee.
4. Accepted paper submitted for Director's approval, and author(s) notified that the paper will be published in a subsequent issue.

Text Format

1. Length--Maximum of 10 printed pages is recommended (30 manuscript pages) including abstract, tables, and illustrations.
2. Style--U.S. Geological Survey style ("Suggestions to Authors" 5th Edition, and the "WRD Publications Guide") will be followed for the text, tables, illustrations, and policy.
3. Units of measurements--Use either SI units or inch-pound units (exclusive of water-quality units). Do not use dual units. A conversion table will be at the front of each issue. Authors will supply a list of unit abbreviations used with each manuscript so that the editor can make a compilation for the issue.
4. Color allowed, but must be justified in the transmittal memorandum.
5. References--Include only those cited in the paper. List of references headed References Cited.
6. The editor has option of revising the paper to meet editorial and style standards.
7. Type double spaced on 8 1/2 X 11 inch paper.
8. Title and author(s) names on one sheet, all paragraphs of text on a page.
9. Number all pages consecutively with Arabic numerals beginning with the title page.
10. Avoid abbreviations and acronyms in the report title and abstract.
11. Define acronym the first time it is used in the text--dissolved organic carbon (DOC).

12. For each illustration, include a separate "caption page" in the manuscript following the first principal reference.
13. Variables in equations are in italics.

Table Format

1. Narrative-type tables must be typed double spaced.
2. Numerical-type tables can be typed singled spaced.
3. Computer-generated tables must be retyped.
4. All tables must be numbered and have headnotes as necessary.
5. Abbreviations or acronyms must not be used in title of the table; if used in body of table, define in headnote of first page of table.

Illustrations Format

1. Page size, no pocket plates or tip-ins accepted.
2. Camera-ready copy must be prepared by the originating office--care should be given to line weight, especially if "original" illustration is already second generation. All camera-ready illustrations should be prepared on base-stable material. Do not use any xerographic process to prepare illustration for reproduction.
3. Prepare at publication size or scale - column width, page width, or facing pages.
4. Abbreviations or acronyms must not be used in captions or in the body of illustrations.
5. Black and white photographs--glossy prints only, color photographs--color negatives or color positives and publication-scale print with preferred crop lines indicated.
6. Computer-generated line work is acceptable if it meets minimum standard for clarity. Computer-generated numbers and letter are not accepted at this time.

\*S. Subitzky, January 1985

## EVALUATION CHECKLIST

## Selected Papers in the Hydrologic Sciences

Title: \_\_\_\_\_

Author: \_\_\_\_\_

1. Does paper deal with at least one aspect of hydrology as practiced in WRD? ☐ Yes ☐ No
2. Does paper meet at least one of the topical hydrologic subject guidelines for selection of manuscript for this series:
  - ☐ Significant technical advances.
  - ☐ Specific aspect of area or region.
  - ☐ Derivative of specific study.
  - ☐ Innovative use of established technique.
  - ☐ Description of new technique applied to existing problem.
3. Does title clearly identify hydrologic subject and contents of paper? ☐ Yes ☐ No
4. Does abstract adequately summarize pertinent background, results, and conclusions? ☐ Yes ☐ No
5. Is paper well organized? ☐ Yes ☐ No
6. Is paper explicit and easy to understand? ☐ Yes ☐ No
7. Is reasoning by which interpretations and conclusions are reached given clearly? \_\_\_\_\_
8. Are conclusions valid and clearly stated? \_\_\_\_\_
9. Are summary, conclusions, and abstract consistent with each other and with main body of paper? \_\_\_\_\_
10. Are the included data pertinent? What additional data would be desirable? \_\_\_\_\_
11. Are all illustrations and tables appropriate and useful? Would additional illustrations or tables be desirable? (If so, please suggest here or in text.) \_\_\_\_\_
12. Do the authors mention and give proper credit to pertinent related work, outside as well as within the U.S. Geological Survey? \_\_\_\_\_
13. General comments (good and unfavorable) \_\_\_\_\_
14. Is the paper of sufficient quality to be considered for publication?
  - ☐ No ☐ Yes, without major changes.
  - ☐ Yes, if suggested changes are incorporated.

"Selected Papers" evaluation checklist

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 2.01.2

April 17, 1984

WATER RESOURCES DIVISION MEMORANDUM NO. 84.81

Subject: PUBLICATIONS--Style for Referencing Articles Printed in Water-Supply Papers "Selected Papers in the Hydrologic Sciences"

The following reference style is advised for articles printed in the Water-Supply Paper series "Selected Papers in the Hydrologic Sciences":

Jones, J. J., 1984, Geohydrology of somewhere, in Meyer, E. L., ed., Selected papers in the hydrologic sciences: U.S. Geological Survey Water-Supply Paper ----, p. xx-xx.

Citation crediting a text statement should read as:

"---- (Jones, 1984)."

or if author's name is in the text line

"---- by Jones (1984)."

William B. Mann IV  
Acting Assistant Chief Hydrologist  
for Scientific Publications and  
Data Management

---

Scientific Publications and Data Management (SP&DM) was changed to Scientific Information Management (SIM) on September 16, 1985.

## INFORMAL SERIES

1. Water-Resources Investigations Report (WRIR) (books and maps)
2. Open-File Report (books and maps)
3. Administrative Report

The informal series differ from the formal series in that they are used for subjects that are of local or short-term interest, or where, because of the nature of the reports, more expensive printing is not warranted. WRI and Open-File Reports are prepared by the originating office and duplicated through the Government Printing Office for distribution to cooperators; distribution is by the originating office. Government Printing Office prints and supplies copies of WRIR to depository libraries, by "riding" USGS print orders. Originating office must indicate on the printing requisitions (Standard Form 1 or GPO Form 2511):

"Print for GPO depositories distribution, to be paid for by GPO."

Failure to do this may result in the originating office paying for the printing of about 390 copies for GPO use. Availability is announced in

"New Publications of the U.S. Geological Survey" and by news release.

Administrative reports are prepared by the originating office and duplicated inhouse; copies are distributed only to the Federal agency that requested the study.

1. Water-Resources Investigations Report (books and maps)

- a. Purpose.--To (a) present to interdisciplinary audiences comprehensive or topical interpretive reports and maps that are mainly of local or short-term interest; (b) provide a medium of release for reports and maps that would not be feasible in any other series or journal or that must be published quickly. WRIR series require Director's approval. Copies are reproduced locally for distribution to cooperators.
- b. Format.--Page size is 8 1/2 X 11 inches; the optimum map size is 26 X 36 inches.<sup>1</sup> Text, drafting, layout, and distribution are done by the originating office after Director's approval; copies are printed through GPO. Color is permitted on illustrations if justified and with the approval of the Chief, Scientific Publications Program. Either SI or inch-pound units may be used. (Specifications for preparing camera-ready copy are given in Section 7; additional information on the WRIR series is given in Section 10.)
- c. Distribution.--Maximum number of copies is 300 unless permission is obtained from the Publications Management Unit in advance. WRIR series are distributed by the originating office to major libraries and interested agencies statewide and to local libraries near and within the study area. One reproducible copy must be

---

<sup>1</sup> Standard paper sizes for oversize maps are 26 X 36 inches (optimum), 36 X 44 inches, and 44 X 58 inches. Maximum Geological Survey image size is 42 X 56 inches.

sent to the Open-File Services Section (OFSS) in Denver, Colorado, for reproduction and sale to the public; one copy must also be available at the originating office and other designated repositories for public inspection. GPO "rides" USGS printing orders to secure copies for distribution to GPO depository libraries (as many as 800). For WRIR's, the printing requisition must state "Print for GPO depository libraries at GPO expense." Paper or microfiche copies may be purchased by the public through OFSS. Page-size color illustrations will be reproduced in color by OFSS; color illustrations larger than page size will be prepared in accordance with instructions in WRD Memorandum 85.112, dated June 12, 1985; and WRD Memorandum 86.45, dated March 19, 1986. Availability of all WRIR series is announced in "New Publications of the U.S. Geological Survey" and by news release issued by the originating office.

## 2. Open-File Report (book and maps)

The open file contains four report categories--data reports, preliminary interpretive reports, reports pending publication, and fact sheets. Data reports should not contain interpretive material.<sup>2</sup> They must receive Regional review and may require Director's approval. Interpretive reports require Division review and Director's approval through the same channels as the formal reports. Complete information on Open-File Reports is given in Section 11.)

- a. Purpose.--To make available (1) data reports, (2) reports of preliminary findings that would be of interest to few persons other than the cooperating agency, and (3) reports and maps pending publication elsewhere but requiring immediate release, and (4) timely information describing WRD programs, projects, products, and water-resources topics.
- b. Format.--Book size is 8 1/2 X 11 inches; the optimum map size is 26 X 36 inches. Drafting and final typing are done by the originating office. Duplication may be done either inhouse or through GPO, depending on the desired quantity and quality. Illustrations may be hand drawn and lettered but must be neat and reproducible; oversized plates are permitted; color is not permitted. Either SI or inch-pound units may be used. Maximum number of copies is 300 unless special permission is obtained from the Publications Management Unit in advance.

Fact sheets are 8 1/2 X 11 inches. Standard mastheads are available from Publications Management Unit.

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<sup>2</sup> The "Summary of Hydrologic Conditions" statement in State water-data reports may contain interpretations. (See Water Resources Division Memorandum No. 81.111.)



- c. Distribution.--Copies are distributed to cooperating agencies as needed. One reproducible black and white copy must be sent to the Open-File Services Section in Denver for reproduction and sale to the public; one copy must also be available at the originating office and other designated repositories<sup>3</sup> for public inspection.

Reports for interim use pending publication are removed from circulation and destroyed when the formal publication is available. Availability is announced in "New Reports of the U.S. Geological Survey" and by news release issued by the originating office. Fact sheets are distributed on an informal basis as handouts at meetings, conferences, and in response to inquiries.

### 3. Administrative Report

Administrative reports require Director's approval. They may not be cited or quoted except in a follow-up administrative report to the same agency, or if the agency releases the report to the public. They may later be resubmitted for Director's approval to publish in a regular series if the funding agency grants written permission. (Complete information on administrative reports is given in Section 12.)

- a. Purpose.--To furnish information to requesting Federal agencies to meet their immediate needs. These reports are not for public release.
- b. Format.--Prepare copy to meet specific needs. Either SI or inch-pound units may be used. Duplication cost is borne by the District.
- c. Distribution.--None beyond the requesting Federal agency. The Geological Survey cannot release an administrative report prepared for another agency even if requested under the Freedom of Information Act. The report is the property of the receiving agency, and any Freedom of Information Act request for the report should be directed to the agency for which the report was prepared. (See article 1.03.6.)

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<sup>3</sup> A list of repositories is given in article 8.01.1.

Subject: REPORT PLANNING AND MANAGEMENT--Publications Outlets Available to Water Resources Division

2.01.3 U.S. Geological Survey Water Fact Sheets (Water Resources Division Memorandum No. 83.101)

September 6, 1983

WATER RESOURCES DIVISION MEMORANDUM NO. 83.101

Subject: U.S. Geological Survey Water Fact Sheets

Water Fact Sheets are a new publication series of the U.S. Geological Survey. They are used to describe Water Resources Division (WRD) programs, projects, products, and water-resources topics to either a general or professional audience. Water Fact Sheets are concise and timely publications that increase the understanding and visibility of WRD activities and accomplishments. They can be used as handouts at conferences and in response to inquiries. An example describing acid rain is attached.

Concepts for Water Fact Sheets may come from all WRD sources: Districts, Research Projects, the WRD Information Transfer Advisory Committee, and Division staff. Concepts are approved by the District Chief or Research Program Chief on the basis of timeliness, public or cooperator interest, and availability of personnel and funds.

The following guidelines are recommended for preparation of Water Fact Sheets:

1. Manuscript

The author prepares a draft manuscript typed double spaced on one side of each sheet. The text generally is written in nontechnical language. Sources of additional information, such as the Hydrologic Information Unit, or bibliographic references, should be mentioned. Depending on the number and size of illustrations, the draft text could be three to six pages. Illustrations should fit, or be designed to be reduced to fit, a single-column or double-column width. Illustrations are prepared at the originating office.

2. Review

Draft manuscripts will be reviewed by at least two colleagues for technical accuracy, editorial adequacy, readability, and policy. Colleague review can be completed within the originating District or Research Project Office. Water Fact Sheets must also receive Regional and divisional review and may require Director's approval.<sup>1</sup>

3. Approval

Water Fact Sheets are submitted for approval before release through the same channels as formal reports--through the Regional Hydrologists (or Regional Research Hydrologists) and the Assistant Chief Hydrologist for Scientific Publications and Data Management (SP&DM). Material to be submitted are:

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1 All Fact Sheets will be released to the open file and do require Director's approval.

- a. Two copies of the manuscript, including text, tables, and illustrations.
- b. Reviewers' comments, marked-up manuscript, and author's responses.
- c. Transmittal memorandum from the District Chief to the Regional Hydrologist or from the Research Project Chief to the Regional Research Hydrologist.
- d. Completed manuscript routing sheet.

#### 4. Publication

Final copies of Water Fact Sheets can be printed by photo-offset, direct-image, or electrostatic process from camera-ready copy through the U.S. Government Printing Office or they can be machine duplicated inhouse by the originating office. They use a standard masthead prepared upon request by SP&DM, and are printed in two columns on one or both sides of a single 8 1/2" X 11" sheet of white or colored paper. Illustrations can be either one or two columns wide. Minimum lettering size after reduction is 8 point to ensure legibility of the reproduced copy. Author credit (optional), place of origin, and date of publication (month and year) go at the end.

#### 5. Distribution

The originating office distributes Water Fact Sheets on an informal basis as handouts at meetings and conferences, and in response to inquiries. Authors are required to submit eight copies to the Information Transfer Program; four of them will be sent to the Hydrologic Information Unit. Water Fact Sheets that describe projects are distributed to cooperating agencies as needed. Availability is not<sup>1</sup>formally announced by the Geological Survey.

All WRD sources are encouraged to consider the preparation of Water Fact Sheets as a timely and concise means of informing others of WRD activities.

For further information about Water Fact Sheets, contact the Assistant Chief Hydrologist, Scientific Publication and Data Management, Mail Stop 440, National Center Reston, Virginia 22092.

Philip Cohen  
Chief Hydrologist

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<sup>1</sup> Availability of a Fact Sheet is announced in the "New Publications of the U.S. Geological Survey."

Scientific Publications and Data Management (SP&DM) was changed to Scientific Information Management (SIM) on September 16, 1985.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 2.01.4

Subject: REPORT PLANNING AND MANAGEMENT--Publications Outlets Available to Water Resources Division Authors

#### 2.01.4 Characteristics of Water Resources Division map publications

Maps other than open-file maps are printed through Headquarters and offered for sale to the public by the Geological Survey or its agents. Most are maintained in print for many years; production time at Headquarters ranges from 1 month to 3 years depending on the material received from the authors. Availability is announced in "New Publications of the U.S. Geological Survey" and by news release issued through the Public Affairs Office. (See article 1.02.2.)

Water-Resources Division map publications include:

1. Hydrologic Investigations Atlas
2. Water-Resources Investigations Report (map)
3. Open-File Report (map)
4. Miscellaneous Investigations Map
5. Miscellaneous Field Studies Map

#### 1. Hydrologic Investigations Atlas

- a. Purpose.--To present reports on hydrology or geohydrology in map format to a wide range of hydrologically oriented audiences. The Hydrologic Investigations Atlas may be used as the basis for regional or national comparison of hydrologic features or conditions and may also serve as a special-purpose report depicting significant hydrologic events, disasters, or discoveries of national interest.
- b. Format.--Sheet size generally is 29 X 42 inches or smaller. Design is flexible; color is used as needed. Text must be short and is used only to supplement the illustrations. Either SI or inch-pound units may be used. The printing is of high quality.
- c. Distribution.--Major libraries and appropriate scientific agencies nationwide. Availability is announced in "New Publications of the U.S. Geological Survey" and through news releases issued through the Public Affairs Office. (See article 3.02.4.) Sold by Branch of Distribution, National Mapping Division.

#### 2. Water-Resources Investigations Report (map)

See article 2.01.2.

3. Open-File Report (map)

See article 2.01.2.

4. Miscellaneous Investigations Map

- a. Purpose.--To present in map format significant geologic and hydrologic information.
- b. Format.--Sheet size is optional; short text and use of color are permitted. The printing is of high quality. Either SI or inch-pound units may be used.
- c. Distribution.--Major libraries and appropriate scientific agencies nationwide. Availability is announced in "New Publications of the U.S. Geological Survey" and through news releases issued through the Public Affairs Office.

5. Miscellaneous Field Studies Map

- a. Purpose.--An interim map designed to present detailed geologic mapping to geologically oriented audiences.
- b. Format.--Sheet size generally is 21 X 29 inches; either 7.5-minute or 15-minute Geological Survey topographic maps serve as the base. Modest to low quality printing; black and white only. Either SI or inch-pound units may be used.
- c. Distribution.--Major libraries and appropriate scientific agencies nationwide. Availability is announced in "New Publications of the U.S. Geological Survey" and through news releases issued through the Public Affairs Office. (See article 1.02.2.) Controlled by the Geologic Division.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 2.01.5

Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

#### 2.01.5 Characteristics of non-Survey publications

Non-Survey publications include:

- Reports published by cooperators
- Scientific and trade journals; conference proceedings
- Symposium abstracts
- Speech handouts and poster sessions
- Contractor-prepared reports

All the above types of releases have a place in the Geological Survey program, depending on the purpose, content, and desired distribution. All must be approved by the Director before submittal to the publisher.

#### 1. Reports published by cooperators

- a. Purpose.--to present to a professional or general audience comprehensive or short topical reports that are primarily of local or statewide interest. In most cases, the camera-ready copy, including illustrations, is prepared by the originating District, with the printing arranged and funded by the cooperator.
- b. Format.--Depends on the cooperator's printing capability and preference; some permit use of color and plates. Specifications and requirements should be ascertained before the manuscript is prepared. Either SI or inch-pound units may be used, depending on the editorial policy of the cooperator.
- c. Distribution.--Generally to libraries and scientific agencies in the study area and major libraries statewide. Availability is not announced by the Geological Survey, but generally is announced by the cooperator from a news release supplied by the author. Authors are required to submit 4 copies of cooperator-published reports to the Publications Management Unit.

#### 2. Scientific and trade journals; conference proceedings

- a. Purpose.--To present papers on specialized subjects to an audience of the author's choice or by invitation. These reports may serve any of the following purposes:
  - convey new ideas for discussion by the profession;
  - describe some subject that is either too narrow or too highly technical to be appropriate for regular Geological Survey publications;
  - describe specialized research on subjects developed in the course of other project work (for example, a paper on advances in digital modeling of an aquifer).

- b. Format.--Articles for journals and conference proceedings may be limited with regard to number of pages and size of illustrations. Most require camera-ready illustrations, and many journals impose a page fee. This may be paid from project funds. (See article 2.01.9.) Copy for a journal should be prepared to publisher's editorial and format specifications. All Geological Survey review manuscripts must be double spaced.
- c. Distribution.--Major libraries and all subscribers to the journal. Availability is not announced by the Geological Survey. Reprints may be purchased from the publisher with project funds. Authors are required to submit four copies of reprints to the Publications Management Unit.

SPECIAL NOTES.--As a general policy, articles prepared for journals are not open filed before publication. Some journals do not wish to publish an article that is already available to the public; others have firm policies against publication of an article after a certain number of copies have been distributed. Some journal articles are published within a year of submittal, which may make open-file release unnecessary. An exception would be when information is needed urgently by a cooperator, or by an individual under the Freedom of Information Act.

Manuscripts submitted to journals for publication must be accompanied by the following notation in the letter of transmittal to the publisher:

This manuscript is submitted for publication with the understanding that the United States Government may reproduce and distribute reprints or may authorize the reproduction and distribution of reprints for governmental purposes.

### 3. Symposium Abstracts

- a. Purpose.--To present short summaries of research that are adapted from recent reports or from ongoing studies. Many accompany invited talks.
- b. Format.--Abstracts must be double spaced for review and Director's approval. Follow publisher's specifications when submitting an approved abstract to the publisher.
- c. Distribution.--Determined by symposium committee. Release is not announced by the Geological Survey. Authors are required to submit four copies of a published abstract to the Publications Management Unit.

SPECIAL NOTE.--Request for approval must be made a least six weeks in advance of the publisher's deadline. When the deadline is shorter, a letter justifying the request for rapid processing must be included. (See article 1.03.1.) Additional guidelines for preparing abstracts are given in articles 3.02.1 and 5.05.3 and in "Suggestions to Authors" (6th ed., p. 42).

4. Speech handouts and poster sessions

- a. Purpose.--To present to a selected audience information on a specialized subject in a form that does not warrant formal publication. A speech handout or poster must receive Director's approval.
- b. Format.--Determined by sponsors of symposium.
- c. Distribution.--Symposium participants only. Authors are required to submit four copies of a speech handout or poster mockup (or photograph thereof) to the Publications Management Unit.

5. Contractor-prepared reports

- a. Purpose.--To present results of research or investigations conducted (1) by a contractor under Geological Survey auspices to be published by the Geological Survey or by the contractor, and (2) by the Geological Survey for a fee at the request of a commercial publisher. Reports prepared by contractors to be published by the Geological Survey and reports prepared by the Geological Survey for a commercial publisher require Director's approval. Reports prepared by contractors to be published by the contractor or in outside journals may require Director's approval. (See article 2.03.7.)
- b. Format.--Depends on publication series if published by the Geological Survey, on contractor's printing capability, and on GPO regulations concerning the maximum number of copies that can be printed outside the GPO or its contracting authority. Specifications and requirements of Geological Survey report products must be stated in the provisions of the contract.
- c. Distribution.--Distribution and announcement depend on publication outlet. If published by the Geological Survey, distribution and announcement will follow guidelines established for the series selected; if published by the contractor, distribution and announcement are to be specified in the contract.



Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

#### 2.01.6 Selecting the appropriate publication outlet

The purpose of the Water Resources Division's publications program is to release the results of our work to the public promptly and in the most attractive design feasible within cost limits. Because Division projects differ in size, scope, purpose, significance, and duration, a variety of publication formats is needed. The Division provides more than a dozen publication outlets, each characterized by a specific design, intended audience, range of content, and distribution. The Division also encourages the use of scientific journals and cooperator-published series.

Selection of an appropriate publication outlet depends on several factors, including length of the report, technical level or specialty of the primary audience, geographic location of study, size and character of illustrations and tables, and need for timely release. Authors and their supervisors should evaluate the publication outlets available and select the most appropriate one early in the project.

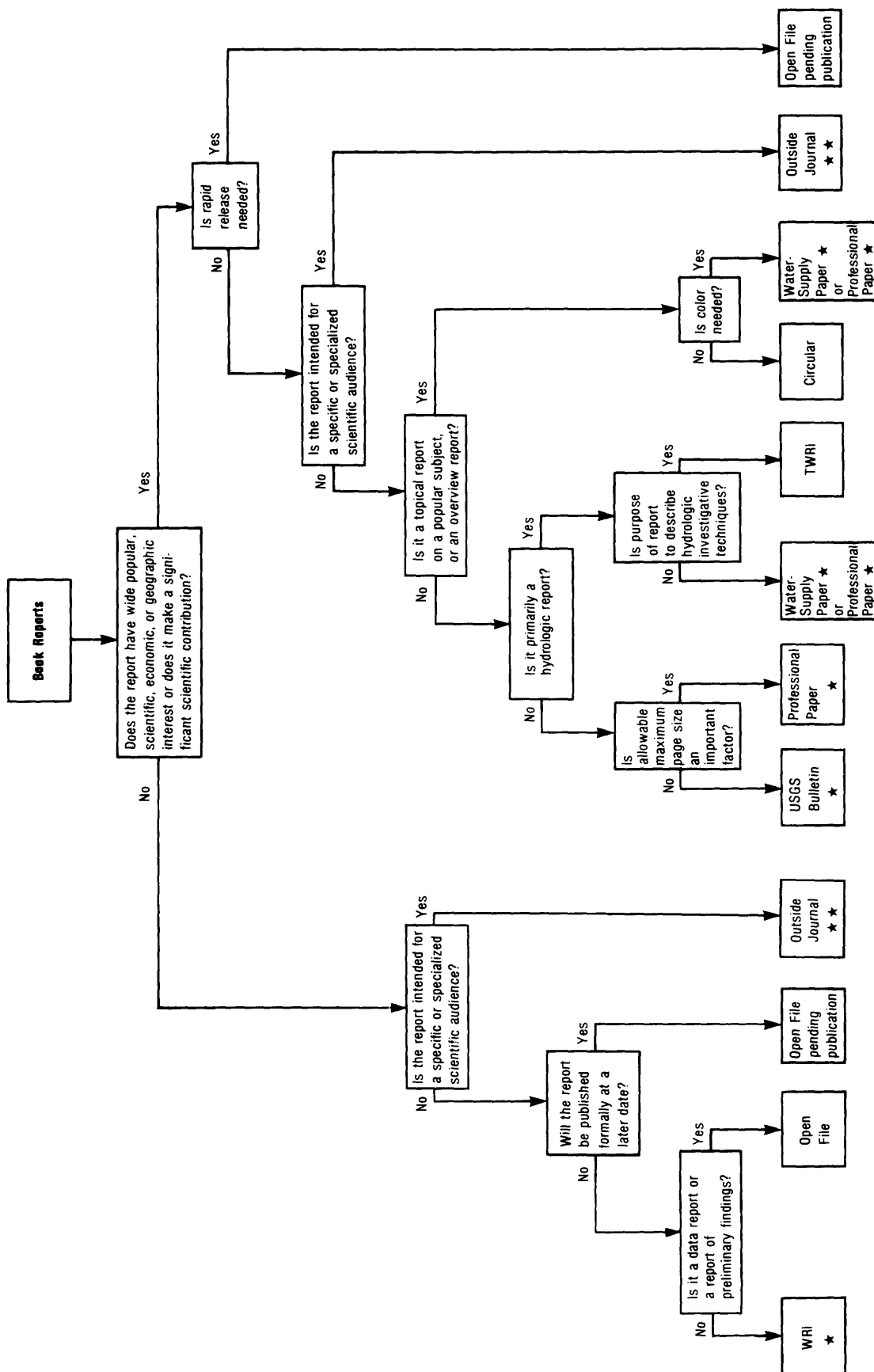
In order to simplify the procedure for selecting the proper publication outlet for Water Resources Division books and maps, the following decision-tree diagrams should prove useful. The purpose, format, and distribution of the various outlets shown on the diagrams are described in articles 2.01.2 and 2.01.4; several of the more important selection criteria indicated on the diagrams are explained in detail below.

- A. Scientific importance.--In general, the greater the scientific significance of the report, the greater the need for prompt publication and adequate distribution. Printing quality and prestige of the medium may also be factors, depending on the duration of interest and usefulness of the material.

Distribution to a specific target audience is sometimes best achieved through scientific journals. Publication time for journals ranges from a few months to more than a year. The formal Geological Survey series are distributed to libraries and appropriate public agencies nationwide. Publication typically takes a year or more but may be expedited if sufficient need is demonstrated. Rapid publication may be attained through the WRI and Open-File Report series, but the design and printing quality may be inferior and distribution inadequate beyond the local level.

# **DECISION TREE FOR SELECTING PROPER OUTLET FOR WRD-PREPARED BOOK REPORTS**

(Any book or map report released to the public may be published by a cooperating agency. The quality and distribution of book and map reports published by cooperating agencies may equal or surpass that of equivalent USGS publications.)

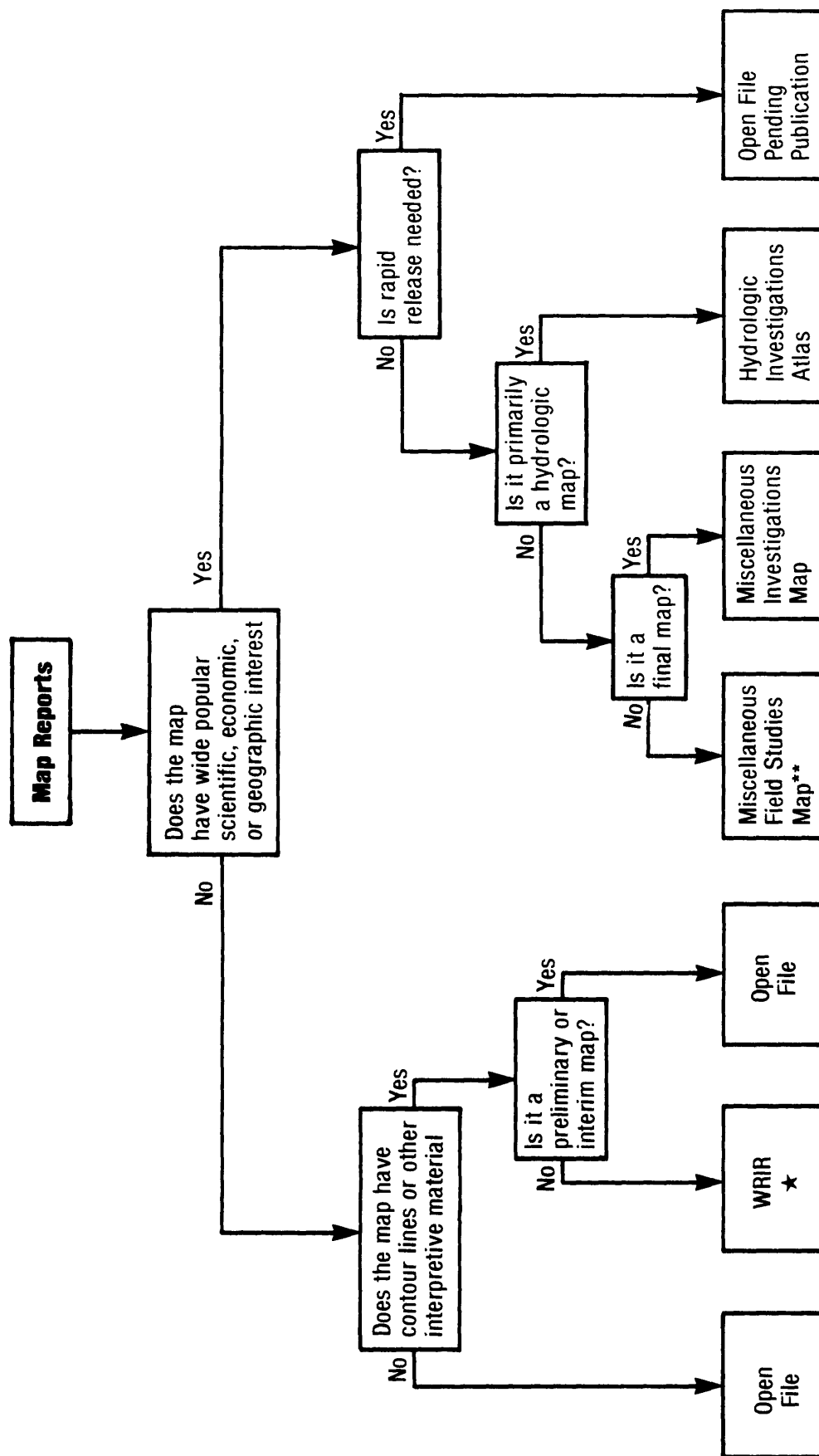


★ Color is permitted (with approval of the Scientific Publications Program)

★★ Use of color, plates, or oversize illustrations optional with publisher

# **DECISION TREE FOR SELECTING PROPER OUTLET FOR WRD-PREPARED MAP REPORTS**

(Any book or map report released to the public may be published by a cooperating agency. The quality and distribution of book and map reports published by cooperating agencies may equal or surpass that of equivalent USGS publications.)



★ Color is permitted (with justification and approval of the Scientific Publications Program).

★★ Color is not permitted.

Prepared by: Office of Assistant Chief Hydrologist for  
Scientific Information Management  
440 National Center, Reston, Virginia 22092

- B. Urgency.--Production in most scientific journals and the formal Geological Survey series entails typesetting, review of galley and page proofs, and drafting, which together may take more than a year unless a high priority is assigned, although several scientific journals have a turnaround time of only a few months. Informal Geological Survey series handled through the originating office, such as WRI and Open-File Reports, and reports in cooperator-published series, may be printed within a matter of weeks, depending on the amount of drafting and whether the report is to be copied inhouse or printed through GPO. (Printing through GPO generally takes 5 to 7 weeks.)

If a report is intended to be released in one of the formal series, but the information needs to be made available immediately, the author may request that the report be released to the open file pending publication as a formal report. Permission to do so must be requested when the report is submitted for Director's approval, and repository copies must be prepared in the same manner as for other open-file releases. When the formal publication becomes available, undistributed open-file copies should be destroyed.

- C. Duration of usefulness or interest.--Interpretive material of short-term value should be published promptly--generally as a WRIR or an Open-File Report, journal article, or in a cooperator-published series. The WRI and Open-File Reports provide the most rapid release but may have inadequate distribution. Scientific journals reach a specific audience but vary in turnaround time; if time is a significant factor, authors should discuss the matter with the publisher before submitting the manuscript for Director's approval.

Interpretive material of long-term interest should be considered for a formal Geological Survey series if it is of regional or national significance; interpretive material of only local importance may be more suitable for a WRIR or a cooperator-published series.

- D. Distribution and technical level of audience.--All reports published or released by the Geological Survey are announced internationally in the monthly pamphlet "New Publications of the U.S. Geological Survey" and locally or nationally through news releases. Administrative reports and articles in the WRD Bulletin are not announced.

Data reports and preliminary reports that will be of interest only to the cooperator should be open filed; final reports of local interest should be published in the WRIR series.

Reports that are highly technical or directed toward a specialized audience may be more suitable for scientific journals than for Geological Survey series, but authors are advised to verify the selected journal's suitability in terms of subject matter, distribution, number of pages permitted, size of illustrations, and whether the page fee<sup>1</sup> (if any) can be accommodated.

Reports having only local interest may receive adequate distribution in the WRIR, Open-File Report, or cooperator-published series; those having greater areal scope or scientific interest may require the wider distribution provided through the formal Geological Survey series or scientific journals.

- E. Publication cost and quality of printing.--Oversized plates and foldout pages, commercial typesetting, additional colors, unusual size or dimensions, and glossy or textured paper for cover and/or text substantially increase the cost of preparation and printing. If any of these items are essential for effective presentation, the formal Geological Survey series, scientific journals, or cooperator-published series should be considered, and the author should discuss the details with the publisher early in the planning stages.

Rush-order printing (less than 3 weeks) of office-generated reports (WRI and Open File Reports) may increase the printing cost by as much as 75 percent; use of glossy or textured paper for the cover may increase the cost by 15 percent.

- F. Relation to similar studies or companion reports.-- If a report is related to others already published, it may be desirable to use the same publication series and design for uniformity and continuity. This decision should be made early in the project, however, to avoid the need to reformat the material later on.

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<sup>1</sup> Page fee may be paid from project or District funds if the journal is sponsored by a not-for-profit organization. (See article 2.01.9.)

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 2.01.7

Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

2.01.7 Guidelines for selection of reports for Water-Supply and Professional Paper Series (Water Resources Division Memorandum No. 85.72)

March 14, 1985

WATER RESOURCES DIVISION MEMORANDUM NO. 85.72

Subject: *PUBLICATIONS--Guidelines for Selection of Reports for Water-Supply and Professional Paper Series*

Recently there has been a large increase in the number of reports submitted for publication in the Water-Supply and Professional Paper Series. Many of these reports were not approved for such release because they do not meet criteria for the series. The following are criteria for publication in the Water-Supply and Professional Paper Series. One or more of these criteria must be addressed in reports approved for publication as Water-Supply or Professional Papers.

- o Describe significant technical advances in hydrology.
- o Document hydrologic studies with national or international scope.
- o Present significant research findings.
- o Summarize significant advances in the understanding of hydrology.
- o Describe new techniques.
- o Document innovative uses of established techniques.

Reports that do not meet these criteria should be published in technical journals or Water-Resources Investigation Reports.

James F. Daniel  
Assistant Chief Hydrologist for  
Scientific Publications and Data  
Management

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Scientific Publications and Data Management (SP&DM) was changed to Scientific Information Management (SIM) on September 16, 1985.

Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

2.01.8 Requirements for changing publication outlet after Director's approval

Occasionally it becomes undesirable or infeasible to publish an article or report in the series for which it was approved. In such cases the report should not be abandoned, but should be submitted elsewhere for publication. The following guidelines are given to avoid confusion in procedures and recordkeeping.

- A. Changing from one non-Survey publication outlet to another.--Submit the article or report to the newly selected outlet; no contact with the Division is needed. If the report is again refused, submit it to another. When the material is published, send four copies of the printed report or article, with the journal's title page and a memorandum explaining the change, to:

U.S. Geological Survey  
Publications Management Unit  
Water Resources Division  
435 National Center  
Reston, Virginia 22092

The records will then be corrected and the copies filed in the Water Resources Division's reference collection.

- B. Changing from a non-Survey series to a Geological Survey series.--The original approval notice, routing sheet, and transmittal memorandum must be resubmitted with all support documents to Headquarters<sup>1</sup> with a memorandum explaining the situation. The material will be reviewed for appropriateness for the proposed series and, if suitable, will be assigned a Geological Survey series number.
- C. Changing from a Geological Survey series to a non-Survey series.--This is not recommended, but, if essential, approval must be obtained from the Chief, Scientific Publications Program.
- D. Publication of open-file releases.--If a report that has been released to the open file is later considered for formal publication, it should be submitted as a new manuscript with a memorandum explaining the background and need for formal publication.
- E. Publication of administrative reports.--If the report was approved for administrative release only, the agency for which it was prepared must indicate in writing its willingness to have the report published by the Geological Survey. (See Section 12.)

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<sup>1</sup> Submit material to Chief, Publications Management Unit.

- F. Inclusion of published reports in non-Survey publications.--If an outside institution or agency wishes to include all or part of a published Geological Survey report under separate cover, such as in a collection of articles, that agency is free to do so because Federal publications are not copyrighted. However, the publisher should be requested to (1) include a statement crediting both the Geological Survey and author, and (2) cite the original title, year of publication, and Geological Survey series and series number.



## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 2.01.9

Subject: REPORT PLANNING AND MANAGEMENT--Publication Outlets Available to Water Resources Division Authors

#### 2.01.9 Reimbursement of page fees for journal articles

Many technical journals levy page fees for printing articles they have accepted. In some cases, the payment of page fees entitles the author to a stated number of reprints. Page fees are usually integral to a journal's publication policy, and information on them is presented in the editorial policy statement. Consequently, authors who plan to publish in journals should plan to pay fees as necessary.

The Water Resources Division does not maintain a fund at Headquarters to cover page fee costs; authors are expected to secure page-fee (and reprint) funds from project or District funds.

In the rare event that a manuscript originally designed for publication in a Federal series is diverted for publication in a journal, page-fee funds may be made available from the Scientific Publications Program. District or Research Project Chiefs should contact the Chief, Scientific Publications Program, in advance of submitting such a manuscript to ascertain the availability of page-fee funds.

Federal printing regulations forbid payment of page fees to profit-making publishers; page fees may be paid only to not-for-profit publishers, such as those who print technical journals for not-for-profit societies. A list of not-for-profit journals is maintained by the Office of Scientific Publications, Geologic Division, and may be obtained from the Chief, Scientific Publications Program, Water Resources Division, 439 National Center, Reston, VA 22092.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 2.02.1

Subject: REPORT PLANNING AND MANAGEMENT--Report Format

#### 2.02.1 General format considerations

Format is determined largely by the publication outlet, but selection of the outlet, is in turn, influenced by the purpose and objectives of the report, the target audience, and its technical level. Format of formal or informal publications, map publications, or non-Survey publication should be planned early in the project because the format affects both the cost of copy preparation and printing and the dimensions of tables and illustrations. Prior knowledge of page dimensions, publisher's style, and printing requirements can prevent costly alteration after completion of the manuscript and illustrations.

Guidelines to selecting an appropriate publication outlet are covered in article 2.01.6; some considerations for planning the format are listed below.

- A. Purpose and content.--Would the material be best presented as a map (or series of maps), book, pamphlet, or journal article? Does it merit high-quality printing? Should it be designed for the lay reader or for a specialized technical audience?
- B. Page size and dimensions.--Is the page size of the proposed medium large enough to accommodate the necessary illustrations and tables? Are foldouts and plates permitted? Would the material be more effective oriented vertically or horizontally? If a map is large, could it be divided onto two or more sheets of a more convenient size, or could it be put on facing pages?
- C. Length.--Does the proposed publication series have a restriction on number of pages, figures, or tables?
- D. Color.--Is color permitted, and can suitable paper for high-quality reproduction, if needed, be provided?
- E. Drafting and composition.--Does the material warrant typesetting and professional drafting, or will typewriter and inhouse drafting be sufficient? (Most of the Geological Survey's inhouse drafting is of professional quality.)
- F. Binding.--Will the material need a special binding, such as looseleaf, to allow insertion of new pages, or spiral binding, to allow the pages to lie flat? (This consideration does not apply to formal reports.)

- G. Column width.--Would two-column or three-column text layout enhance the design?
- H. Artwork.--Do the photographs have sufficient contrast and clarity for reproduction? Can graphs be reduced and grouped together on a page (or facing pages) to save space and facilitate comparison? Do diagrams need redrawing by an illustrator or draftsman? Are enough illustrations available to fulfill the need for clarity?
- I. Tables.--Can the tables be formatted to fit the page dimensions without extreme reduction?
- J. Appendixes, long tables, and attachments.---Does the proposed publication accommodate these items? (See article 5.05.6 on appendixes and attachments.)
- K. Headings.--Would display headings appreciably enhance the appearance of the report? Would running heads help the reader?
- L. Map explanation.--On page-size maps, will the explanation fit within image area? If not, could the explanation be placed on a facing page?
- M. Map data.--Will one sheet adequately show the information, or should the data be presented on two or more sheets to improve legibility? Would one or more additional colors significantly improve legibility? Could a pattern or screen be used in place of color?
- N. Map jacket.--For map reports, would a jacket be desirable or necessary?

Subject: REPORT PLANNING AND MANAGEMENT--Report Format

2.02.2 Book design

The physical components of a book that differentiate it from a map, leaflet, or newsletter, are described below; adequate planning for each component can prevent later difficulties in both manuscript preparation and printing. (These guidelines do not apply to journal articles or chapters to be placed within larger publications.)

- Cover (front, inside front, inside back, back) and backstrip (spine). These covers are known as covers 1, 2, 3, and 4 respectively.
- Binding (side stitch, saddle stitch, perfect (glue), looseleaf, wirebound, among others).
- Front matter (title page, foreword, table of contents, table of conversion factors).
- Body (abstract, text with tables and illustrations, references, appendixes or attachments, plates, and foldouts).

Cover.--A book cover may be hard (casebound) or soft (paperbound). Most Geological Survey reports are softbound, but a few copies of important works may be hardbound for preservation. The front cover of a book should be attractively designed. Inside covers and the back cover of a book may contain printing, depending on the individual design. The inside of the back cover may be used to hold a map pocket. The spine of the report should contain author name, title of report, and Geological Survey series and number. This information will be printed on the spine if the book is perfect (glue) bound, or on cover 4 of a saddle-stitched report.

Pagination.--In nearly all books, the pages are printed on both sides so that upon opening the book the reader sees two facing pages. The first numbered page of any printed book is on the right and the following page is on the left. Thus, all even-numbered pages in a book are on the left, and the odd numbers on the right. Awareness of this fact will help plan layouts so that selected components can be made to face one another in the printed copy. (See article 6.01.6 for detailed instructions on pagination.)

Binding.--Depending on the need, a book may be bound in several ways. Books containing less than 96 pages generally are saddle-stitched (stapled down the center when opened flat) or side-stitched (stapled down left margin when closed); the latter is cheaper but prevents the material from opening flat. If the book contains more than 96 pages, it will be squared off and perfect bound (glue bound), which, again, will not open flat. Thick books may also be side-stitched. Other options are punching for insertion in a looseleaf binder, and use of plastic or spiral bindings, which are costly and do not permit spine lettering but do enable the material to open flat. Other options are also available. Assistance in determining an appropriate binding may be obtained from the Chief, Scientific Publications Section.

Column width.--Large-format books (7 7/8 X 10 1/4 inches and larger) that are typeset generally are designed with two or three columns of type to a page in order to keep the line width within comfort range for reading. Books that are produced by typewriter (such as a WRIR), and most books 6 X 9 inches or smaller, generally contain a single column of type. (It is possible to type copy oversized for photoreduction to create a two-column layout, but this entails special calculation and is recommended only for typists and designers having specialized equipment.) Camera-ready copy of Geological Survey reports to be printed on 8 1/2 X 11-inch paper should be typed on a 6-inch column width; justification of the right margin is optional. Regardless of plans for final layout, all review manuscripts should be typed double spaced on a 6-inch column without right-margin justification.

Illustration size.-- Illustrations should be no larger than necessary and, except for foldouts and plates, must fit within the image area of the printed page. Foldouts and separate plates increase printing costs significantly and should be used only when necessary. All major lettering should be at least 8 point size.<sup>1</sup> Illustrations may span one, two, or three columns of text, depending upon layout, or they may be separated down the middle to span two facing pages. Similar illustrations, particularly graphs, may often be reduced and grouped with several to a page; this both saves paper and facilitates comparison. All illustrations should be designed to allow room for the caption(s). Additional information on illustrations will be presented in Volume II of the "Publications Guide."

Use of color.--Printing in more than one color increases costs; therefore, any multicolor printing should contribute demonstrable value in improving the final product.<sup>2</sup> Examples of color printing that do not meet this requirement are:

- Printed items in which color is used in lieu of effective layout and design.
- Printed items in which color is used primarily for decorative effect.
- Printed items in which color is excessive, such as four colors when two would suffice.

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<sup>1</sup> This footnote is typed in 8 point lettering.

<sup>2</sup> See Water Resources Division Memorandum No. 82.116, "Use of Color in U.S. Geological Survey Publications," dated July 15, 1982.

When planning a report to be produced in book format, the most important items to be considered, once the publication series has been selected, are the size and content of illustrations and tables, number of colors (if used), and the editorial requirements of the publisher. The Geological Survey's or other publisher's specifications should be studied before the manuscript is typed or the figures designed. Other questions, such as those pertaining to page layout, type of binding, and style of typefaces, can generally be resolved in the later stages of production.

Only books designed in STOP<sup>3</sup> format require attention to page layout from the beginning; preparation of books and maps in STOP format is explained in article 2.02.4.

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<sup>3</sup> Sequential Thematic Organization of Publications--a design technique whereby each pair of facing pages presents an individual topic.

Subject: REPORT PLANNING AND MANAGEMENT--Report Format

2.02.3 Map reports

A map report is any publication consisting of one or more maps or sections on a single sheet, or series of sheets. A short text may be included but must be printed on the same sheet(s). Map reports are used when the image area is too large and the text too short to be suitable in book form. They may be black and white or may contain color.

The main aspects to consider when planning the format of a map report are:

- A. Sheet size.--Any standard size within printer's capability may be used but should be as small as feasible for economy and convenience.<sup>1</sup> If a map must be extremely large, authors should consider dividing it into two or more separate sheets. (See articles 2.01.2 through 2.01.6 for determining publication series.)
- B. Color.--Use of color depends on the publisher's restrictions.<sup>2</sup> If the material can be shown clearly in black with one or two screened values, color should not be used. If the data are likely to overlap, authors must decide whether to present the information on one map having two or more colors or on two or more maps having black and screened black only. This decision should be made in consultation with District and Division staff and also will depend upon the publisher's capability. Contrasting colors should be used to facilitate review. Final colors can be designated by the author or, in some cases, are standard. Use of patterns or a color code in place of color will avoid the need to hand color multiple copies.
- C. Mockup.--Map reports submitted for Division review should include (1) a mockup showing the exact position of every component at publication scale, and (2) a double-spaced copy of the text and explanation. Diazo or similar paper prints will suffice for review. The mockup may be hand lettered, but the lettering size must approximate that used in the final version.

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<sup>1</sup> Standard paper sizes for oversize maps are 26 X 36 inches (optimum), 36 X 44 inches, and 44 X 58 inches. Maximum Geological Survey image size is 42 X 56 inches. Maximum image size of commercial presses is 48 X 75 inches.

<sup>2</sup> See Water Resources Division Memorandum No. 82.116, "Use of Color in U.S. Geological Survey Publications," dated July 15, 1982.

D. Essential Map Components.---

title	latitude and longitude
author's name	location map
base credit	scale
mapping credit	explanation
(if other than author for study)	
publisher	text (optional)
statement of cooperation	border
report series and number	north arrow (only if map is not north oriented)

Specific instructions for map preparation are given in Volume II of the "Publications Guide" (in preparation, 1986).



Subject: REPORT PLANNING AND MANAGEMENT--Report Format

2.02.4 STOP format<sup>1</sup>

The appearance of many reports prepared by the Water Resources Division, particularly those directed toward the general or nontechnical audience, could be improved through use of more illustrations, condensed text, and a planned balance of text, tables, and figures on each set of facing pages. Use of the STOP design technique, whereby each set of facing pages forms a unit with a major heading and a leading sentence, and whereby the text and figures are balanced across facing pages, is one way to enhance the information transfer potential of such reports.

Detailed planning is essential from the beginning; attempts to adapt an already completed manuscript to STOP format require considerable effort and may result in frustration. The STOP procedure may be followed literally or interpreted broadly, depending on the nature of the topic and consensus as to what design will be most effective. Preparation of STOP-format reports requires willing and close cooperation of authors, supervisors, and reports support personnel.

The STOP format is feasible in nearly all publication outlets used by the Geological Survey; the early planning and design of material for the STOP format for a specific outlet will avoid the need for modification later on.

The STOP format described in the following pages has several advantages. First, the overall approach maximizes the efficiency of authors, editors, reviewers, and readers. The flexibility of design allows rapid shifting, addition, deletion, or modification of paragraphs, artwork, and text during review. This format forces the authors to plan ahead and to think graphically, which generally results in a more effective and esthetic product. The reader's efficiency is increased because the facing-page concept is developed around a specific subject unit consisting of minimal text with well-planned graphics. In addition, the reader can quickly grasp the essence of the report by scanning only the headings and topic sentences. It should be noted that, although STOP format is a useful tool for presenting information, it is not appropriate for some technical subjects.

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<sup>1</sup> STOP is an acronym for Sequential Thematic Organization of Publications. Although the principle is not new, the concept of preparing adequately illustrated technical reports in facing-page units, each with a subject heading and summary statement, was developed by the Hughes Aircraft Company, Fullerton, California, and was first formally described by the Martin Marietta Corporation, Orlando, Florida, in 1970.

When a STOP report is submitted for Director's approval, a mockup showing the exact position of each component must be included with the regular manuscript and a print of each photograph (not photocopy) must also be included.

The following pages, modified from instructions published by the West Virginia Geological Survey<sup>2</sup> and the Martin Marietta Corporation<sup>3</sup>, present guidelines for preparing WRD reports in STOP format. An example of a report in STOP format is cited below<sup>4</sup>.

## PROCEDURES FOR PREPARING PUBLICATIONS IN STOP FORMAT

### Description

"STOP" is a layout technique that facilitates comprehension and enhances the visual appeal of a report by dividing the subject into a series of short topics and presenting each one in an independent, two-page unit. The left-hand page generally contains text, the right-hand page the graphics, so that each unit contains all text and illustrations needed to explain the individual topic. Together the units form a logical progression toward the author's conclusions. STOP format is especially suitable for reports written to a nontechnical audience and can be used to depict highly complex, technical subjects.

Reports to be presented in STOP format must be planned in two-page units from the beginning; attempts to convert completed manuscripts to STOP format will invariably require extensive reformatting and revision. (Guidelines for converting conventional text to STOP format are given at the end of this article.)

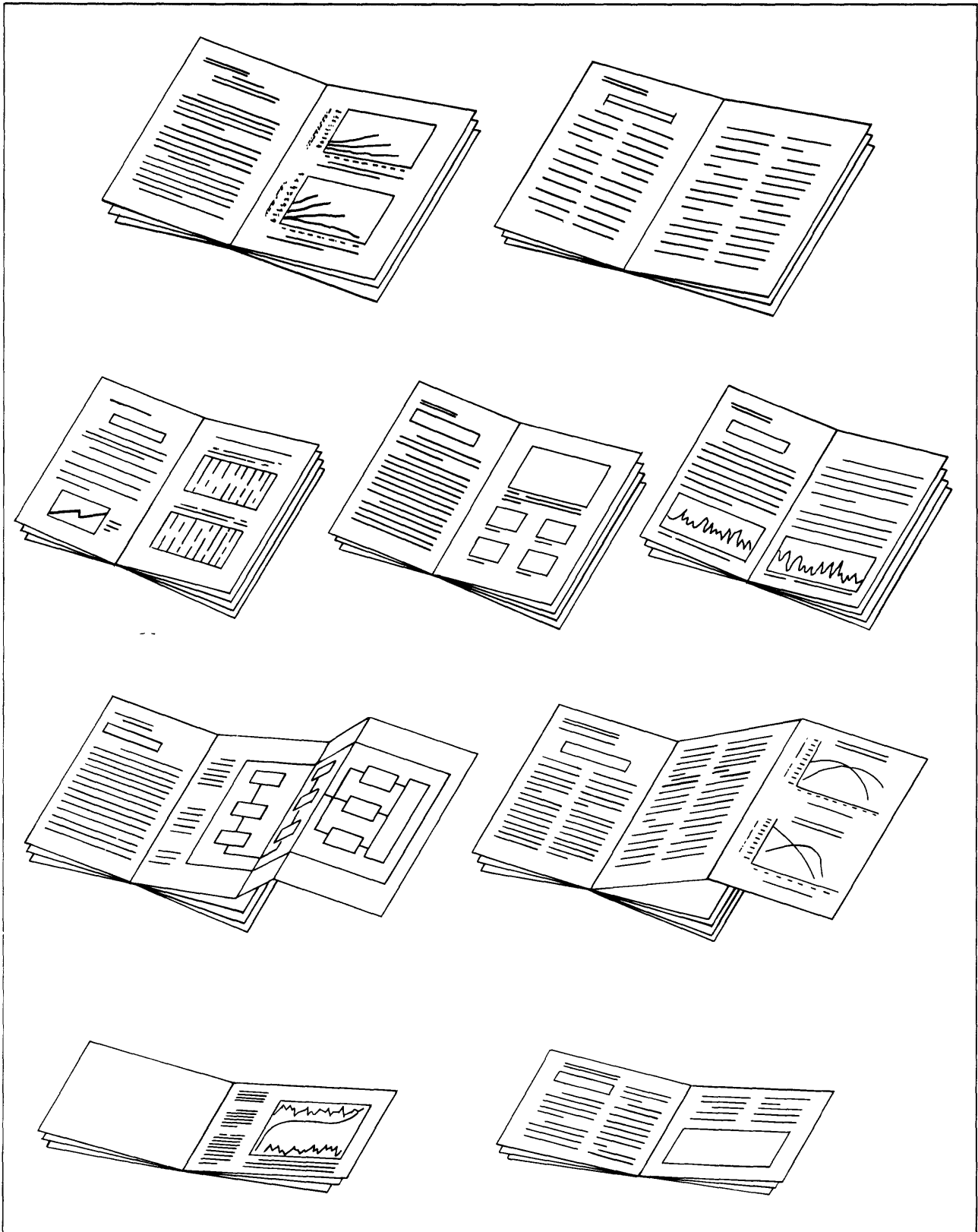
The left-hand (even-numbered) page of each two-page unit begins with a chapter heading and an appropriate subtitle, a topic headline describing the message of the two-page unit, and a thesis sentence summarizing the unit. Beneath these headings is the text. The right-hand (odd-numbered) page contains the supporting illustrations and tables. (The preliminary pages and appendixes, if any, need not be illustrated but are designed on a facing-page basis to insure visual balance.) The STOP design is flexible and may be modified in a variety of ways to accommodate special needs. Several variations are depicted on the next page.

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<sup>2</sup> Carte, J. A., and Landers, R. A., 1975, STOP: A path to more useful Earth science reports: *Geology*, v. 3, no. 7, p. 405-406.

<sup>3</sup> Martin Marietta Corp., 1970, STOP, a procedure for effective publications: Orlando, Florida, Martin Marietta Corp., Orlando Report OR-988, 29 p.

<sup>4</sup> Wyrick, G.G., and Borchers, J.W., Hydrologic effects of stress-relief fracturing in an Appalachian Valley: U.S. Geological Survey Water-Supply Paper 2177, 51 p.



Facing-page layouts for STOP reports  
(Modified from Martin-Marietta Corp., 1970)

The principle of the two-page unit is to present all material on a given topic at a glance so that the page need not be turned nor the continuity interrupted. If the copy or illustrations require additional space, the material should be reassigned to other units or presented as two smaller units. Alternatively, a foldout may be used, but this circumvents the basic precept of brevity and will substantially increase the printing cost.

It is important to maintain unity and visual balance not only within each two-page unit, but to provide continuity between units. STOP format, as the name suggests, has a tendency to produce abrupt transitions, or to "jump" from one topic to the next; authors are therefore advised to give special attention to the overall continuity.

#### Guidelines for Page Layout

The key components of each two-page unit are the chapter heading, topic headline, thesis statement, text, and graphics. Special consideration must be given to the selection of appropriate typefaces and to effective use of white space, which together can appreciably enhance the visual appearance. The key components of the basic two-page unit are discussed below.

Chapter heading.--Analogous to a first-order heading of a technical report. In STOP format it is generally placed in the upper left corner of the lefthand page, in prominent type.

Subtitle (optional).--Analogous to a second-order heading of a technical report; generally placed just beneath the chapter heading but in smaller type.

Topic headline.--Similar to the headline of a newspaper; commonly but not necessarily centered above the text column(s). The headline should contain from four to eight words that accurately state the message of the two-page unit. The headline helps the reader determine whether to study the entire unit in detail, and, for the reader who is merely scanning the publication, it provides a quick idea of the theme and conclusions.

Thesis statement.-- Similar to a short abstract; generally placed below the topic headline. The summary statement should give the gist of the two-page unit and emphasize major conclusions or contributions. It may be expanded to two or three sentences if necessary.

Text.--Usually written after the outline and layout have been approved by Project Chief and District Chief. A maximum of 650 words is recommended for each page of text, assuming a publication size of 8 1/2 X 11 inches. (This equals about 1 1/2 pages of double-spaced elite type or 2 pages of pica type, including headline and thesis statement. If the material is to be set in commercial [10 pt.] type, the amount of text may be increased by about 25 percent.)

The text for each unit may be designed for a one-, two-, or three-column format, depending on whether the material is to be typewritten or commercially typeset, whether the book is designed for upright or broad-measure layout, and how the illustrations are to be arranged. The column arrangement may be varied from page to page, if necessary, to maintain balance.

Graphics.-- These include graphs, tables, maps, diagrams, photos, and display lettering. Graphics should be carefully selected and designed to complement or substantiate key points of the text, and are not used simply to fill space. If there are too many graphics for a given unit, it may be possible to redraw and combine, photoreduce, crop, or simply eliminate them. Only in rare instances should a foldout page be necessary.

After the headings have been developed and the graphics designed, authors will sketch a publication-size layout of each two-page unit indicating the final size and position of each component, allowing room for captions and page numbers and keeping consistent margins. If appropriately reduced copies of the graphics can be obtained, they will be helpful in planning the page layouts and will reveal discrepancies in lettering, contrast, content, or general effect that could detract from the visual quality of the printed book.

#### Elements of Planning and Development

The first considerations in planning a STOP report are formulating purpose and objectives, assessing the target audience and its technical level, and selecting a suitable publication medium. In addition are four key planning aids--the topic outline and the detailed outline, which are similar to those made for standard technical reports; the profiles (layout sketches) of the two-page units; and the storyboard conference (management review that takes place before the final text is written). The procedure for developing STOP reports from these planning aids is described in detail below.

Topic outline.--Lists the major headings, subheadings, graphics, and appendixes and is virtually the same as the outline for any technical report. This component is generally the first step in organizing the subject matter into discrete, sequential topics.

Detailed outline.--Developed by (1) dividing the topic outline into smaller concepts of equal importance that can be presented in two-page units, then (2) filling in the details that will be given in the text. The degree to which the material is subdivided will depend on the subject and the technical level of the target audience. The detailed outline provides the writer with a guide to the content of each unit and should also suggest the wording of the topic headline and summary statement.

Mockup (layout sketch).--A two-page mockup showing the size and position of all components of a given unit. The mockup not only forces detailed planning, but, by giving a visual image of the completed publication, facilitates review and revision before the text is written, which minimizes rewriting later on. Each mockup page is drawn at publication size and indicates margins, chapter heading, subtitle, topic headline, summary statement, text column(s), graphics, captions, and page number.<sup>5</sup> A mockup must be prepared for all pages of the book, including table of contents, lists of illustrations, and tables, as well as the front, inside front, inside back, and back covers. As a group, the mockups should serve as a comprehensive, step-by-step writing plan.

Storyboard conference (management review).--All mockup pages are displayed in sequence on a table or wall for a scheduled group review. This system provides efficient review by facilitating discussion and permitting easy reorganization or modification of units and components. After review, the mockup pages should be revised to incorporate all changes. The text and graphics can then be developed in detail in preparation for colleague review.

Writing from mockup and outline.--The revised mockups and detailed outline form the writing plan for each two-page unit; therefore, the actual writing will consist primarily of expanding and explaining the key points listed in the outline. This process may reveal several problems in the organization, emphasis, or page layout, but reference to the mockups and outline should suggest a logical solution. The illustration on the next page depicts some common difficulties and their solution.

When the text has been completed and the graphics sketched in a form suitable for colleague review, all components should be compared with the mockups, and appropriate corrections made. A clean, doublespaced copy of the text should then be typed, with the mockups included, for colleague review.

#### Converting Conventional Manuscripts to STOP Format

Occasionally a decision will be made to convert an already completed manuscript to STOP format. This tail-end approach should be avoided if possible because it will require a large amount of rewriting and redrafting. If the effort is deemed necessary, however, the following approach is suggested.

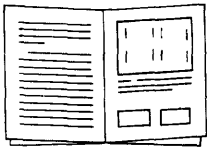
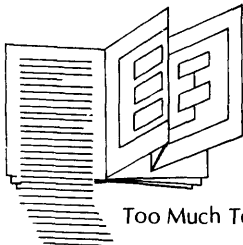
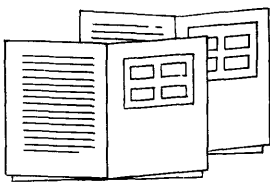
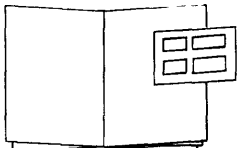
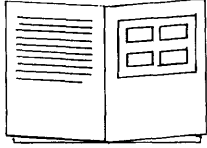
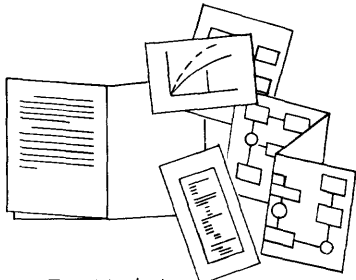
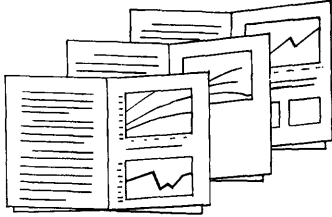
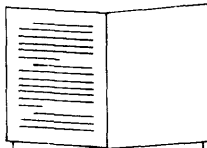
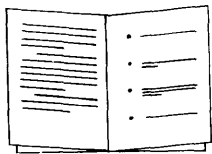
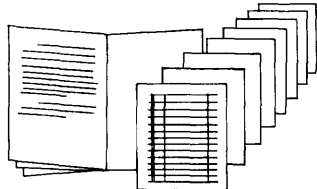
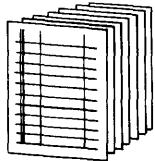
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<sup>5</sup> Preliminary pages will have Roman numerals, and all pages, including blanks, must be accounted for. All right-hand pages will be odd numbered, beginning with the title page as page .

The first step is to spread out the manuscript pages and illustrations to determine the location of all changes in topic and all reference to figures and tables. The text is then cut apart at topic boundaries and reassembled to form a series of discrete units. Concurrently, new graphics for each unit are sketched and old ones appropriately modified, and the topic headlines and summary statements are written.

Once the material has been assembled into units containing a suitable balance of graphics and text, a detailed outline of the report and a mockup of each unit may be prepared for review at the storyboard conference. When the review has been completed and all revisions incorporated, the material should be ready for colleague review.

If, after Director's approval, camera-ready copy of the report is to be prepared by the originating office, refer to Section 7, which describes preparation of final copy for printing.

Situation	Probable Cause	Solution
 Adequate Information, Presented Properly	Thoughtful Development and Review of Outline and Mockup plus Effort by Writer to Achieve Page Budget	Review, Draft, Edit as Required, and Publish Document
 Too Much Text	Inadequate Review, or Insufficient Thought to Outline and Mockup	 Break Unit into Additional Stop Units
 No Text	Inadequate Review of Mockup	 Create a Message with Text or Combine with Another Unit
 Too Much Art	Inadequate Preparation or Review of Mockup	 Expand to More Topics or Create Appendix Revise or Eliminate Unnecessary Illustrations
 No Art	Inadequate Preparation or Review of Mockup	 Create Tabular Summary, Conceptual Diagram, or a Key Word List
 Too Much Data	Failure to Summarize and Plan for Appendix	 Put in Appendix to Preserve Topical Coherence in Body



Subject: REPORT PLANNING AND MANAGEMENT--Report Management

2.03.1 Planning project and report

The most frequent cause for delayed completion of reports and for technical deficiencies is inadequate planning. Report planning and project planning go hand in hand and should start at the same time. Systematic project planning consists of a long-range plan, project proposal, project description, detailed work schedule, and report plan, including a detailed report outline and list of illustrations. Sound planning should provide the project chief with the tools needed to design and complete the project within the allotted time and budget. Some major considerations in developing a project plan are given below.

- A. Project proposal.--Presents a clear description of the project. Key elements of a project proposal are title, need for the study, objectives, scope, approach, relation to long-range plan, benefits, planned reports, time frame, manpower, and costs.
- B. Project description.--The first step after Regional approval and funding of the project. It puts the project into the Management Information System and gives official status to the project.
- C. Work plan.--Lists project milestones and dates for starting and completing each activity.
- D. Project file.--Contains work plans, financial plan, manpower plan, and quarterly reviews. It should also include the report outlines and publication plans.
- E. Annual District program review.--All projects are reviewed annually by the Region.

Report planning should be a major component of project planning, and both should start at the same time. Some major considerations in developing a report plan are given below:

A. Basic Requirements

- A well-prepared project proposal with report plans.
- A detailed report schedule.
- Quarterly review of report plans and progress.

B. Project File

- The report components that belong in the project file are the work schedule, a short outline and an annotated outline, a list of illustrations, and a statement of purpose and scope.

C. Report-Management Team

- Each office should maintain a team for report preparation and review.
- Members of this team should be the District Chief (or Subdistrict Chief), section chief, report specialist, project chief, editor, typist, and illustrator.
- Report responsibility and authority should be defined for each report-team member.
- Regional reports advisors should play a major consulting role in the planning of projects and reports.

D. Report Format

- Determine report series early in project and follow publisher's specifications from the start.

E. Colleague Review

- Insure that qualified personnel are selected as reviewers.
- Obtain at least one review from outside the originating District or Research Project Office.
- Have authors and reviewers attend training courses.
- Use reviewers outside the Geological Survey.
- Use more group review within the originating office.
- Allow time for colleague review.

F. Assistance

- Assistance in report writing may be obtained from District report specialists, Regional reports advisors, and discipline specialists.

G. Recognition of Excellence

- Proficiency in report writing and review is a major consideration for promotion and awards.

H. Some Causes for Poor Reports

- Poorly prepared project proposals.
- Inadequate project planning.
- Author not involved in planning.
- Inadequate funding.
- Poor supervision.
- Lack of interdisciplinary viewpoint.
- Failure to request consultants when needed.
- Lack of a well organized annotated report outline, updated as required.
- Failure to obtain needed field data.
- Incomplete review of project and report status by District Chief, supervisors, and project chiefs.
- Poor technical (colleague) review.
- Failure of author to respond properly to colleague review comments and suggestions.
- Failure of supervisors to check report closely for technical quality of review.
- Poor training of authors, technical reviewers, and editors.

These and other considerations regarding project and report planning and management are stated in detail in the "Water Resources Division Project and Report Management Guide" by John E. Moore and Edith B. Chase, a copy of which may be obtained upon request to the Deputy Assistant Chief Hydrologist for Scientific Information Management. It provides a systematic approach to improving the quality, timeliness, readability, and usefulness of Geological Survey reports.

Subject: REPORT PLANNING AND MANAGEMENT--Report Management

### 2.03.2 Procedures for obtaining a bibliographic search

To keep abreast of pertinent literature and to obtain the documents needed for preparing scientific reports, Geological Survey authors should obtain a bibliographic search early in the project, as well as during the project. A bibliographic search can be done either manually or by computer, depending on the availability of local resources and on the scope of the search.

#### A. Manual Search

1. Define the topic and scope of the literature desired and select 5 to 10 key words or index terms. These should be obtained from the WRSIC<sup>1</sup> "Water Resources Thesaurus" (1980), which is the source book for descriptors used on the draft WRSIC abstract that accompanies all manuscripts. Every District and field office should have a copy.
2. Obtain an abstracting or indexing guidebook that contains references (with or without abstracts) to literature on the topic. The one used most commonly in Division studies is "Selected Water Resources Abstracts," published monthly by WRSIC. Cumulative indexes by author and subject are issued yearly. All Districts receive this publication free of charge.

Additional indexes such as "Chemical Abstracts," "Biological Abstracts," "Pollution Abstracts," and so forth, are available at college and State libraries, and at Geological Survey libraries at Headquarters and in Menlo Park, California and Denver, Colorado. These listings contain full bibliographic references and abstracts.

#### B. Computerized Search

This type of search retrieves information from hard-copy indexing guides that have been converted to a machine-readable form. A computerized search is more efficient than a manual search because of the volume of data available and the speed with which it can be done. The basis for this system is that commercial information-retrieval services purchase machine-readable tapes from the owners of indexing guides, such as "Chemical Abstracts," and manipulate and add the tapes to a central computer. Thus, the original index becomes part of a data base. Online retrieval from the file can increase the number of access points (or indexing terms) by an order of magnitude over individual hard-copy indexes. The three types of data bases are (1) bibliographic, (2) directory, and (3) statistical.

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<sup>1</sup> U.S. Water Resources Scientific Information Center. (See article 9.01.1.)

To obtain a computerized search:

1. Define the topic and choose 5 to 10 key words, then prepare a list of other information that may help define the research topic, such as time and geographic limits. The "Water Resources Thesaurus" may be used in selecting key words; however, most data bases have their own thesauri.
2. Write or phone the nearest regional Geological Survey Library reference desk (Menlo Park, Denver, or Reston) to place the request for literature search. Provide the key words and describe the topic. There may be a charge for the search.
3. The search is conducted through an online information-retrieval system. A printout of references with or without abstracts (depending on the data base) is mailed to the requestor.

C. Sources of Documents

It is the author's responsibility to obtain the actual documents. Most Geological Survey documents not available in libraries are available to authors from the originating office, through the National Technical Information Service<sup>2</sup> or Open-File Services Section<sup>3</sup> on a cost-per-page basis, or through the GPO.<sup>4</sup>

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- <sup>2</sup> WRI/NTIS Reports published before the WRIR series was restructured in May 1982 may be purchased in paper or microfiche copy at cost from:

National Technical Information Service  
5285 Port Royal Road  
Springfield, VA 22161

- <sup>3</sup> Geological Survey Open-File Reports may be obtained through the originating office or purchased at cost from:

U.S. Geological Survey  
Books and Open-File Reports Section  
Federal Center  
Box 25425  
Denver, CO 80225

(Note: The National Mapping Division because of a reorganization has changed the name "Open-File Services Section" (OFSS) to "Books and Open-File Reports Section" (BOFRS). It was not practical to make the name change throughout the text of the "Publications Guide"; however, all addresses reflect the new name.)

- <sup>4</sup> Selected government-produced documents may be purchased from:

U.S. Government Printing Office  
Superintendent of Documents  
Washington, D.C. 20402

Most Federal Publications may be borrowed from the Regional Geological Survey Libraries or obtained through interlibrary loan. To arrange for an interlibrary loan, phone or write the nearest Regional Geological Survey Library reference desk. (See Circular 777 for addresses of Regional Geological Survey Libraries.) State and local government agencies may also be sources for non-Federal publications.

Occasionally, the only way to obtain a document will be to purchase it directly from the publisher.

Subject: REPORT PLANNING AND MANAGEMENT--Report Management

2.03.3 Suggestions for internal review

The internal review process will differ from office to office, depending on staff, number of reports processed annually, and District or office policy. The process may also differ from report to report, depending on the complexity, urgency for release, and publisher's requirements. The basic requirements for review before transmittal to Headquarters are:

1. Section Chief's approval of first draft.
2. General editorial review for coherence, internal consistency, and adherence to Geological Survey publication and editorial policies.
3. Author's revision of edited draft.
4. District Chief's or Regional Research Hydrologist's review.
5. At least two technical reviews of revised draft, with author's written response to comments. For interpretive material, at least one reviewer should be outside the District or Research Project Office.
6. Proofreading and verification review for coherence, accuracy, internal consistency, and adherence to Geological Survey format requirements.
7. Final evaluation by District Chief or Regional Research Hydrologist.

The following procedures have proved useful to many offices in meeting publication deadlines and improving the technical, editorial, and esthetic quality of reports:

1. Hold a planning session soon after the project is approved to discuss report content, scientific significance, intended audience, potential publication outlet, and publication costs.
2. Establish target dates for completion of the various manuscript components. The first draft should be completed and submitted to the section chief six months before the project-termination date.
3. Prepare a detailed outline early in the project and revise it periodically to reflect changes in the course of the study.

4. Write the introduction, purpose and scope, methods, list of references, and table of contents early in the project. Like the outline, these will help keep the author from going astray during the project and will result in fewer last-minute chores for author and reviewers alike.
5. Neatly sketch and hand letter the illustrations at publication size in pencil on mylar. For graphs, use only blue-ruled mylar. On review copies of maps, use only patterns or colors that are easily distinguished. Avoid final drafting until after Director's approval.<sup>1</sup>
6. Have the entire manuscript and illustrations reviewed for coherence, consistency, and accuracy before obtaining colleague reviews. This will save the reviewers time by minimizing editorial distractions. (See article 2.03.5, "Manuscript check lists.")
7. Hold training sessions to instruct and refresh reviewers and authors in Geological Survey policy and publication requirements as well as principles of organization, expression, illustration, and layout.
8. Establish a publications group to coordinate editorial, typing, drafting, layout, and distribution services. Encourage regular contact between authors and the publications group.
9. Be sure that reports are reviewed by qualified people. Select no more reviewers than are needed to guarantee complete review of all topics covered. At least one reviewer (not necessarily a Geological Survey employee), should be outside the originating District or Research Project Office.
10. Obtain simultaneous reviews to save time and enable the author to evaluate all responses at once.
11. Have a section chief within the District review the manuscript after suggestions of colleague reviewers have been incorporated to ascertain whether the reviews and author's responses to them are adequate.
12. Give a final verification review to insure accuracy and completeness of the manuscript.

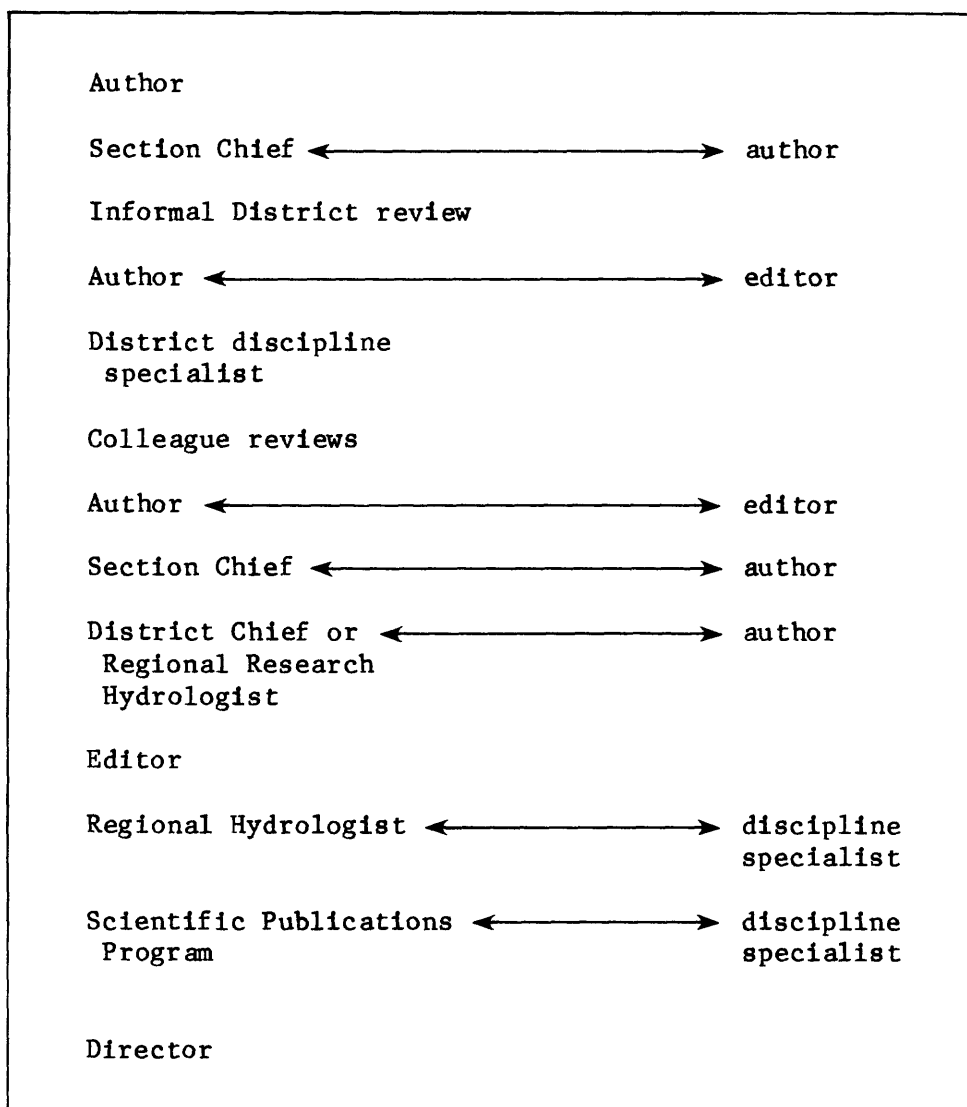
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<sup>1</sup> Most journals and conference proceedings require camera-ready illustrations from the originating office. The manuscript and illustrations should be prepared to publisher's specifications before the manuscript is submitted for Director's approval because this eliminates the need for reformatting later on. The author is responsible for obtaining and following publisher's specifications. Do not submit single-spaced copy for Director's approval.



13. Ensure that all staff members responsible for reports understand their purpose and goals and have ready access to the standard references.
14. Ensure that all required report components and supporting documents are complete and included in the manuscript package transmitted to Region.

The chart below is an example of how a report might proceed for first draft to transmittal for Director's approval.



Subject: REPORT PLANNING AND MANAGEMENT--Report Management

2.03.4 Region and Headquarters evaluation

The Region and Headquarters evaluation is the last quality check for each report before publication. The objectives of these evaluations are to insure technical adequacy, quality of colleague review, and conformance to Geological Survey policies.

Region.--Evaluation of editorial quality and adherence to Geological Survey policies by the Regional reports advisor and technical review by discipline specialists. (Not every report sent to a Region is evaluated by a discipline specialist. The Regional reports advisor generally decides whether a discipline specialist should review a report.)

Headquarters.--Evaluation of technical quality, adequacy of colleague review, and adherence to Geological Survey policies. A check is also made to verify adherence of illustrations and text format to prescribed standards, and conformance of geologic names to those accepted by the Geologic Names Committee.

Director's Office.--Evaluation of conformance to Geological Survey policy.

CRITERIA FOR REGION AND HEADQUARTERS EVALUATION

Colleague Review.--Has the review introduced errors into the report? Did reviewers spend sufficient time on the report? Are comments primarily technical or editorial? Are the technical disciplines represented by the reviewers appropriate for the report content? Was a review summary written? Are all comments answered adequately? Has author taken a constructive approach to criticism?

Report title.--Does it clearly and correctly describe subject of report? Does it indicate the geographic location? Does it have a consulting tone?

Abstract.--Does it describe purpose of the investigation and adequately summarize what the report contributes? Is it free of such phrases as "is discussed" and "are described"?

Introduction and content.--Is the need for the report stated? Are its purpose and scope defined? Is the approach described? Are results described?

Approach.--Were the methods appropriate and techniques valid?

Credit.--Is acknowledgment given for all previous work on which ideas, illustrations, tables, or data are based? Is appreciation expressed for non-Survey cooperation.

Summary, Conclusions.--Are they adequately supported by the data? Do they follow logically from material presented in text? Are assumptions and limitations adequately stated? Do they fulfill purposes of report?

Clarity.--Can the report be readily understood by its intended audience? Is it free of jargon, cliches, and awkward expression?

News Release.--Does it clearly present the facts or is it sensationalistic? Is it written in overly technical language? Is it interesting? Is it supported by the report?

Routing Sheet.--Is publication series suitable? How long has report been in review? Has the report previously been rejected by the Region? Has report been evaluated by the District Chief and Section Chief? How many colleague reviewers are listed? Was at least one reviewer outside the District? Which discipline specialist in the District or Regional office, if any, evaluated the report?

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 2.03.5

Subject: REPORT PLANNING AND MANAGEMENT--Report Management

#### 2.03.5 Manuscript check lists

Accurate, well-written reports are the Water Resources Division's principal tangible product. To insure the accuracy of reports and their conformance to the many Geological Survey and Division editorial standards, a systematic verification review is necessary. Check lists are one means of achieving this goal.

Check lists used in three Districts (Nevada, Maryland, and New York) were selected from among many currently in use to illustrate the procedures that authors and editors should follow during the various stages of report preparation.

The verification-review check lists of the Nevada District are included for use at three critical stages in a manuscript's progress from rough draft to final report. These stages are: (1) just before colleague review, (2) during preparation for transmittal to the Regional Hydrologist, and (3) during final preparation of camera-ready copy.

The check list of the Maryland District is used by the author and by subsequent colleague reviewers.

The check list of the New York District is completed by the author before the report is submitted for editorial review.

INITIAL VERIFICATION REVIEW<sup>1</sup>  
NEVADA OFFICE, WRD

Short title \_\_\_\_\_ Seq. No. \_\_\_\_\_

Senior author \_\_\_\_\_

(Initial each item when complete)

EDITORIAL STAFF'S RESPONSIBILITY

\_\_\_\_\_ Text headings versus "Contents" list: Wording, rank, and page numbers agree.

\_\_\_\_\_ Illustrations list: Type of illustration is indicated (Graph showing---, etc). For figures, this applies only to list, not to titles beneath figures themselves. In other respects, titles in list are complete or properly condensed versions of titles beneath illustrations. Footnote in review manuscript indicates that the page numbers denote location of principal (not necessarily first) references. Author will circle those in text.

\_\_\_\_\_ Tables list: Duplicates titles above tables, omitting units of measure. Footnote in review manuscript indicates that the page numbers denote location of principal (not necessarily first) references.

\_\_\_\_\_ Units of measure: Except for QW and geophysical units, use all metric or all inch-pound, not a mixture of both. For QW and geophysical units (for example, mg/L, milliGals, g/cm<sup>3</sup>), use metric only. Units of measure are always spelled out in abstract, and everywhere else except as follows: abbreviations may be used in tables and illustration "explanations" only where space is a problem. In text, they may be used if the unit of measure is lengthy, the abbreviation saves appreciable space (for example, mg/L for milligrams per liter, acre-ft/yr for acre-feet per year), and it appears frequently in a specific manuscript. Where abbreviations are needed, use proper format (for example, ft<sup>3</sup>/s, not cfs).<sup>2</sup>

\_\_\_\_\_ List of conversion factors: Includes all inch-pound units of measure used in text, illustrations, and tables, and no others.<sup>2</sup> Format correct (plural; first column listed alphabetically; abbreviations in parentheses after each unit). Conversion factors correct (to four significant figures). No scientific notation (1.193 x 10<sup>-3</sup>). Do not list metric water-quality or geophysical units (instead, spell them out in text, parenthetically, after first use of abbreviation). See guidelines for "conversion factors" page.

<sup>1</sup> For use prior to colleague review.

<sup>2</sup> Use "search" feature on word processor to determine frequency or consistency of word use.

- Altitude datum: Explanation of the National Geodetic Vertical Datum of 1929 is included only if text, tables, or illustrations refer to altitude. First reference to altitude in text must be specific ("4,500 feet above sea level," for example, NOT just "Cow City is at 4,500 feet"). Be sure "mean sea level" is replaced with "sea level" throughout manuscript.<sup>2</sup> See guidelines.
- Illustrations and tables: Illustrations and tables themselves are grouped separately, rather than interleaved with text, for easier review. Figure and table captions, column headings, and footnotes are double spaced to facilitate editing. Data within body of table can be single spaced, often with a double space every five lines or so. Mathematical totals checked using word processor.
- Bibliographic References: All references in text, illustrations, and tables, are in list, and vice versa (except in a list of "Selected references"). Authorship and year of publication agree between text and list. Format in text is correct ("and others" for more than two authors; specific page numbers when whole book is not referred to). Format in list is correct (only allowable abbreviations aside from those in title: U.S., v., no., p., State names, and a few others); references are listed in proper alphabetical and, where necessary, chronological order. References to administrative reports (except in another administrative report), and manuscripts not yet approved, are in "written communication" format. See "References" guidelines.
- Manuscript format: Conforms with that of intended publication medium (for example, Water-Supply Paper, open-file report, State bulletin series, journal).
- Editorial aids: Left margins of text, illustrations, and tables show letters identifying references to illustrations, tables, bibliographic citations, and other pages in the manuscript.
- Numerical values in text: Verify agreement with data in tables, illustrations.
- Geographic names: All names in text, tables, and non-map illustrations are shown on a map, unless they are outside the study area and outside the areas covered by maps in the report.
- Trade-name disclaimer: Proper footnote, for first trade name only.
- Conclusions, Summary: All statements and data agree with material shown elsewhere in manuscript (including illustrations and tables). All material in Summary also appears elsewhere in manuscript.

Date of completion for Editorial Staff's items: \_\_\_\_\_

<sup>2</sup> Use "search" feature on word processor to determine frequency or consistency of word use.

## AUTHOR'S RESPONSIBILITY

- Report title: Adequately identifies study topic and study-area location (not just "Nevada," unless study is statewide; however, avoid county names if study area includes more than two counties). Title is as brief as possible, avoiding "the," "a," or "an" as first word. For example, "Ground-water quality in the Talapoosa area, west-central Nevada," rather than "An evaluation of ground-water quality in the Talapoosa area, Nevada."
- Cooperation: Properly expressed credit for cooperation with other Federal or State agency(s) is included on report cover, title page, and, in certain instances, in acknowledgment section (for example, specific individuals), as well as on plates. Provide details; Reports Section will put in proper format.
- Audience: Manuscript is written so it can be understood technically by the intended audience(s), as specified on the green "Nevada manuscript routing sheet."
- Contents list: Rank of headings and subheadings is internally consistent and correct. See new Pub. Guide, pages 289-291. Single subheadings are avoided except in unusual circumstances such as stratigraphic discussions.
- Illustrations and tables: Please circle principal (not necessarily first) references in text. Verify that references to illustrations and tables in the text, as well as in other illustrations and tables, are correctly numbered. Generally, such references in other illustrations and tables should be avoided to reduce the possibility of inadvertent errors.
- Plates: On plates only, title must identify type of illustration and geographic location. For example: "MAP SHOWING CANDIDATE SITES FOR WATER-QUALITY NETWORK, LAS VEGAS VALLEY, CLARK COUNTY, NEVADA." If altitude is referred to on a plate, the term "sea level" may be used, but the phrase "Altitude: National Geodetic Vertical Datum of 1929 (sea level)" or a comparable reference must appear somewhere (preferably under the scale but above the plate title).
- Figures: Except for plates and "facing-page" maps, illustrations should generally conform as closely as possible to size limitations (see Nevada Reports Section Technical Note 9 for guidelines).
- Maps: Scale included (Publications Guide 3.09.1).  
 Land grids (latitude-longitude, township-range) included (3.09.2). Show at least two values each for latitude and longitude (see especially 3.09.2G).  
 North arrow included when required (3.09.6).  
 Base-map credit included when required (3.09.4).  
 Topographic contour interval and altitude datum included when appropriate.  
 Proper credit for geology or hydrology included when appropriate (3.09.5).  
 Proper format, wording, and sequence of items for "Explanations" (3.10.2, 3.06.3; ID-NV Publications Note 1).  
 Title and Explanation typed, double spaced, on separate sheet attached to map for review purposes.  
 Data and site locations proofed against basic-data tabulations.

- Photographs: Credit if photographer is not author. Date of photograph included as part of title.
- Tables of computer output: Abbreviations and symbols are explained in headnotes or footnotes.
- Page-number references: Fill in proper page numbers for references to other specific items in text [for example, "The amount of lake-surface precipitation (page 17) is ---" or "Recharge estimates are discussed on page 23"]. Generally, such references should be avoided to reduce the possibility of inadvertent errors. Where they are used, please indicate location of material to which you refer by listing its page, paragraph, and line numbers (for example, (23/2/6) in the margin adjacent to the page-number reference.
- Calculations: Computed values in text and tables checked for correctness (for example, computed ground-water flow, streamflow averages, dissolved-solids tonnages, etc). Checking preferably not done by person who made original calculations.
- Data and statements in text: Agree with material shown in tables and illustrations, whether specifically referenced or not.
- Non-USGS material: Written permission to publish, and proper credit, are required for photographs, copyrighted material, and unpublished data supplied from outside Survey.
- Written or oral communications: Acknowledged properly, including affiliation of communicator. For example, "--- according to Blair F. Jones (U.S. Geological Survey, written communication, 1975)."
- Conclusions versus objectives: Objectives of the report, as outlined in "Purpose and Scope," are properly accounted for among the conclusions.
- Bibliographic References: For references cited in text, illustrations, and tables, always include a specific page number (or table or illustration number), unless you are referring to the article or book as a whole, or unless an alternative format is required, as in a journal manuscript. Reference to an administrative report is not permitted except in another administrative report; instead, use "written communication" format. See guidelines for "in-press" citations (NV Technical Note 12).

Date of completion for Author's items: \_\_\_\_\_

January 1985



PRINCIPAL VERIFICATION REVIEW<sup>1</sup>  
NEVADA OFFICE, WRD

Short title \_\_\_\_\_

Senior author \_\_\_\_\_ Seq. No. \_\_\_\_\_

(Initial each item when complete. Items marked \* deserve special attention; they did not appear at all, or not in their present form, in the "Initial Verification" form. Don't overlook the other items, though, because the text, illustrations, and tables doubtless have been modified since the Initial Verification.)

EDITORIAL STAFF'S RESPONSIBILITY

\* Year of publication: Last-minute verification of correctness on title page and, for some series, on cover. Allow time for approval.

\* Report title: Adequately identifies study topic and study-area location (not just "Nevada," unless study is statewide; however, avoid county names if study area includes more than two counties). Title is as brief as possible, avoiding "the," "a," or "an" as first word. For example, "Ground-water quality in the Talapoosa area, west-central Nevada," rather than "An evaluation of ground-water quality in the Talapoosa area, Nevada."

\_\_\_\_\_ Text headings versus "Contents" list: Wording, rank, and page numbers agree.

\_\_\_\_\_ Illustrations list: Type of illustration is indicated (Graph showing---, etc). For figures, this applies only to list, not to titles beneath figures themselves. In other respects, titles in list are complete or properly condensed versions of titles beneath illustrations. Footnote in review manuscript indicates that the page numbers denote location of principal (not necessarily first) references. Refer to previous draft for location of principal references.

\_\_\_\_\_ Tables list: Duplicates titles above tables, omitting units of measure. Footnote in review manuscript indicates that the page numbers denote location of principal (not necessarily first) references. Fill in page numbers of principal references as previously circled by author.

\_\_\_\_\_ Units of measure: Except for QW and geophysical units, use all metric or all inch-pound, not a mixture of both. For QW and geophysical units, (for example, mg/L, milliGals, g/cm<sup>3</sup>) use metric only. Units of measure are always spelled out in abstract, and everywhere else except as follows: abbreviations may be used in tables and illustration "explanations" only where space is a problem. In text, they may be used if the unit of measure is lengthy, the abbreviation saves appreciable space (for example, mg/L for milligrams per liter, acre-ft/yr for acre-feet per year), and it appears frequently in a specific manuscript. Where abbreviations are needed, use proper format (for example, ft<sup>3</sup>/s, not cfs).<sup>2</sup> See guidelines for conversions/abbreviations.

<sup>1</sup> For use before transmittal to Regional Hydrologist.

<sup>2</sup> Use "search" feature on word processor to determine frequency or consistency of word use.

- List of conversion factors: Includes all inch-pound units of measure used in text, illustrations, and tables, and no others. Format correct (see guidelines for "conversion factor" page). Conversion factors correct (to four significant figures). No scientific notation ( $1.193 \times 10^{-3}$ ). Do not list metric water-quality or geophysical units (instead, spell them out in text, parenthetically, after first use of abbreviation).
- Altitude datum: Explanation of the National Geodetic Vertical Datum of 1929 is included only if text, tables, or illustrations refer to altitude. First reference to altitude in text must be specific ("4,500 feet above sea level," for example, NOT just "Cow City is at 4,500 feet"). Be sure "mean sea level" is replaced with "sea level" throughout manuscript.<sup>2</sup> See guidelines.
- Illustrations and tables: Illustrations and tables themselves are grouped separately, rather than interleaved with text, for easier review. Captions and explanations are typed double spaced on separate sheets. Data within body of table can be single spaced, often with a double space every five lines or so. Mathematical totals rechecked as necessary using word processor.
- Bibliographic References: All references in text, illustrations, and tables are in list, and vice versa (except in a list of "Selected references"). Authorship and year of publication agree between text and list. Format in text is correct ("and others" for more than two authors; page numbers when reference is not to entire book). Format in list is correct (only allowable abbreviations aside from those in title: U.S., v., no., p., State names, and a few others); references are listed in proper alphabetical and, where necessary, chronological order. References to administrative reports (except in another administrative report), and manuscript not yet approved, are in "written communication" format. See "References" guidelines.
- Manuscript format: Conforms with that of intended publication medium (for example, Water-Supply Paper, open-file report, State bulletin series, journal).
- Editorial aids: Left margins of text, illustrations, and tables show letters identifying references to illustrations, tables, bibliographic citations, and other pages in the manuscript.
- Numerical values in text: Verify agreement with data in tables, illustrations. Values included in abstract and summary must also be in tables, illustrations, or main body of text.
- Geographic names: All names in text, tables, and non-map illustrations are shown on a map, unless they are outside the study area and outside the areas covered by maps in the report.
- Trade-name disclaimer: Proper footnote, for first trade name only.
- \* — Contents list: Rank of headings and subheadings is internally consistent and correct. See new Pub. Guide, pages 289-291. Single subheadings are avoided except in unusual circumstances such as stratigraphic discussions.

- \* Illustrations list: If more than 2 consecutive figures are of the same type, their titles are combined in the following manner:
  - 7-9. Photographs of Lake Abert showing:
    - 7. Maximum level attained in June 1958 -----
    - 8. Beach line at an altitude of 4,269.7 feet ---
    - 9. Anchored instrument raft -----
- \* Plates: On plates only, title must identify type of illustration and geographic location. For example: "MAP SHOWING CANDIDATE SITES FOR WATER-QUALITY NETWORK, LAS VEGAS VALLEY, CLARK COUNTY, NEVADA." If altitude is referred to on a plate, the term "sea level" may be used, but the phrase "Altitude: National Geodetic Vertical Datum of 1929 (sea level)" or a comparable reference must appear somewhere (preferably under the scale but above the plate title).
- \* Figures: Except for plates and "facing-page" maps, illustrations should generally conform as closely as possible to image-area limitations (see Nevada Reports Section Technical Note 9 for guidelines).
- \* Tables of computer output: Abbreviations and symbols are explained in headnotes or footnotes.
- \* Written or oral communications: Acknowledged properly, including affiliation of communicator. For example, "--- according to Blair F. Jones (U.S. Geological Survey, written communication, 1975)."
- \* Structure of report: The organization follows good writing practices (each sentence relates to the topic of its paragraph; each paragraph relates to the topic of its section; and all sections relate to the objective of the report). The report does not include biased statements and recommendations (watch for "should" and "must") nor direct or implied criticism of specific organizations or individuals. Flag any material you feel is extraneous, unclear, or prejudiced.

Date of completion for Editorial Staff's items: \_\_\_\_\_

#### AUTHOR'S RESPONSIBILITY

- \* Text: Numerical values may be repeated three or more times (in abstract, main body, and Summary). Be sure such repetitions are checked for agreement throughout.
- \* Abstract: Contains nothing that isn't in report. Gives all pertinent results (facts) and conclusions, but preferably contains less than 500 words (about 2 typewritten pages, double spaced). No abbreviations used for units of measure.
- \* Illustrations and tables: References to illustrations and tables in the text, as well as in other illustrations and tables, are correctly numbered. Generally, such references in other illustrations and tables should be avoided to reduce the possibility of inadvertent errors.

- \* Illustrations and tables: Titles and explanations of similar illustrations have similar wording; likewise for titles and column headings of similar tables. Geographic area is not included in figure and table titles if it is about the same as that given in the report title. Dates should be included here (if not inherent in report title) but may be omitted from lists of illustrations and tables.
  
- Maps: Scale included (Publications Guide 3.09.1).  
 Land grids (latitude-longitude, township-range) included (3.09.2). Show at least two values each for latitude and longitude (see especially 3.09.2G).  
 North arrow included when required (3.09.6).  
 Base-map credit included when required (3.09.4).  
 Topographic contour interval and altitude datum included when appropriate. Proper credit for geology or hydrology included when appropriate (3.09.5). Proper format, wording, and sequence of items for "Explanations" (3.10.2, 3.06.3; ID-NV Publications Note 1).  
 Data and site locations proofed against basic-data tabulations.
  
- Photographs: Credit if photographer is not author. Date of photograph included as part of title.
  
- Calculations: Computed values in text and tables checked for correctness (for example, computed ground-water flow, streamflow averages, dissolved-solids tonnages, etc). Checking preferably not done by person who made original calculations.
  
- Data and statements in text: Agree with material shown in tables and illustrations, whether specifically referenced or not.
  
- Page numbers: References to other specific pages or sections in text [for example, "The amount of lake-surface precipitation (page 17) is ---" or "Recharge estimates are discussed on page 23"] must be checked for accuracy. Generally, such references should be avoided to reduce the possibility of inadvertent errors.
  
- \* Significant figures: Calculated values in text, tables, and illustrations shouldn't indicate more significant figures than are justified ( $365.3 \times 25 = 9,100$  rather than 9,132.5). Round off properly.
  
- Non-USGS material: Written permission to publish, and proper credit, are required for photographs, copyrighted material, and unpublished data supplied from outside Survey.
  
- \* Quotations: Proofed against original source, word by word (also, verify page numbers in original reference). Editorial staff can do this if you will provide the source.

- \* Ground-water site designation: Proper format must be used for the "local" (Nevada) identification. Complete designation is "108 N13 E25 5ABBB1." Note use of capital letters. Abbreviated designations (for example, N13 E25 5ABBB1, if report discusses only one hydrographic area, or even 5AB or ABBB1, etc., on a map) can be used in all places except well-data and spring-data tables. Fifteen-digit site ID's should be included along with the "local" identifications in the data tables.
  
- Conclusions versus objectives: Objectives of the report, as outlined in "Purpose and Scope," are properly accounted for among the conclusions.
  
- \* Conclusions, Summary, and Abstract: All statements and data agree with each other and with material shown elsewhere in main body of manuscript (including illustrations and tables). All material in Summary also appears elsewhere in manuscript.
  
- \* Changes resulting from colleague and editorial review: Verify that all such changes have been completely and accurately transferred to revised manuscript.
  
- \* Entire manuscript: Read carefully, word by word (including illustrations and tables), before transmittal to Regional office or District Chief. The bare truth is that you, as the author, are responsible for the finished product.
  
- \* WRSIC abstract, news release: Items, in proper format, prepared after colleague review for transmittal to Regional office. Neither contains anything that isn't in report. See Reports Section for guidelines.
  
- \* WATSTORE: If the report states that basic data are available in WATSTORE, the data should in fact be entered, and the entries should be checked for accuracy, prior to publication or release of the report.
  
- \* Proofing basic data: For typed (nonprintout) tabulations of basic data, proof orally against originals (well logs, laboratory analytical sheets, etc.). The editorial staff is available to help you with this.

Date of completion for Author's items: \_\_\_\_\_

January 1985

FINAL VERIFICATION REVIEW<sup>1</sup>  
NEVADA DISTRICT

Short title \_\_\_\_\_ Seq. No. \_\_\_\_\_

Senior author \_\_\_\_\_ EA: \_\_\_\_\_

(Cross out A, for author, E, for Editorial staff, I, for Illustrator, R.S., for Reports Specialist, or D.C., for District Chief, when complete)

PART 1. BEFORE FINAL SINGLE SPACING

- E     Text: All changes on approved copy properly transferred to final version and proofed. Text checked carefully for corrections that may be repetitive (use "search" feature on word processor).
  
- E     Title: Identical on cover, title page, and first page of text.
  
- E     "Contents" list: Wording and rank of headings agree with text.
  
- E     Table list: Duplicates titles above the tables themselves, omitting units of measure.
  
- E     Editorial aids: Left margins of text, illustrations, and tables show letters identifying (1) references to illustrations, tables, and other pages in the manuscript, and (2) items that will require italics and scientific symbols in camera-ready copy.
  
- E     Figures and tables: All caps for the words "figure" and "table" in titles themselves (not in lists). In tables, mathematical totals rechecked as necessary (use addition feature on word processor).
  
- A     Abstract and summary: Still agree with illustrations, tables, and main body of text (all items, including numerical values, that were changed or removed during review are also resolved in abstract and summary).
  
- A     Illustrations and tables: Specific references in text, as well as in other illustrations and tables, are correctly numbered. Circle the principal (not necessarily first) reference in text for each figure and table.
  
- A     Page references: Indicate page number(s), paragraph number(s), and line number(s) for references to other pages in text (such references can be in illustrations and tables as well as in the text itself).

---

<sup>1</sup> For use during final preparation of camera-ready copy, after Director's approval.

A Information that was preliminary or provisional (unpublished) when first included: Verify current status, and modify reference to it (and list of references) if necessary. For example, are "in press" or "written communication" citations still correct, or has their status changed?

A Text: Entire manuscript read carefully for final time.

R.S. Final scan: Text and tables scanned by Reports Specialist prior to final single-spacing.

## PART 2. AFTER CAMERA-READY ILLUSTRATIONS ARE COMPLETE

A,E Illustrations: Final versions carefully proofed against review copies.  
R.S.

E Illustrations list: Titles are complete or properly condensed versions of those beneath the illustrations.

## PART 3. AFTER FINAL PAGE LAYOUT

### DO AFTER COPY #1

E Proofread: All changes/corrections made during Parts 1 and 2 have been carefully proofread.

E Cover and title page: Coincides with guidelines concerning format (type style, spacing, capitalization, seal, etc.).<sup>2</sup> Year of publication correct on title page and, for some series, on cover.

E Back of title page: Use our preprinted copies.

E,A Symbols: Verify that all symbols are correct (incorrect printwheel can give "%" rather than "±," for example).<sup>2</sup>

E Page references: References to other pages in text have correct page numbers (such references can be in illustrations and tables as well as in the text itself), or correct section name.

E Bibliographic reference list: References are in proper alphabetical and, where necessary, chronological order.

E Illustrations and tables: Incorporated into text according to author's designation of principal references.

---

<sup>2</sup> Verify on word-processor screen and after print out. In some cases, "search" feature can be used.

- E Page numbers: Page numbers in lists of contents, illustrations, and tables agree with text (be sure this isn't done until final space allotments have been made for figures and tables).
- A Formulas: Proofread formulas carefully to ensure correctness of, and proper relationship between, all components.

## DO AFTER COPY #2

- E Page numbers: All centered, on same line, for uniform appearance and printer's needs.<sup>2</sup>
- E Line check: Final pages checked line by line against double-spaced version to be sure lines and paragraphs have not been inadvertently deleted or repeated.
- E Margins: Proper margins on all four sides (Binding margins correct).<sup>2</sup>
- E Italics: Added where necessary on camera-ready copy (table titles, footnote numbers and letters, equation letters, etc.).<sup>2</sup>
- A,E, Final examination: Text, illustrations, and tables examined carefully by I, Reports Section staff and author. Author indicate any extra copies R.S. of published report needed.
- E News release: Approved by cooperator (see routing step G3a).
- E,A Reproduction quality: Careful appraisal after printing but prior to distribution.

March 1986



Maryland

## DISTRICT REVIEW

MANUSCRIPT ROUTING SHEET

Author(s)										Project No.			
Title													
Type of Publication													
CODE: <input checked="" type="checkbox"/> Step checked. Author can resolve minor suggestions. <input checked="" type="checkbox"/> Step requires review after author resolves problems.													
Signature	Date		Hours	Check Step(s) Reviewed								Next Routing	
	In	Out		Verify				Technical	Editorial	Illus-trations			
				Math	Tables	Text	References			Content	Style		
Author													

Report is ready for Colleague Review.

Date \_\_\_\_\_

Initials \_\_\_\_\_

MD1979  
Rev. 1982

Maryland

## DISTRICT-REVIEW CHECKLIST

REFER TO: Suggestions to Authors, Sixth Edition (STA 6), Fifth Edition (STA 5)  
WRD Publications Guide (Pub Guide)  
GPO Style Manual  
Stratigraphic Nomenclature in Reports of the U.S.G.S.

Checklist is to be used as a reminder of items with frequent problems, but  
do not restrict review to listed items.

Mark step(s) and items considered as per code and sign District routing sheet.

CODE: ☒ = Checked. Author can resolve minor suggestions.  
☒ = Requires review after author resolves problems.  
☐ = Not considered or not applicable.

## Author

- ☐ Illustrations and tables are legible.  
☐ Text has been proofread.  
☐ Author has reviewed assembled draft.

## Author

1st Review	Follow-up Review (If needed)
---------------	------------------------------------

Verify - Math

- |                          |   |                          |                          |                          |
|--------------------------|---|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | All computations are accurate.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Mathematical expressions are accurate.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Mathematical expressions agree with source,<br>if referenced.                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | All elements of mathematical expressions are<br>defined (except standard arithmetic symbols). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Verify - Tables

All quantities, locations, well numbers, station numbers,  
names, etc:

- |                          |   |                          |                          |                          |
|--------------------------|---|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | Agree with source.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Are consistent with text, illustrations, and other<br>tables. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Verify - Text

All quantities, locations, well numbers, station numbers,  
names, etc:

- |                          |  |                          |                          |                          |
|--------------------------|--|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | Agree with source.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Are consistent with tables, illustrations, and<br>elsewhere in text. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | All locations are shown on map or are described.                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Maryland District-review check list

Author

1st  
ReviewFollow-up  
Review  
(If needed)Illustrations - Content

- |                          |  |                          |                          |                          |
|--------------------------|--|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | Show what text and title say they show.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Referred to in text.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Information presented is consistent with text, tables, and other illustrations.          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Control points and values are shown or otherwise provided. (Exceptions are justifiable.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Information presented agrees with control.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Illustrations - Style

- |                          |   |                          |                          |                          |
|--------------------------|---|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | Titles and list of illustrations.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Base-map credit.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Geologic and hydrologic mapping credit.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Bar or rake scale.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | North arrow or lat.—long.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Map explanation format.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | All information is explained, except common base-map features.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Example in explanation is duplicate of information shown on map.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Geologic cross sections are prepared according to Pub Guide.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Geologic cross sections agree <u>in detail</u> with trace on map, with other sections, and with well or other data. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Graphs and related diagrams follow Pub Guide.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Maryland District-review check list (continued)

Author		1st Review	Follow-up Review (If needed)	
<u>Verify - References (STA 6, p. 74-81)</u>				
<input type="checkbox"/>	Referenced material agrees with source.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Quotations are exact, except as noted in STA 6, p. 92.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Reference is cited correctly in text and citation includes page or illustration number(s).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	References are given accurately in list of references.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Technical</u>				
<input type="checkbox"/>	Title reflects report content.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Purpose and scope are clearly stated.			
<input type="checkbox"/>	Body and terminal section relate to purpose and scope.			
<input type="checkbox"/>	Organization is logical.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Statements are valid and accurate, and are consistent with statements elsewhere in report.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Interpretations and conclusions are logical.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Data, assumptions, opinions, and interpretations are clearly distinguishable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Editorial (STA 6, p. 12, p. 23-26, p. 74-98, p. 206-257)</u>				
<input type="checkbox"/>	Organization is clear.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Statements cannot be misunderstood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Discussion is brief and to the point.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Material in tables and illustrations is referred to, but not repeated, in text, except where needed for clarity or emphasis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Fiscal cooperation is stated in the introduction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

U.S. GEOLOGICAL SURVEY  
New York District

August 1982

MANUSCRIPT CHECK LIST FOR AUTHORS

Title \_\_\_\_\_

Authors \_\_\_\_\_

Publications Series \_\_\_\_\_ Project no. \_\_\_\_\_

This form must be completed by the author and signed by his supervisor before the report is submitted to the Publications Unit for processing. The author writes in each box either his initials to indicate OK or a dash if the item is not applicable. The author is expected to be familiar with the pertinent sections of STA and WRD Publications Guide.

A. MANUSCRIPT

Entire manuscript is double spaced to allow editorial work	
Purpose of study is stated in introduction; report fulfills stated purpose	
Publisher's specifications have been obtained and followed; copy of specification sheet for non-Survey reports is included with manuscript	
Preliminary pages and support documents are in correct format. (Refer to WRD Pub. Guide and published samples; cross out those that do not apply) <input type="checkbox"/> cover <input type="checkbox"/> conversion table <input type="checkbox"/> title page <input type="checkbox"/> text abstract <input type="checkbox"/> table of contents <input type="checkbox"/> press release <input type="checkbox"/> list of illustrations and tables <input type="checkbox"/> WRSIC sheet	
Title of report is as short and explicit as possible	
Wording of title is same on cover, title page, abstract, and support documents	
Cooperating agencies are named on cover, title page, and in introduction	
List of illustrations identifies each figure as map, graph, photo, etc.	
Conversion table contains all units of measure used in text, illustrations, and tables; conversion factors have been verified	
Use of metric or U.S. Customary units is consistent in text, tables, and figures	
Acknowledgments are in accordance with STA guidelines (6th ed., p. 44)	
Abstract is written in accordance with WRD Pub. Guide and tells what report contributes	
Abstract and conclusions contain only information that is given in text	
Pagination is consecutive with cover page as 1 (not i)	
Headings and subheads are in publisher's style (see published reports); their rank is indicated by indentation in table of contents	
Each illustration and table is referred to in text; its location in text is indicated by a "cut-in" following principal reference	
Caption sheet follows the principal reference to each figure; multiple captions are listed on same sheet	

Wording on caption sheets agrees with that in list of illustrations except that phrase "map showing" is omitted	
Routing sheet is complete and up to date	
WRSIC abstract is double spaced, contains 200 words or less, and fits on one page	
Press release (if needed) is lively and written in accordance with WRD Pub. Guide	
Letter of permission to publish has been requested from cooperator (needed from Federal cooperators only)	

## B. ILLUSTRATIONS

Final illustrations will be done by: <input type="checkbox"/> District draftsman <input type="checkbox"/> Publisher	Number of figures _____ Number of plates _____	
Special presswork (color, oversize, foldout) is within publisher's capability		
Each illustration is essential and is referred to in text		
Illustrations are designed in accordance with WRD Pub. Guide		
Similar illustrations are consistent in format and wording		
Explanations within figures and plates are complete and in accordance with WRD Pub. Guide		
All illustrations (except plates) are page size or smaller and reproducible		
Final lettering will not need to be smaller than 8 point (This is 8point)		
All maps show lat., long., and scale		
General location map is included in first appropriate figure		
Base maps have been discussed with draftsman to determine manner of data presentation. Same base is used wherever possible		
Figures are together at end of report, not within text		
Each figure is clearly numbered; caption is attached on a separate page		

## C. TABLES

All tables are essential and are referred to in text	
Table headings are as short and descriptive as possible	
Similar tables are consistent in format and wording	
Data in tables have been cross checked against illustrations and text	
Tables conform to Survey style (STA and recent Survey pubs. contain examples)	
Regular tables follow principal reference in text; lengthy tables and computer printouts are at end of report.	
Principal reference to each table is followed by a "cut-in" notation	

Author's supervisor \_\_\_\_\_ Date \_\_\_\_\_

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 2.03.6

Subject: REPORT PLANNING AND MANAGEMENT--Report Management

2.03.6 Manuscript Routing Sheet (Water Resources Division  
Memorandum No. 85.17)

November 13, 1984

WATER RESOURCES DIVISION MEMORANDUM NO. 85.17

Subject: PUBLICATIONS--Revised Manuscript Routing Sheet, Form 9-1531,  
July 1984

Attached is a new manuscript routing sheet, Form 9-1531, dated July 1984. Please disregard all manuscript routing sheets issued before that date and use the July 1984 routing sheet for all future reports. Supplies of the new routing sheet are available from the Administrative Division forms supply sources in Reston, Denver, and Menlo Park.

The reverse side of the new routing sheet includes guidelines for technical reviewers. We hope that technical reviewers will find the guidelines helpful.

In completing the manuscript routing sheet, please observe the following procedures:

1. Original (printed) routing sheet and black ink should be used. Copies of routing sheet or blue ink do not reproduce satisfactorily.
2. All entries must be printed or typed.
3. Author's name at the top of the form should be shown as in the following examples:

Jackson, Thomas C.

Jackson, T. C.

Jackson, Thomas (first name full if  
no middle initial)

Authors should use a consistent style of name on manuscript routing sheets and reports throughout his or her career. This will assure proper credit and allow sorting of reports by author in the Reports Tracking System. Supervisors and reviewers should also be consistent in how they show their names on the manuscript routing sheet.

4. Project number should be shown with no spacing, hyphens, or dashes. Year should not be shown. The number must be preceded by the two-letter State name. For example:

AK119 (not AK 84-119)

CA971 (not CA97100)

VA053 (not 00-053)

5. Title of report must be consistent with that shown in the report.
6. The name of the cooperating agency, if any, should be shown. Indicate whether the agency is a State, Federal, Foreign, or a private organization.
7. Either a "Yes" or "No" box must be checked to indicate whether report contains geologic names.
8. After completion of Regional approval, the next routing for Headquarters approval is:

Chief, Scientific Publications Program  
Water Resources Division  
U.S. Geological Survey  
435 National Center  
Reston, Virginia 22092

If you have any questions, please call or write to K. T. Iseri, Chief, Publications Management Unit, FTS 928-6867.<sup>[1]</sup>

William B. Mann IV  
Acting Assistant Chief Hydrologist  
for Scientific Publications  
and Data Management

---

Scientific Publications and Data Management (SP&DM) was changed to Scientific Information Management (SIM) on September 16, 1985.

<sup>1</sup> FTS 959-5643 as of April 15, 1986.



Subject: REPORT PLANNING AND MANAGEMENT--Report Management

### 2.03.7 Water Resources Division report-tracking system

To meet a long-standing need for a method of tracking report manuscripts through the various stages of review, a computerized system, the Report Tracking System (RTS) was implemented in 1980 to document the progress of each report received at Headquarters for processing and Director's approval. Although originally designed for "report tracking" this system subsequently was expanded to include a bibliographic reference system. The data-base management system utilizes the INFO software by Henco Software Incorporated.<sup>1</sup>

When a report is first received at Headquarters, the Publications Management Unit (PMU), in the Scientific Publications Program (SSP), enters information from the routing sheet into the data base. Changes in the status or updates of reports are made daily to provide current information on the reports in Headquarters. Thus, it is possible to obtain a wide variety of current information on the progress of a report including:

1. Current review status of a particular report or all reports for a given Region or District.
2. Listing for a Region or District of all reports in Headquarters pending Director's approval for a specified year.
3. Listing of all reports approved for a given District or Region for a specified year.
4. Statistical data such as time spent at each review step at District, Region, and Headquarters.
5. Bibliographic listing for reports in the RTS since January 1980.

All WRD personnel who are members of the RTS Users Group can access the RTS. Contact the PMU for information on access.

### COMPONENTS IN THE REPORT-TRACKING SYSTEM DATA BASE

#### Components from Manuscript Routing Sheet

Project Number.--Number assigned by the originating office (such as NV061).

Originating Office.--Office (District, Subdistrict, Region) where report originated.

---

<sup>1</sup> Use of trade name in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.

Region.--Region in which report originated.

WRD Number.--Number assigned to report by SPP (such as 80-W-0324) when the report is first logged in by PMU.

Date Review Began.--Date author submitted the report for review (first entry on routing sheet).

Title of Report.--Title of report as well as number of pages, illustrations, tables (including number of pages in the tables).

Name of Author(s).--Last name, first initial, middle initial, or full first name if no middle initial.

Final Approval Date.--Date of Director's approval for a Headquarters approved report (date approved in Region for Regional approved report).

Publishing Agency.--Geological Survey, State, professional society, or other publisher.

Type of Publication.--For example, Water-Supply Paper, Professional Paper, Open-File Report, AWWA Journal, etc.

Report Routing Information.--Includes the office, step or title of reviewer, name of reviewer, topics reviewed, date in, date out, hours spent on review, and remarks related to review process.

#### After Publication

Authors of formal Geological Survey reports do not need to provide published copies to the PMU; bibliographic information will be provided by SPP. Authors of informal Survey reports (such as Water-Resources Investigations Reports and Open-File Reports) and non-Survey reports (such as cooperator series, journal articles, and abstracts) must provide copies to the PMU upon publication. If copies are not available, the author must provide the following bibliographic information to the PMU for entry into the RTS.

Date Published.--Year of publication.

Number Assigned to Published Report.--Series description.

Complete Bibliographic Reference.--Author name(s), date of publication, title, series, volume number, number of pages, and number of illustrations, plates, and number of figures. Bibliographic information may be entered into the RTS or may be updated by persons in District, Region or other field offices who are authorized to perform career development functions for the respective office staff. In order to access the restricted bibliographic files of the Headquarters' RTS, for this purpose, this person must be registered in the BIB.UPDATE Users Group in Headquarters. The PMU should be notified of the field office person(s) for membership to this users group.

Subject: REPORT PLANNING AND MANAGEMENT--Report Management

2.03.8 Processing contractor-prepared reports

This article describes procedures for the preparation, review, and publication of manuscripts based on research or investigations conducted (1) by a contractor under Geological Survey auspices, to be published by the Geological Survey or by the contractor, or (2) by the Geological Survey for a fee at the request of a commercial publisher. The term "contractor" is defined as the recipient of Geological Survey funds through contract, cooperative agreement, or grant.

PROCEDURES FOR CONTRACTOR-PREPARED REPORTS BASED ON RESEARCH OR INVESTIGATIONS CONDUCTED UNDER GEOLOGICAL SURVEY AUSPICES

Reports Published by the Geological Survey

A report prepared by a contractor for publication by the Water Resources Division must receive the same technical and editorial review as any other formal Geological Survey publication, including Director's approval. Examples of technical report-preparation specifications prepared by the Branch of Procurement and Contracts are at the end of this article. These specifications, or versions thereof, modified to meet specific needs, should be included in any contract, cooperative agreement, or grant that requires preparation of a publishable technical report by a contractor.<sup>1</sup> The originating Division office, working through the Contracting Officer's Representative (COR)<sup>2</sup> is responsible for ensuring that the report meets the technical and editorial standards of the Geological Survey (and those standards explicitly stated in the contract, cooperative agreement, or grant), and for requesting Director's approval for publication or release. The contractor should use the "Style Manual," "Suggestions to Authors," and the "Water Resources Division Publications Guide" to insure that the prepared report meets Geological Survey standards and is in the proper format. Achievement of the required standards will be facilitated by close interaction between the originating office, the COR, and the contractor.

---

<sup>1</sup> Assistance in preparing specification contracts for contractor-prepared reports can be obtained from the Chief, Policy Section, Branch of Procurement and Contracts, U.S. Geological Survey, 205 National Center, Reston, Virginia 22092.

<sup>2</sup> The Contracting Officer's Representative (COR) is selected by the Branch of Procurement and Contracts in liaison with the Regional Program Officer.

If the manuscript is rejected by Headquarters, it will be sent back to the originating office for revision and must be resubmitted for Director's approval. Approved manuscripts to be published through Headquarters will be routed to the Scientific Publications Program after approval.

Manuscripts approved for release to the open file will be returned to the originating office with an an Open-File Report number assigned by the Scientific Publications Program, and the necessary transmittal forms for release by the originating office. (The required distribution of copies of Open-File Reports is given in article 8.01.1). For all Open-File Reports, the contractor is to provide reproducibles that correspond to the Director-approved version.

Reports Published by the Contractor or in Outside Journals

- A. The contractor must be informed that, for all Government-sponsored reports to be published in outside journals, the Government may publish, reproduce, and use any part or all of the report in its final, published form in any manner and for any purpose, without limitation, and may authorize others to do the same. Manuscripts submitted to journals for publication, therefore, must be accompanied by the following notation in the letter of transmittal:

This manuscript is submitted for publication with the understanding that the United States Government may reproduce and distribute reprints or may authorize the reproduction and distribution of reprints for governmental purposes.

- B. Contractor-prepared reports to be published in outside journals, and reports prepared by contractors for other agencies in support of work funded by the Geological Survey, do not necessarily require Geological Survey review and approval. However, such approval may be specified at the discretion of the COR or Regional Program Officer.
- C. One information copy of each contractor-prepared journal article or report prepared for and released by other agencies in support of work funded by the Geological Survey shall be submitted to the COR or Regional Program Officer prior to publication. Fourteen copies of reprints of each report should be provided for internal Geological Survey distribution, as previously noted.

Manuscript Format

- A. The introduction or title page of each contractor-prepared technical report must contain the following information:

Contract Number

Name of Contractor

Principal Investigator

Contract Officer's Representative

Short Title of Work

Effective Date of Contract

Contract Expiration Date

Amount of Contract

Date Report is Submitted

- B. The cover of each report or publication must include the following citation on the cover:

Sponsored by the

U.S. Geological Survey

No. 14-08-0001-\_\_\_\_\_ (insert contract  
or grant number)

- C. Disclaimer. The cover and title page of each technical report produced under this contract will prominently display a notice of disclaimer, worded essentially as follows:

The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government.

- D. Reports prepared by a contractor for outside publication (journals, symposiums, and so forth), or for other agencies in support of work funded by the Geological Survey, must also include a statement of Geological Survey support, such as:

Research supported by the U.S. Geological Survey

Department of the Interior

Contract Number \_\_\_\_\_

Specifications of Contractor-Prepared Reports

The technical report(s) must present a concise and factual discussion of technical findings and accomplishments. These report(s) should be of publishable quality. The standards and format presented in the "Style Manual," "Suggestions to Authors," and the "Water Resources Division Publications Guide" should be used to prepare the report(s). The report(s) should be organized as follows:

- A. Each subject shall include a detailed narrative or analysis of the work performed, or of the completed phases of the study. Appropriate photographs, schematic diagrams, charts, tables, methods, and so forth may be included. Negative findings are as significant as positive findings. Innovations and advances in technology are of special interest and should be included.
- B. The initial report should specify plans regarding the contractor's objectives, goals, personnel requirements, and so forth to accomplish the work set forth in the proposal. The interim reports should reflect the contractor's progress in accordance with the initial plan.
- C. Reports should include conclusions and recommendations drawn from the results to date.
- D. Reports should include full citations of referenced works. Reference should also be made to reports written or published as a result of research under the same contract. Although such reports will not be accepted in lieu of a final report, copies should accompany the final report.
- E. Each report should be accompanied by a separate summary. The summary should not exceed three pages. Report title, author(s), affiliation, and date should appear at the top of the first page of the summary. Report summaries for all contracts and grants may be reproduced and distributed as part of a semiannual program summary.

Progress Reports

- A. The contractor should submit monthly progress reports of all work accomplished during each month of contract performance. Reports should be in narrative form, brief, and informal in content. Monthly reports should include:

1. A quantitative description of overall progress;
2. an indication of any current problems that may impede performance, and proposed corrective action; and
3. a discussion of the work to be performed during the next month.

Monthly progress reports should be submitted as reproducible copy accompanied by the the number of copies specified in the Schedule.

- B. The contractor should also submit separate quarterly reports of all work accomplished during the previous three months. In addition to factual data, these reports should include a separate analysis section that interprets the results, recommends further action, and relates the results to objectives of the contract work. Sufficient illustrations should be included to convey the intended meaning. Quarterly reports should be submitted as reproducible copy, accompanied by the number of copies specified in the Schedule.
- C. The contractor should submit a final report that documents and summarizes the results of the entire contract work, including recommendations and conclusions based on the experience and results obtained. The final report should include tables and illustrations sufficient to explain the results. The final report should be submitted as reproducible copy, accompanied by the number of copies specified in the Schedule.

PROCEDURES FOR REPORTS PREPARED BY THE GEOLOGICAL SURVEY  
FOR COMMERCIAL PUBLISHERS

Under certain circumstances, the Geological Survey may serve as a contractor for (receive payment from) a commercial publisher. A report (abstract, article, chapter, section) written by the Geological Survey at the request of a publisher for inclusion in a magazine, book, or other commercial publication requires Director's approval. The author's affiliation with the Geological Survey must be indicated either as a footnote on the page bearing the title and authorship of the report or in the table of contents of the publication. Payment for the report should be by check payable to the U.S. Geological Survey.<sup>1</sup>

---

<sup>1</sup> Submit check and a memorandum briefly outlining the circumstances to: Chief, Scientific Publication Program, 439 National Center, Reston, VA 22092.

The report must be accompanied by the following notation in the letter of transmittal to the publisher:

This manuscript is submitted for publication with the understanding that the United States government may reproduce and distribute reprints or may authorize the reproduction and distribution of reprints for governmental purposes.





# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

## SECTION 3

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WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 3.01.1

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE REPORTS--Documents and Components Required for Each Series

3.01.1 Chart listing required documents and components

		MANUSCRIPT TO BE RELEASED THROUGH																				REMARKS	
		WRD HEADQUARTERS						ORIGINATING OFFICE						OUTSIDE AGENCY									
		TYPE OF RELEASE						TYPE OF RELEASE						TYPE OF RELEASE									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
Type of approval required	District Chief	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	File one copy in originating office pending approval	
	Regional Hydrologist	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
	Director	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Copies needed for approval	One																						
	Two	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
	Three																						
CONTENTS OF MANUSCRIPT PACKAGE	TEXT	Cover Page	•	•	•	•	•					•	•	•	•	•		•					Prepare according to "WRD Publications Guide" and instructions beginning on p. 37 of "Suggestions to Authors," 1978 ed., or instructions of non-Survey publisher of journal
		Title Page	•	•	•	•	•		•	•	•	•	•	•	•	•		•					
		Back of title page	•	•	•	•	•					•	•	•	•	•		•					
		List of contents	•	•	•	•	•		•	•	•	•	•	•	•	•		•					
		List of illustrations and tables	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•					
		Table of conversion factors and abbreviations	•	•	•	•	•		•	•	•	•	•	•	•	•		•					
		Abstract in text	•	•	•	•	•					•	•	•	•	•		•					
		Text, including references	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	ILLUSTRATIONS	Copies of illustrations	•	•	•	•	•		•	•	•	•	•	•	•	•		•					Attach to manuscript package
		Copy of page giving figure no. and caption	•	•	•	•	•		•	•	•												One set for each copy of manuscript
		Copy of list of illustrations	•	•	•	•	•		•	•	•												Attach to package of illustrations
		Illustrations checklist	•	•	•	•	•		•	•													Attach to first set of illustrations
		Original illustrations						•															Use scale-stable material
	SUPPORTING DOCUMENTS	Memo of transmittal from District Chief to Regional Hydrologist	•	•	•	•	•		•	•	•	•	•	•	•	•		•	•	•	•		Tell series, project, purpose, special considerations, colleague reviewers
		Manuscript routing sheet	•	•	•	•	•		•	•	•	•	•	•	•	•		•	•	•	•		
		Draft WRSIC abstract	•	•	•	•	•		•	•	•	•	•	•	•	•		•					Submit three copies
		News release	•	•	•	•	•		•	•	•	5	5	6				6					Submit original and one copy
		Letter of justification in all formal series	•	•	•	•	•		•	•	•												
		Comments of colleague reviewers, with author's response	•	•	•	•	•		•	•	•	•	•	•	•	•		•	•	•	•		
		Note for monthly list of Survey publications	•	•	•	•	•		•	•	•												Submit original and three copies
Letter from OFA cooperator concurring to USGS publication		•	•		•	•		•	•	•	•	•	•	•	•								
Letter of permission to use copyrighted material		•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•		
Instructions to contributors (or equivalent)																			•				
Mockup of report		8	8		8			•	•	•	8	8					8						

1 District Chief forwards manuscript to Editor, WRD Bulletin.

2 District Chief forwards camera-ready copy to GPO for duplication.

3 Distributed by originating office.

4 May require approval by Regional Hydrologist or Director, if so, news release, routing sheet, and transmittal memorandum are required.

5 News release required if release is prior to "New Publications of the U.S. Geological Survey" announcement.

6 News release is optional.

7 "Summary of Hydrologic conditions" statement may require Director's approval.

8 Mockup is required for STOP-format reports.

9 Not required if specified in the agreement of understanding.

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE REPORTS--Documents and Components Required for Each Series

### 3.01.2 Instructions for preparing documents and components

Procedures for completing documents listed on the chart in article 3.01.1 are described below. Not all documents are required for every publication series. All items should be typed to specifications of the intended publisher, except that all documents must be double spaced to allow for editorial and review work. An asterisk (\*) indicates that an example is given at the end of this article. The examples show the format required for typescript drafts. Typescript components of Geological Survey reports may be modified by book and map editors to conform to standard publication formats.

\*Cover Page.--Format requirements of covers differ among Geological Survey and cooperator-managed publication series; use a recent publication of the type being prepared as a guide.<sup>1</sup> Covers of all Geological Survey reports bear a title, publication series and identification number, and statement of cooperation (if applicable). For WRI and Open-File Reports, names of cooperating agencies must be included in lettering the same size as that of the Geological Survey. Covers of Geological Survey informal publications may bear additional information. Cover format of certain reports may be modified to accommodate artwork of an original design. With the exception of map jackets, covers of Geological Survey reports do not list authorship. The only official recognized logo is the seal of the U.S. Department of the Interior.

Mockup of cover.--Is required for all covers containing artwork or an original design. Note that photographs may lose contrast on covers that are printed on uncoated (soft) paper or on colored paper. Line copy of silhouette designs generally reproduce well on all textures of paper.

\*Title page.--Resembles the cover but includes the author's name(s) below the title, and may include the city and year of publication near the center of the page bottom depending on publication series. Format requirements of title pages differ among Geological Survey and cooperator-managed series; use a recent publication of the type being prepared as a guide.<sup>1</sup>

\*Back of title page.--Lists the main officials of the publishing agency.<sup>1</sup> For Open-File and Water-Resources Investigation Reports, also lists addresses of the originating office and the Open-File Services Section. Format requirements of backs of title pages differ among Geological Survey and cooperator-managed publications series; use a recent publication of the type being prepared as a guide.<sup>1</sup>

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<sup>1</sup> See articles 10.04.1, 11.04.1, and 12.04 for covers, title pages, and backs of title pages of Water-Resources Investigations Reports, Open-File Reports, and administrative reports, respectively.

\*Contents.--Is double spaced, and includes all 1st- through 6th-order headings that appear in the manuscript. Use a 5-space indention for 2d-order headings, a 10-space indention for 3d-order headings, and so forth. Capitalize only the first letter of the first word. Use leaders out to the page number, but add the page number in pencil after manuscript has been typed. Wording of headings must agree with that used in the text.

\*Lists of illustrations and tables.--Are double spaced. The list of illustrations (headed "Illustrations") should identify each figure as map, graph, sketch, section, and so forth. All illustrations for formal reports are to be listed as figures, except those that show groups of fossils that are listed under the heading Plates. The Geologic Division's Book Publications Unit will decide which illustrations are to be plates. All numbered tables, including computer printouts, are listed under the heading "Tables<sup>2</sup>." Wording should duplicate that used in text but may be shortened if the table titles are lengthy. The page number given should refer to the actual location of the table, not to the location of the principal reference.

\*Table of conversion factors and abbreviations.--This list should contain all units of measure given in the text and illustrations except those given exclusively in tables, which should be explained in the table headnote. The system of measure used in the report should be in the left column; the system to which it is converted should be on the right. The table of conversion factors and abbreviations should not be listed in the table of contents.

\*Abstract in text.--This is the first page of text. In Geological Survey series, abstract length is not restricted, but many professional journals specify a limit. Avoid use of abbreviations, tables, illustrations, and references to other publications. Further information on preparing abstracts is given in article 5.05.3 and in "Suggestions to Authors" (6th ed., p. 42). Abstracts must be typed double spaced.

Text with references and caption sheets.--All text must be typed double spaced.

Manuscript.--All paragraphs should end on the page on which they begin, but two or more paragraphs may be on the same page. Page numbering begins with the cover page as arabic 1 (not i; roman numerals are added only in the final copy). Further guidelines on text preparation are given in articles 6.01.1 to 6.01.6.

List of references.--This must be typed double spaced in the bibliographic style specified by the publisher. Examples of references in Geological Survey style are given in "Suggestions to Authors" (6th ed., p. 79-81).

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<sup>2</sup> In certain instances, if the computer printout is large, the printout may be placed at the end of the text as an "Attachment" (see article 5.05.6).

Figure captions.--These must be typed double spaced on separate pages to permit editorial changes without altering the illustrations. These pages are inserted in the text after the page containing the principal reference. If several figures are referred to on the same page of text, the captions may be grouped together on a single caption sheet. Each caption sheet is numbered as if it were a page of text. The phrase "Map (Graph, Photograph) showing" is not used in the actual figure caption but is required in the list of illustrations.

List of illustration captions.--A list of all captions is attached to each of the two packets of illustrations when a formal Geological Survey report is submitted for Director's approval. (See chart in article 3.01.1.)

\*Copy of page giving figure number and caption.--A copy of the page containing the appropriate figure caption(s) is stapled to each illustration for identification for formal reports only.

\*Illustrations check list (form 9-1517).--This is used only in formal Geological Survey series. Attach one copy to each illustration in the original manuscript. Instructions for completing this form are given in article 3.02.3.

Original Illustrations.--These are kept by the author and are used only when final drafting is done after Director's approval. The Publications Management Unit will notify the District or Research Project Office where and when to submit original illustrations for formal Geological Survey series.

Transmittal memorandum from District Chief or Regional Research Hydrologist to Regional Hydrologist.--The subject of this memorandum is "PUBLICATIONS," followed by the complete report title, author's name, and project number. The memorandum should tell the intended series, describe the report's purpose and significance, name the colleague reviewers and their affiliations, and give any other pertinent information such as publication deadline or special printing requirements. All attachments should be listed at the lower left side of the memorandum.

\*Manuscript routing sheet (form 9-1531).--During the report's review stages, all transactions should be noted on the routing sheet, but, when the manuscript is submitted to Headquarters, a new copy should be typed or neatly hand lettered, listing only the authors, the editorial reviewers, the technical reviewers, and District Chief or section chief. All dates and other information must be complete. The detailed internal copy should not be included with the transmittal memorandum. Authors should give last name first (for example: Jackson, Leslie P.) and should use the same style consistently (for example: don't use Jackson, Leslie P. one time, Jackson, L. P. or Jackson, Leslie another). The 3-digit project number should be shown with no spacing, hyphens, dashes, or other punctuation, and the number must be preceded by the two-letter state name. For example:

AK119  
IN971  
VA053

The back page of the routing sheet provides for technical reviewers guidelines that summarize policies and procedures in the report review process.

\*Draft WRSIC abstract--This page contains key words and other bibliographic information for computer retrieval. This abstract must be double spaced and fit within the area allotted maximum of about 250 words). The WRSIC abstract generally is identical to the text abstract unless shortened to fit the word limit. Complete instructions for preparing WRSIC abstracts are given in article 3.02.1. Submit three copies; additional copies are made from these and routed to key personnel at Headquarters for information and awareness of what the Division is producing.

News release--Format and instructions are given in article 3.02.4, and in "Suggestions to Authors" (6th ed., p. 203). Type double spaced; submit original and one copy.

Comments of colleague reviewers and responses of authors to comments--At least two technical reviews are required, one of which must be outside the originating District or Research Project Office. The entire report or abstract reviewed by the colleague reviewers must be submitted. In addition to responses in the page margins in a manuscript, a written summary of responses, especially negative responses, to technical comments is required. The written summary may be: (1) included in the transmittal memorandum (for all reviewers' comments); (2) on a separate sheet (for all reviewers' comments) or on separate sheets (for individual reviewer's comments); or (3) in a memorandum to each of the colleague reviewers.

\*Note for monthly list of new publications--This note is published in the monthly pamphlet "New Publications of the U.S. Geological Survey." The note should describe the report's contribution in 75 words or less and must be doubled spaced (See article 3.02.2.) The note is required only for the formal Geological Survey series indicated in article 3.01.1.

Letter of concurrence from cooperating agency--This letter is required only for reports written for another Federal agency. It should state that the agency has reviewed the manuscript and does not object to publication or open filing of the material by the Geological Survey. Such a letter is not required if permission to publish the results of the study by the Geological Survey is explicitly stated in the memorandum of understanding or other joint-funding agreement.

Letter of permission to use copyrighted material--It is the author's responsibility to secure the permission of the copyright holder of any published material that is to be quoted or reproduced in the report. The letter(s) of permission must accompany the report when it is submitted for Director's approval. (See article 1.03.2 and Water Resources Division Memorandum No. 82.97.)

Instructions to contributors (or equivalent) for reports to be published in technical journals or meeting procedures--Send a copy-machine print of the instructions with the report submitted for approval.

Mockup of report--This is a detailed, full-sized layout of the report showing the size, position, wording, and lettering of all components. It is required only for the three formal map series indicated in article 3.01.1, for book reports in the STOP format, and for profusely illustrated special reports.



HYDROGEOLOGY AND RESULTS  
OF INJECTION TESTS AT  
WASTE-INJECTION SITES IN  
PINELLAS COUNTY, FLORIDA

by John J. Hickey

U.S. GEOLOGICAL SURVEY

Water-Supply Paper 2183

Prepared in cooperation with  
PINELLAS COUNTY and the  
CITY of ST. PETERSBURG, FLORIDA

Typescript title page of Water-Supply Paper

HYDROGEOLOGY AND RESULTS  
OF INJECTION TESTS AT  
WASTE-INJECTION SITES IN  
PINELLAS COUNTY, FLORIDA

UNITED STATES GEOLOGICAL SURVEY

Water-Supply Paper 2183

Prepared in cooperation with  
PINELLAS COUNTY and the  
CITY of ST. PETERSBURG, FLORIDA

Typescript cover of Water-Supply Paper

SIMULATED EFFECTS OF GROUND-WATER DEVELOPMENT ON  
THE POTENTIOMETRIC SURFACE OF THE FLORIDAN AQUIFER,  
WEST-CENTRAL FLORIDA

---

U.S. Geological Survey Professional Paper 1217

Prepared in cooperation with the  
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

SIMULATED EFFECTS OF GROUND-WATER DEVELOPMENT ON  
THE POTENTIOMETRIC SURFACE OF THE FLORIDAN AQUIFER,  
WEST-CENTRAL FLORIDA

By William E. Wilson and James M. Gerhart

---

U.S. Geological Survey Professional Paper 1271

Prepared in cooperation with the  
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

DEPARTMENT OF THE INTERIOR  
DONALD PAUL HODEL, Secretary  
U.S. GEOLOGICAL SURVEY  
Dallas L. Peck, Director

Typescript back of title page for all formal Geological Survey book reports

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CONVERSION FACTORS

For use of readers who prefer to use International System (SI) units, rather than the inch-pound terms used in this report, the following conversion factors may be used:

<u>Multiply</u>	<u>By</u>	<u>To obtain</u>
foot (ft)	0.3048	meter (m)
foot squared per day (ft <sup>2</sup> /d)	0.0929	meter squared per day (m <sup>2</sup> /d)
cubic foot per second (ft <sup>3</sup> /s)	0.02832	cubic meter per second (m <sup>3</sup> /s)
gallon per minute (gal/min)	0.0630	liter per second (L/s)
million gallon per day (Mgal/d)	0.0438	cubic meter per second (m <sup>3</sup> /s)
inch (in.)	25.40	millimeter (mm)
inch per year (in/yr)	25.40	millimeter per year (mm/yr)
mile (mi)	1.609	kilometer (km)
square mile (mi <sup>2</sup> )	2.590	square kilometer (km <sup>2</sup> )

Temperature in degrees Fahrenheit (°F) as follows:

$$^{\circ}\text{F} = 1.8 \times ^{\circ}\text{C} + 32$$

HYDROLOGIC ANALYSIS OF THE U.S. BUREAU OF MINES'  
UNDERGROUND OIL-SHALE RESEARCH-FACILITY SITE,  
PICEANCE CREEK BASIN, RIO BLANCO COUNTY, COLORADO

By R. H. Dale and John B. Weeks

ABSTRACT

The U.S. Bureau of Mines plans to develop an underground oil-shale research facility near the center of Piceance Creek basin. The rocks underlying the site consist of more than 800 feet of kerogen-rich marlstone (oil shale) that is overlain by 1,400 feet of sedimentary rocks, primarily sandstone and marlstone. The overburden section of 1,400 feet consists of two aquifers separated by a confining layer.

Three test holes have been drilled by the U.S. Bureau of Mines as part of the exploratory work prior to the development of the research facility. The test holes were drilled to obtain samples of the oil shale, and to test the hydraulic properties of the two aquifers. Results of two aquifer tests made during the drilling of the test holes indicate that the upper aquifer has a transmissivity of 2,600 feet squared per day, and the lower aquifer has a transmissivity of 210 feet squared per day.

The water discharged from the upper aquifer and the upper part of the lower aquifer during the drilling of the test holes had about the same chemical quality as the water from Piceance Creek during low flow. The water discharged from a point near the base of the lower aquifer had a higher concentration of dissolved constituents. This condition is caused by the dissolution of soluble minerals in the marlstone.

One of the problems related to constructing a shaft through the aquifers is that a large amount of water may have to be pumped to keep the working area dry. A digital ground-water model of the Piceance basin was used to determine the maximum amount of water that would have to be pumped. Based on the model, it is estimated that it would be necessary to pump as much as 3,080 gallons per minute to keep the shaft dry.

Saline-water production and erosion of wastes by dewatering discharge are the principal hydrologically related problems associated with constructing the shaft. The problems are created not by the construction but by the disposal of waste water and rock from the shaft. The leaching of soluble minerals from shaft waste and the erosion of fine-grained sediments from the waste are the expected problems that would need resolution at any such waste-disposal site.

This form must be completed by author and attached to manuscript copy of each illustration and photograph for Geological Survey publications before report is submitted for supervisor approval.

**AUTHOR'S CHECK LIST FOR PLATES, FIGURES, AND PHOTOGRAPHS**

SERIES: P. P. ☐ W. S. P. ☒ BULL. ☐ CIRC. ☐ T. W. I. ☐ G. Q. ☐ I. ☐ G. P. ☐ M. P. ☐ M. R. ☐ O. M. ☐ O. C. ☐ H. A. ☐ J. R. ☐

DIVISION: GEOLOGIC ☐ WATER RESOURCES ☐ CONSERVATION ☐ LAND INFO. ANALYSIS ☐ OTHER ☐

TITLE OF REPORT: \_\_\_\_\_

AUTHOR(S): \_\_\_\_\_

ILLUSTRATION NUMBER: Plate \_\_\_\_\_ Figure \_\_\_\_\_ Table \_\_\_\_\_ Side title ☐ Column width ☐

**RECOMMENDED PRINTING COLORS:**

BASE { Culture: Screened Black ☐ Black ☐  
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Drainage: Screened Black ☐ Blue ☐  
Road fill-land net: Screened Black ☐ Red ☐  
Purple revisions: Not needed ☐ Screened Black ☐  
Photomosaic: ☐ Color \_\_\_\_\_

RECOMMENDED PUBLICATION SCALE: 1: 4 3/8 x 6 1/2

GEOLOGIC/HYDROLOGIC DATA: Black and white ☒ Black and \_\_\_\_\_ color \_\_\_\_\_ Multicolor ☐

Units to be emphasized and color preferred: \_\_\_\_\_

Match adjacent map ☐ Reference: \_\_\_\_\_

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OF 80-565

Base map not arial enclosed ☐ or available from the Pub. Div.: Eastern Region ☐ Central Region ☐ Western Region ☐ Not at Printing ☐ or the following originating division: Base on Plate 1

**PHOTOGRAPHS**

**RECOMMENDATIONS:**

Black and white: 450-line screen ☐ 300-line screen (fossil plates) ☐  
Color ☐ (must be justified in separate memorandum)

**PLACEMENT OF PHOTOGRAPH IN TEXT:**

To be compared with figure \_\_\_\_\_ Same page ☐ Facing page ☐  
Combination with other illustrations: \_\_\_\_\_

Line cut ☐ Figures \_\_\_\_\_ Other photographs ☐ Figures \_\_\_\_\_

SCALE OF PHOTOGRAPH SHOWN AS: Object in photograph ☐ On border of print ☐ In caption ☐

**CROPPING:**

Crop lines are an edge of print ☐ or an transparent overlay ☐  
Use full image ☐  
Symbols and contacts to be added as shown on registered overlay ☐

**SOURCE OF PHOTOGRAPH:**

Author ☐ By other source with permission, proper credit and copyright ☐ Negative, non-usable ☐  
Negative available ☐ Location \_\_\_\_\_

SPECIAL INSTRUCTIONS: See other side ☐

Figure 2.--Location of recharge areas and observation wells, Meadowbrook artificial-recharge site. (From Katz and Mallard, 1980).

Figure 3.--Aerial photo of the Meadowbrook artificial-recharge site showing location of injection wells, recharge basins, and the discontinued Meadowbrook sewage-disposal plant. (Looking northwest).

Figure 4.--Schematic diagram of Meadowbrook artificial-recharge site showing relative position of recharge basins, injection wells, and water-transmission mains. (Modified from Consoer, Townsend, and Associates, 1978).

FORM 91331		US DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY		WRD NO. (ASSIGNED BY HQORS)										
JULY 1984)		WATER RESOURCES DIVISION												
MANUSCRIPT ROUTING SHEET														
AUTHOR(S) (LAST NAME FIRST)		PROJECT NO. (if Sample V0109)		85-4-0458										
Sloto, Ronald A.		PROJECT NO. (if Sample V0109)		PA096										
(CHECK ONLY)		NO PAGES (INCL. TABLS)		87										
INTERPRETIVE		NO PAGES (INCL. TABLS)		29										
REPORT		NO PAGES (INCL. TABLS)		2										
TYPE OF PUBLICATION (WSP, HIA, OPEN FILE, JOURNAL, STATE PUBLICATION, ETC.)		NO PAGES (INCL. TABLS)		2										
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1 J. H. Williams	9/28	11/8	ALL	16			X							R. Sloto
2 Mary Martin	10/1	10/15	ALL	80			X							R. Sloto
3 Gary N. Paulachok	9/3	11/26	ALL	40			X							R. Sloto
4 Ronald A. Sloto	11/21	12/27	ALL	120	X									District Chief
5 David E. Click	3/11	3/11/85						X						Regional Hydrol.
6 Dave Aronson	4/30	4/30	ALL	3				X						CH Spec., NR
7 L. A. Swain	5/2	6/12	ALL	4										Region-GNC
8 Claire Davidson	6/17	7/9	ALL	4						X				PHU-Iseri
9 Kathleen T. Iseri	7/10	7/10	Transmitt											Rob Lauey CMB
10 D. S. Knopman	8/5	8/20	ALL	7										Tom Reilly
11 Thomas F. Reilly	8/20	9/16	ALL	16										L. J. Slack
12 Larry J. Slack	9/18	9/18	Trans											Chief, SPS
13 Celso Puente	9/23	9/23	Trans						X					Reg. Hyd., NR
14 Ronald A. Sloto	10/2	12/30	ALL	160										District Chief
15 Jack McCoy	2/3/86	2/6	ALL	10				X						District Chief
16 D. E. Click	2/24/86	2/24/86	ALL					X						Reg. Hydrol.
17 J. Down	4/28	4/28	all	2										PMU-Quente
18 T. P. P. P.	3/6	3/6	all	2										Director
19 Iso Puente	9/6	9/6	all	2										
20 Amy S. S. S.	10/24/86	10/24/86	all											
21														

Manuscript routing sheet

Manuscript routing sheet instructions

## INSTRUCTIONS FOR TECHNICAL REVIEWERS

A thorough and competent review is essential to maintain the technical quality of Water Resources Division reports. The purpose of the review is to give a technical evaluation that will improve the report and eliminate errors that may lead to the embarrassment of the author and the Division. The following guidelines summarize critical policies and procedures in the report-review process.

**Number of reviewers** At least two technical reviews are mandatory for all interpretive reports. Whenever possible, the reviewers should be selected on the basis of special knowledge or interest in the subject material of the report. At least one technical reviewer should be outside the District or Research Project office.

**Role of reviewers** The role of the technical reviewer is to ensure the technical adequacy of the report. However, significant editorial discrepancies, particularly in organization, should be identified.

## Specific items to consider during review

- Technical correctness** Is the report technically valid? Are conclusions properly supported by correctly interpreted data? Are all computations correct? Are assumptions reasonable and clearly stated?
- Readability** Is it written for the intended audience, and with correct grammar, syntax, and a minimum of scientific jargon? Are illustrations and tables legible and readily understandable?
- Title** Is it explicit and does it reflect the objectives of the report? Generally the title should not exceed 12 words and, if appropriate, should give the project location and study period.
- Abstract** Does it state the purpose of the report? Is it informative? Does it describe the study and summarize pertinent results and conclusions? See pages 267-270, WRD Publications Guide (1982), Volume 1.
- Introduction** Does it clearly describe the problem(s) addressed by the report, state the objectives and scope of the report, present pertinent background information, and acknowledge significant help? See pages 265-266, WRD Publications Guide (1982), Volume 1.
- Methods** Were appropriate techniques used in the study? New methods should be described.
- Body of manuscript** Is it organized and presented in a logical sequence that contains the basic information, interpretation of that information, and the results or conclusions of the interpretations?
- Illustrations and tables** Are all necessary, do they clearly present basic information and emphasize relationships? Illustrations and tables should be interpreted and referred to in the text, but should be understandable without the text.
- Conclusions or results** Do they summarize the principal findings of the study and answer each of the objectives described in the introduction? Are they sound and properly documented? No information should be given that was not discussed in the body of the report. See pages 271-272, WRD Publications Guide (1982), Volume 1.
- References** Are all references cited in text included in this section? Are they cited correctly? Were pertinent references omitted in preparing the report?
- Policy considerations** See pages 23-24, WRD Publications Guide (1982), Volume 1.

GPO 908-502

Note for the monthly list of new publications.

Bull. \_\_\_\_\_. Submersed aquatic plants of the Tidal Potomac Estuary, by Virginia Carter, P. T. Gammon and Nancy Bartow. 198\_. \_\_p.  
\$\_\_\_\_\_.

There are 15 species of submersed aquatic plants found in the Tidal Potomac River and its tributaries. Color photographs and descriptions of each of these plants are included in the text. The present distribution of plants is more limited than that found historically. These plants play a number of important roles, especially in supporting wildlife populations. Possible factors involved in their decline include nutrient enrichment, pollution, storm events, overgrazing, and increased turbidity.

Note for monthly list of new publications



WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 3.01.3

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE REPORTS--Documents and Components Required for Each Series

3.01.3 Formal series title changes

January 18, 1984

To: Executive Committee

From: Assistant Director for Research

Subject: Proposed Changes in Publication Policy

The Publications and Information Policy Committee (PIPC) recommends the following changes in the manner that we title or attribute our formal publications:

1. On Professional Papers and Circulars, change the bureau series title from

Geological Survey Professional Paper  
Geological Survey Circular

to

U.S. Geological Survey Professional Paper  
U.S. Geological Survey Circular

The rationale for proposing this change is two-fold. First, we are not the only "Geological Survey" in the United States or the world. Indeed, some state surveys have chafed for generations because of what they have perceived as the unwarranted implication of this title. Moreover, the front cover of every other state or national survey serial publication leaves no doubt about the identity of the publisher. Our publications should do no less.

Second, title changes have already been made on the new Bulletin and new Water Supply Paper, but these changes occurred when each of these series was reformatted. The changes did not apply to our other book publications. From a strictly editorial perspective, it would be argued, and was, that "United States" should be spelled out rather than abbreviated in the series titles. However, the majority of the PIPC felt that we are universally known by the abbreviated title, and that is the way we ought to identify our publications.

2. The bureau/departmental headnote on all USGS maps including maps used as plates in USGS books should be changed to read:

Department of the Interior  
U.S. Geological Survey

Presently (and historically) the headnotes on map plates in books and stand-alone maps are inconsistent.

Stand-alone maps read

Department of the Interior  
United States Geological Survey

and the book plates read

United States Department of the Interior  
Geological Survey

We can find no record of the history or reasons for this inconsistency. The designation on book plates dates from 1940; prior to that date the headnote read simply "Geological Survey" with no reference anywhere to the Department. Perhaps the change was dictated by political considerations at the Department. Stand-alone thematic maps (GQ's, I's, MF's, etc.) have carried the above headnote from the beginning (1949 for GQ's). Our earliest maps, the Folios of the Geologic Atlas of the United States, which were published from 1894 to 1946, carried headnotes that read either

U.S. GEOLOGICAL SURVEY  
Charles D. Wolcott, Director

or

DEPARTMENT OF THE INTERIOR  
Albert B. Fall, Secretary

U.S. GEOLOGICAL SURVEY  
George Otis Smith, Director

The latter is the same version that we propose to adopt but without identifying the Secretary or Director. The PIPC feels that we ought to go ahead and make the suggested change without fanfare but that the Executive Committee should endorse it because of possible political implications. Opinions from the Solicitor's Office indicate that we can do just about anything we want in terms of department/agency identification as long as "the" (as in Department of the Interior) is part of the department's title.

Attached are some examples of front covers, stand-alone maps, and book plates. The changes recommended here, if approved, will apply only to new or reprinted books and maps (including topographic maps). They will not be enforced retroactively on existing stock.

Bruce B. Hanshaw

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 3.02.1

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE REPORTS--Instructions for Specific Documents

#### 3.02.1 Draft WRSIC abstract and WRSIC input transaction form 102

Authors are to supply copies of abstracts for publication by Water Resources Scientific Information Center (WRSIC) in the journal "Selected Water Resources Abstracts," which receive wide distribution to the water-resources community and information-retrieval services. The draft WRSIC abstract is typed double spaced on an unnumbered form and submitted as a part of the manuscript package for Director's approval. The draft WRSIC abstracts are edited in the Regional Offices. Some copies of the draft WRSIC abstract are used for internal review and information by the Division technical staff, and one copy is retained by the Publications Management Unit. When the report is published, the abstract is submitted to WRSIC on the input transaction form 102 for publication. It should be typed, single spaced, without paragraphs or indentations.

#### PREPARATION OF DRAFT WRSIC ABSTRACT

Preparation of the draft WRSIC abstract (see example at end of article) consists of two phases--abstracting the report, then indexing it. Procedures for completing these steps are described below.

##### Abstracting

An abstract of a document is a condensed version containing or referring to the most essential information in the original. It should provide the reader with sufficient information to determine whether he should obtain the complete document. For this reason, the author must strive to insure that the abstract represents the contents of the original.

WRSIC abstracts need not conform to any particular standard; content and order of presentation will depend on the document being abstracted. Authors may find it convenient to use the text abstract, shortened if necessary to about 250 words, the limit for WRSIC abstracts. Guidelines for preparing informative abstracts are given in article 5.05.3.

A carefully written, concise, and informative abstract generally can be used for both the report and the WRSIC draft, provided the length does not exceed 250 words. Most long abstracts can be condensed, without major effort, to produce an excellent shorter product. When preparing the draft WRSIC abstract, the author must remember that the purpose of the abstract is to help the reader decide whether or not to acquire the complete document. The author is, in effect, writing a sales prospectus to arouse the interest of the reader in the report. Thus, a good abstract should contain the purpose, key information, and major results of a study. It cannot, because of space limitation, contain extensive data, figures, tables, or detailed observations. It should avoid abbreviations and reference to other publications, and must fit within the space allotted.

Two types of abstracts are used in the WRSIC system:

- A. Informative abstract.--Contains the essential facts reported in the original document, including conclusions. It can often satisfy the needs of a reader without a need to see the original document. This type is preferred for both WRSIC and report abstracts. The abstract that follows is an example of a good informative abstract:

Chlorinated secondary-treated effluent was used to irrigate a grassed 4-acre site at rates of 2 and 4 inches per week for periods of 11 and 14 weeks, respectively. Part of the site was drained by tile lines 5 feet below land surface. Chemical and bacteriological changes in the acidic ground water in the shallow sand aquifer and in the effluent from the drains were studied. Irrigation of the drained plot resulted in rapid passage of the applied wastewater through the soil, and consequently, poor nitrogen removal. Thus, the effluent from the drains contained as much as 5.2 mg/L (milligrams per liter) nitrate-nitrogen. Irrigation of the undrained plot resulted in more extensive nitrogen removal. Total phosphorus in the shallow ground water at the site increased from a maximum of 1.4 mg/L before irrigation to as much as 5 mg/L in the ground water 5 feet below land surface. Concentrations of nitrogen and phosphorus did not increase in ground water downgradient from the site, although increased chloride concentrations demonstrated downgradient migration of the applied wastewater. Prior to irrigation, total coliform bacteria were not detected in ground water at the site. After irrigation, total and fecal coliforms were detected in the ground water at the site and downgradient. The nitrifying bacteria Nitrosomonas and Nitrobacter at the irrigated site were most abundant at the soil surface; their numbers decreased with depth.

- B. Indicative abstract.-- Used for data compilations containing no conclusions. It tells the reader about the general content of the report. This abstract should be explicit enough to permit a reader to evaluate the pertinence of the original document. A sample indicative abstract follows:

Hydrologic, geologic, and water-quality data were collected within the Ochlockonee River basin area, in the panhandle of northwest Florida. The data are presented in graphs and tables. Surface-water data include streamflow measurements and analyses of water collected at 58 sites; ground-water data include descriptions of 360 wells and core holes, analyses of water and hydrographs of selected wells, lithologic logs of 131 wells and test borings, and natural-gamma logs of selected wells ranging in depth from 110 to 1,346 feet. Rainfall and municipal pumpage data are also compiled. Maps of the area show the location of the data-collection sites within the area.

### Indexing

Indexing is the selection of words or terms that best describe the content of a report. The index words or terms are used in computerized search programs to locate reports in specific subject fields.

### Descriptors

Descriptors are terms that are included in the "Water Resources Thesaurus,"<sup>2</sup> a word list of scientific and technical terms selected to represent all facets of the water-resources field. Each office library and reports specialist should have a copy. Other terms that are not listed in the "Thesaurus" but are needed for the complete indexing of the document, are also to be included. These may include geographical names (including States, counties, and cities), trade names, names of persons, names of aquifers, procedures or processes, among others.

### Procedures in Indexing

When indexing, first prepare a list of representative terms that describe the report content. The index words should include every concept in the report that might be useful to the user in deciding whether to acquire the document. Then compare terms with those available in the "Thesaurus." Use the spelling given in the "Thesaurus" even if it differs from Geological Survey style. Use an asterisk superscript at the beginning of each index term that is most relevant; four or five asterisks are considered to be the maximum.

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<sup>2</sup> Water Resources Thesaurus, third ed., 1980; U.S. Department of the Interior, Office of Water Research and Technology, OWRT IT-80/1 3 chapters.

Article 3.02.1

No fixed number of index terms is required; the average report may contain as many as 20. Keep in mind that the greater the depth of indexing, the greater will be the probability of retrieving only relevant documents in a computer-aided search.

INSTRUCTIONS FOR COMPLETING DRAFT WRSIC ABSTRACT

(See example on following sheet.)

Title--give complete title of report in capital letters.

Date sent--the date the manuscript was sent to Region for approval.

No. of pages--total number of all pages, including cover.

No. of Illustrations--enter the total number of illustrations, including plates, as shown in the list of illustrations of the report. If a figure contains several components, such as 3a, 3b, and so forth, consider all components as a single unit.

No. of Tables--enter the total number of tables as shown in the list of tables of the report.

No. of References--give total number of references.

Authors--give in order: last name, first name, initial, and affiliation or organization if outside the Geological Survey.

Author's Originating Office--enter the office name, city and State.

Descriptors--list representative terms included in the Thesaurus and other hydrologic, geographic, and governmental locators as needed. Mark essential terms with an asterisk superscript, list them before other terms, and separate terms by commas. For example: \*Floods, \*Water balance, \*Nebraska, \*Irrigation, Sediments, Rivers, Aquifers, Water quality. Use the spelling that is given in the Thesaurus. In compound words, capitalize the first letter of the first word and lowercase the rest.

Type of Publication--Water-Resources Investigations Report, Open-File Report, etc.

Abstract--give a concise abstract of about 250 words or less, double spaced. (See article 5.05.3, "Abstracts.")

GEOLOGICAL SURVEY, WATER RESOURCES DIVISION

Draft WRSIC Abstract

TITLE: HYDROGEOLOGY OF THE GREAT BASIN  
REGION OF NEVADA, UTAH, AND ADJACENT STATES

AUTHORS: Plume, R. W., and Carlton, S. M.

AUTHORS' ORIGINATING OFFICE: Carson City, Nevada

DATE SENT

TO WR: July 1985  
NO. PAGES: one sheet  
NO. ILLUSTRATIONS: 3  
NO. TABLES: 0  
NO. REFERENCES: 17

DESCRIPTORS: \*Carbonate Rocks, \*Hydrogeologic Units, \*Great Basin,  
Aquifer Systems, Continental Margin, Hydraulic Conductivity, Tectonics,  
Transmissivity, Basin-fill Deposits, Nevada, Utah.

TYPE OF PUBLICATION: Hydrologic atlas.

ABSTRACT: (250 words or less, double spaced) The numerous geologic formations and rock types in the Great Basin can be grouped into 12 hydrogeologic units based on generalized lithology, areal extent, and water-bearing characteristics. The units range in age from Precambrian through Holocene and are comprised of metamorphic rocks, igneous rocks, and sedimentary rocks of both marine and continental origin. The distribution of, and structural relations between, these units are the result of tectonic events that have occurred along the continental margin of western North America through much of geologic time.

Regional aquifers in the Great Basin are comprised of Tertiary and Quaternary basin-fill deposits in all parts of the region, Paleozoic carbonate rocks (limestone and dolomite) in the eastern Great Basin, and possibly Tertiary and Quaternary volcanic rocks in some areas. Average hydraulic conductivities for basin-fill deposits in 14 basins range from 0.02 to 320 feet per day. Estimates of transmissivity range from 80 to 250,000 feet squared per day for the Paleozoic carbonate rocks and from 7 to 2,700,000 feet squared per day for volcanic rocks.



## WATER RESOURCES SCIENTIFIC INFORMATION CENTER

### Instructions for Data Element Fields on Form WRSIC 102

- 1—3      Leave blank.
- 4          *Title.* In capitals, followed by a comma, e.g., REMOVAL OF ALGAL NUTRIENTS FROM RAW WASTE-WATER: LIME, (Exception: Special characters, e.g., pH).
- 5—6      Leave blank.
- 7          *Author(s).* Up to five authors may be entered, or the element may be blank. No editors or compilers. Surname, followed by initials. Where more than one author, type comma after initials followed by surname of next author.
- 8          Leave blank.
- 9          *Organization.* Either the senior author's affiliation or the performing organization. Example: Geological Survey, Reston, VA. Water Resources Division.
- 10        *Project No.* Project designation if shown in the item, e.g., USGS G871. (Usually blank for most USGS reports.)
- 11        *Contract/Grant No.* Enter if shown in the item, e.g., 14-34-0001-7898. (Usually blank for most USGS reports.)
- 12—14    Leave blank.
- 15        *Supplementary Notes.* (Citation). The general format is: *Series*—Performer, series name and number, month, year, publisher, or where copy is available. Pagination, figures, tables, references, appendices. Editor, if any. (Example: USGS Water-Resources Investigations Report 84-4047, Jan. 1984. 152 p, 4 fig, 2 tab, 52 ref, append or USGS Water-Supply Paper 2047, 1983. 22 p, 4 fig, 2 tab, 52 ref.)
- 16        *Abstract.* The order of presentation for an informative abstract should be as follows: Avoid the phrase "This report presents . . ." and launch directly into the problem or need addressed by the work, or why the work was done; findings and conclusions; the methods, summarized; data (brief) or data description; geographic locators; where the work was done and where the data and conclusions apply; and use the parenthetical expression (USGS) after the last sentence.
- 17a       *Descriptors.* Descriptors are authorized terms found in the *Water Resources Thesaurus* which may be consulted in some Regional and District WRD offices. Associated terms not convertible to a thesaurus synonym should be listed in this data element. Hydrologic, geographic, and governmental locators should also be included, e.g., Potomac River basin, Virginia, Westmoreland County. Enter first those descriptors to be marked with asterisks as the most relevant terms, e.g., \*Reefs, \*Sand bars, Shoals, Coral, etc.
- 17c       *Subject Field and Group.* Use a three-character classification symbol from the scheme presented in the table of contents in *Selected Water Resources Abstracts*, e.g., water in soils, 02G; water pollution sources, 05B.
- 18        *Availability.* Copies of reports are obtainable from: 1) USGS, Books and Open-File Reports, Box 25425, Denver, CO 80225; paper copy \$\_\_\_\_\_, microfiche \$\_\_\_\_\_. 2) National Technical Information Service, Springfield, VA 22161 as PB \_\_\_\_\_, price codes: A — paper copy, A01 microfiche. 3) Supt. of Documents, GPO, Washington, D.C. 20402, as S/N \_\_\_\_\_, price \$\_\_\_\_\_.
- 19—22    Leave blank.

A copy of the WRSIC "Abstracting and Indexing Guide" is available on request from: Chief, Water Resources Scientific Information Center, U.S. Geological Survey — WRD, MS 425, Reston, VA 22092. Telephone inquiries use (703) 648-6822 or FTS 959-6822.

### Instructions for Completing WRSIC 102 Input Transaction Form

(to be completed after report is published)

<b>Selected Water Resources Abstracts</b> <b>Input Transaction Form</b>		3 Accession No <b>W</b>	
4. Title CHEMICAL AND ISOTOPIC CHARACTERISTICS OF BRINES FROM THREE OIL- AND GAS-PRODUCING FORMATIONS IN EASTERN OHIO, WITH APPLICATIONS TO THE GEOCHEMICAL TRACING OF BRINE SOURCES,			
7. Author(s) Breen, K.J., Angelo, C.G., Masters, R.W., and Sedam, A.C.		10 Project No	
9 Organization Geological Survey, Columbus, OH. Water Resources Div.		11 Contract/Grant No.	
15 Supplementary Notes USGS Water-Resources Investigations Report 84-4314, 1985. 58 p, 14 fig, 11 tab, 25 ref.			
16 Abstract <p>Chemical and isotopic characteristics of selected inorganic constituents are reported for brines from the Berea Sandstone of Mississippian age, the 'Clinton' sandstone, Albion Sandstone of Silurian age, and the Rose Run formation of Cambrian and Ordovician age in 24 counties in eastern Ohio. Ionic concentrations of dissolved constituents in brines from these formations generally fall in the following ranges (in millimoles per kilogram of brine): Na, Cl &gt; 1,000; 100 &gt; Ca, Mg &lt; 1,000; 1 &gt; K, Br, Sr, Li, Fe, SO<sub>4</sub> &lt; 100; Mn, Zn, Al, I, HCO<sub>3</sub>, SiO<sub>2</sub> &lt; 1. Mean ionic concentrations of Ca, Mg, Na, Cl, K, SO<sub>4</sub> and Br, and mean values of density and dissolved solids are significantly different at the 95 percent confidence level in each formation. Only potassium has a unique concentration range in each formation. Selected concentration ratios are identified as potential indicators for geochemical tracing of brines having some history of dilution. The K:Na ratios work best for identifying the source formation of an unidentified brine. Isotopic characteristics of hydrogen and oxygen indicate a meteoric origin for the water matrix of the brines. Sulfur isotopes may have utility for differentiating brines from oxidizing ground water. (USGS)</p>			
17a. Descriptors *Brines, *Chemical properties, *Oil wells, *Isotope studies, *Geochemistry, *Ohio, Alkali metals, Alkaline earth metals, Ions, Berea Sandstone, Clinton sandstone, Albion Sandstone, Knox Dolomite, Rose Run sandstone.			
17c. COWRR Field & Group 02K, 02F, 05A			
18 Availability OFSS, USGS Box 25425 Denver, CO 80225		Send to: Water Resources Scientific Information Center GEOLOGICAL SURVEY, Mail Stop 425 U.S. DEPARTMENT OF THE INTERIOR Reston, Va 22092	
Abstractors		Institution	

WRSIC 102 (REV. JULY 1985)

Example of completed WRSIC 102 Input Transaction Form

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 3.02.2

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE REPORTS--Instructions for Specific Documents

#### 3.02.2 Note for monthly list of new publications

All manuscripts submitted for publication in the following Geological Survey series must contain a note for the monthly pamphlet "New Publications of the U.S. Geological Survey<sup>1</sup>."

Water-Supply Paper	Techniques of Water-Resources Investigations
Professional Paper	Hydrologic Investigations Atlas
Bulletin	Miscellaneous Investigations Map
Circular	Miscellaneous Field Studies Map

#### PREPARATION OF NOTE

The note must be typed double spaced on a single sheet and should contain three parts--heading, identifying information, and abstract. (See examples below and in article 3.01.2.)

#### Heading

Type "Note for Monthly List of New Publications" at the top of the page.

#### Identifying Information for Books and Maps

##### A. Books

1. Report series, followed by a line. The report number will be added by the Publications Management Unit.
2. Complete report title. Capitalize only the first letter of the first word, proper nouns, and proper adjectives.

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<sup>1</sup> Subscription is free on request from National Mapping Division, U.S. Geological Survey, 582 National Center, Reston, Virginia 22092.

3. Authorship. Give initials, followed by last name in the order shown on the report. If an author uses only first and last names without a middle initial, give the full first name.
4. Year of publication.--Show 198\_\_
5. Number of pages--Show \_\_\_\_p.
6. Price of publication. Show \$\_\_\_\_\_.

Example

WSP \_\_\_\_\_. Chemical quality of surface water in the Flaming Gorge Reservoir area, Wyoming and Utah, by R. J. Madison and K. M. Waddel. 196\_. \_\_p. \$\_\_\_\_\_.

B. Maps

1. Abbreviation of map series, complete report title, authorship, and year of publication. Use same style as for book reports.
2. Coverage of the map(s), in degrees, minutes, and seconds of latitude and longitude. If the map consists of two sheets, precede the latitude and longitude numbers with "Two sheets." Abbreviate latitude and longitude with "lat" and "long."
3. Scale. Give scale notation, followed in parentheses by the distance represented by 1 inch.
4. Contour intervals. Show topographic contour intervals on flood maps. On all other maps, show contour intervals for other types of contours.
5. Map sheet size(s). If the map consists of one sheet, show "Sheet \_\_\_\_ by \_\_\_\_ inches" after the contour-interval note. If the map contains more than one sheet, provide the contour-interval note and sheet size for each sheet.
6. Price of publication. Show \$\_\_\_\_\_.

Example

HA \_\_\_\_\_. Hydrogeologic characteristics of the valley-fill aquifer in the Arkansas River valley, Bent County, Colorado, by R. T. Hurr and J. E. Moore. 196\_. Two sheets: lat 38° to 38°10', long 102°45' to 103°22'30". Scale 1:62,500 (1 inch = about 1 mile). Sheet 1, \_\_\_\_ by \_\_\_\_ inches, bedrock contour interval 20 feet; sheet 2, \_\_\_\_ by \_\_\_\_ inches, water-table contour interval 20 feet. \$\_\_\_\_\_.

### Abstract

An abstract must be provided for reports of all types listed previously, except maps having no text in which case the note will consist only of a heading and indentifying information.

The abstract must contain 75 words or less (including words such as "a" and "the") and should be of the "informative" type where possible (see article 3.02.1). It should contain essential facts and data reported in the original document, including conclusions. Indicative statements should be used sparingly and only where no alternative exists, such as in abstracts for data reports lacking conclusions.

The abstract should begin about 6 lines below the identifying information. Do not type the word "Abstract" above the abstract. (See the sample monthly note in article 3.01.2.)

The abstract should be written in the active voice. Avoid phrases such as "is described" or "are presented" except where the active voice cannot effectively be used, as in data presentations. The one-sentence abstract below illustrates how little a reader can learn about the original document.

An appraisal of the existence, nature, and magnitude of long-term trends (26 yr) in stream quality and quantity toward either improvement or deterioration is described in this report.

After revision, the preceding abstract now contains positive statements about the investigation, and gives the reader a better understanding of the report.

Long-term trend (1945-70) analyses in the upper \_\_\_\_\_ River basin indicate that stream quality is deteriorating with time. Biochemical oxygen demand and dissolved-solids concentrations are increasing, and dissolved-oxygen concentrations are decreasing at most sampling sites. The ability of the river system to receive, transport, and assimilate wastewater, although not yet exceeded except for short periods, may be exceeded in the future.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 3.02.3

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE REPORTS--Instructions for Specific Documents

#### 3.02.3 Illustration check list (form 9-1517)

Each manuscript transmitted to the Division for approval for Geological Survey publication in the following report series must contain one set of illustrations check lists (revised form 9-1517).<sup>1</sup>

Water-Supply Paper	Techniques of Water-Resources Investigation
Professional Paper	Hydrologic Investigations Atlas
Bulletin	Miscellaneous Investigations Map
Circular	Miscellaneous Field Studies Map

A check list, in addition to the caption sheet, must be attached to each illustration. Manuscripts containing illustrations without the check list will not be processed until that form is received from the originating office.

The check list enables the author to give his view as to how the illustration should be published. A copy of the front and back of the form is given on page 157-158. A sample check list also is given in article 3.01.2. (See Water Resources Division Memorandum No. 82.73, dated April 8, 1982, "Author's check list for illustrations.")

### GENERAL GUIDELINES

#### Illustrations

Originals of illustrations should be held by the originating office until they are requested by the Publications Management Unit, generally after Director's approval. At that time, authors should send the originals promptly to the designated Branch of Cartography office for drafting.

If negatives of base maps were sent to the author along with requested scale-stable base-map material, these negatives also should be returned.

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<sup>1</sup> Available from Geological Survey service centers in Denver, Colorado, and Menlo Park, California, and from Branch of General Services, Office Services Section, 234 National Center, Reston, VA 22092.

Form 9-1517  
(Rev. Jan. 1984)U.S. DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY**This form must be completed by author and attached to manuscript copy of each illustration and photograph for Geological Survey publication****AUTHOR'S CHECK LIST FOR PLATES, FIGURES, AND PHOTOGRAPHS**SERIES: P. P. ☐ W. S. P. ☐ BULL. ☐ CIRC. ☐ T. W. I. ☐ GQ ☐ I ☐ GP ☐ MF ☐ MR ☐ OM ☐ OC ☐ HA ☐ SPEC. ☐DIVISION: GEOLOGIC ☐ WATER RESOURCES ☐ NATIONAL MAPPING ☐ OTHER ☐

TITLE OF REPORT: \_\_\_\_\_

AUTHOR(S): \_\_\_\_\_

ILLUSTRATION NUMBER: Plate \_\_\_\_\_ Figure \_\_\_\_\_ Table \_\_\_\_\_ Bottom title ☐ Side title ☐ Column width ☐

## RECOMMENDED PRINTING COLORS:

BASE	Culture: Screened Black <input type="checkbox"/> Black <input type="checkbox"/>
	Topo: Screened Black <input type="checkbox"/> Brown <input type="checkbox"/>
	Drainage: Screened Black <input type="checkbox"/> Blue <input type="checkbox"/>
	Road fill-land net: Screened Black <input type="checkbox"/> Red <input type="checkbox"/>
	Purple revisions: Not needed <input type="checkbox"/> Screened Black <input type="checkbox"/>
	Photomosaic <input type="checkbox"/> Color _____

RECOMMENDED PUBLICATION SCALE: 1: \_\_\_\_\_

GEOLOGIC/HYDROLOGIC DATA: Black and white ☐ Black and \_\_\_\_\_ color Multicolor ☐

Units to be emphasized and color preferred: \_\_\_\_\_

Match adjacent map ☐ Reference: \_\_\_\_\_Original material compiled on: Scribecoat ☐ Cronaflex ☐ Paper ☐ Other ☐ \_\_\_\_\_

Original material is in \_\_\_\_\_ pieces.

Original material compiled at 1: \_\_\_\_\_ scale.

Illustrations have ☐ have not ☐ been previously published. If yes, give complete reference and copyright permission: \_\_\_\_\_Base map material enclosed ☐ or available from the N.M. Div.: Eastern Region ☐ Central Region ☐ Western Region ☐ Br. of Printing ☐ or the following originating division \_\_\_\_\_**PHOTOGRAPHS**

## RECOMMENDATIONS:

Black and white: 150-line screen ☐ 300-line screen (fossil plate) ☐Color ☐ (must be justified in separate memorandum)

## PLACEMENT OF PHOTOGRAPH IN TEXT:

To be compared with figure \_\_\_\_\_ Same page ☐ Facing page ☐

Combination with other illustrations:

Line cuts ☐ Figures \_\_\_\_\_ Other photographs ☐ Figures \_\_\_\_\_SCALE OF PHOTOGRAPH SHOWN AS: Object in photograph ☐ On border of print ☐ In caption ☐

## CROPPING:

Crop lines are on edge of print ☐ or on transparent overlay ☐Use full image ☐Symbols and contacts to be added as shown on registered overlay ☐

## SOURCE OF PHOTOGRAPH:

Author ☐ By other source with permission, proper credit and copyright ☐ Negative unavailable ☐Negative available ☐ Location \_\_\_\_\_

## SPECIAL INSTRUCTIONS:

See other side ☐

# THE FOLLOWING IS GENERAL INFORMATION MADE AVAILABLE TO AUTHORS TO HELP EXPEDITE REPORTS DURING CARTOGRAPHIC PREPARATION

## PUBLICATION FIGURE SIZE IN INCHES AND PICAS FOR BOOK REPORTS

### CIRCULARS/BULLETINS/WATER SUPPLY PAPERS/TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

6 $\frac{7}{8}$ " x 8 $\frac{3}{4}$ "	41 $\frac{1}{2}$ x 52 $\frac{1}{2}$ (Bottom title)
6 $\frac{1}{4}$ " x 9 $\frac{1}{4}$ "	37 $\frac{1}{2}$ x 55 $\frac{1}{2}$ (Side title)
3 $\frac{1}{4}$ " x 8 $\frac{3}{4}$ "	20 x 52 $\frac{1}{2}$ (Column width)

#### PROFESSIONAL PAPERS

7 $\frac{1}{8}$ " X 8 $\frac{1}{2}$ "	43 X 51 (Bottom title)
6 $\frac{3}{8}$ " X 9"	40 X 45 (Side title)
3 $\frac{1}{2}$ " X 8 $\frac{1}{2}$ "	21 X 51 (Col bottom title)
3" X 9"	18 X 54 (Col side title)

#### STANDARD IMAGE SIZES FOR PLATES

40" x 56"
40" x 27"
19" x 27"
42" x 32" (GQ)

#### RECOMMENDED PUBLICATION SCALES FOR PLATES ARE:

1 20,000 (Puerto Rico)
1 24,000
1 62,500
1 63,360 (Alaska)
1 125,000
1 250,000
1 500,000

#### OTHERS:

1 25,000
1 31,680
1 50,000
1 100,000

## PHOTOGRAPHS

- 1 Submit glossy print at publication scale or indicate by crop lines to bring to publication scale
- 2 300-line screen to be used for fossil plates and where fine detail is essential
- 3 Emulsion of photographic prints and back of photographs should not be written or paper-clipped Scale should be drawn outside of image area
- 4 Use registered overlay to show line and symbol placement  
Never draw on photographic prints
- 5 Do not mount with glue, tape, or permanent attaching materials
- 6 Do not place any kind of tape over image area
- 7 Register all overlays by corner ticks or other marks, indicate top if not obvious
- 8 NOTE Negatives of all photographs published in Geological Survey reports are sent by the Branch of Cartography to the Photo Library, Denver, Colorado

## SPECIAL INSTRUCTIONS:

1	Submit glossy print at publication scale or indicate by crop lines to bring to publication scale	5	Do not mount with glue, tape, or permanent attaching materials
2	300-line screen to be used for fossil plates and where fine detail is essential	6	Do not place any kind of tape over image area
3	Emulsion of photographic prints and back of photographs should not be written or paper-clipped. Scale should be drawn outside of image area	7	Register all overlays by corner ticks or other marks, indicate top if not obvious
4	Use registered overlay to show line and symbol placement. Never draw on photographic prints	8	NOTE: Negatives of all photographs published in Geological Survey reports are sent by the Branch of Cartography to the Photo Library, Denver, Colorado

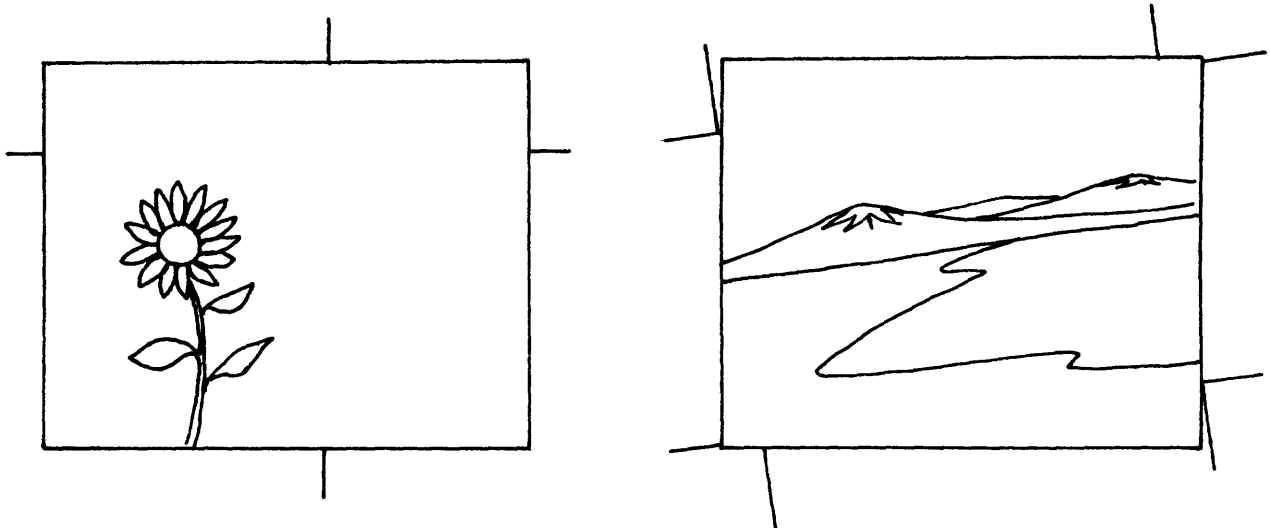
**SPECIAL INSTRUCTIONS:**



### Photographs

If the relative size of items being photographed is not self-evident, it should be indicated by placing a familiar object (for example, a hammer, ruler, or knife) in the photograph or by a scale shown on its border (not on the image).

Croplines are used to eliminate unwanted parts of the photograph and to adjust for inadvertent camera tilt. Croplines should not be drawn across the photograph, but at the edges only. If symbols or lines need to be added, an overlay should be prepared using corner ticks for registration to show placement. Write "top" at the top of the photograph mounting sheet to insure proper orientation.



The source of the photograph must be given only if photographer was not an Interior Department employee or if the photograph has been copyrighted.

Special mounting of photographs is necessary to avoid damage to the emulsion. Photographs should be secured to a sheet of paper by cutting four diagonal slots in the sheet through which the photograph corners can be inserted and taped on the back.

The author's name and the figure number should be typed on a label pasted to the back of the photograph or penciled on the mounting sheet. Do not write on the front or back of photographs, and do not use paperclips.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 3.02.4

Subject: OBTAINING APPROVAL TO PUBLISH OR RELEASE--Instructions for Specific Documents

#### 3.02.4 News release

Reports are the principal tangible product of the U.S. Geological Survey, but to be effective, they must be available and useful to our audience. An important means of alerting readers to the results and availability of new reports is with a news release.

Depending on the publication series or the scope or sensitivity of the information, news releases are either issued to local news media by the originating office or issued regionally or nationally by the Public Affairs Office. News releases can promote both public interest in the report and fulfill the basic Geological Survey mandate to disseminate widely the results of our studies without preferential release to selected groups or individuals.

Geological Survey news releases most commonly announce results of reports and studies or describe potentially newsworthy events for which the Geological Survey is the logical voice; for example, new projects, changes in personnel, or natural events such as floods. This article pertains specifically to news releases that announce results and availability of reports, the basic guidelines for which can also be used in drafting news releases for new projects, current conditions, extreme hydrologic events, or personnel announcements.

#### REQUIRED APPROVAL

News releases for reports in the Geological Survey series indicated in article 3.01.1 are mandatory and require Director's approval before issuance. Exceptions include news releases for flood-prone-area maps, water folders, annual State data reports, and annual District project summaries.

Draft news releases for jointly funded reports published by the Geological Survey must be supplied to cooperators as part of the manuscript package submitted for cooperator review.

News releases announcing reports to be published by a cooperating agency are encouraged but not mandatory. If a news release for reports of this type is to be distributed by the Geological Survey, Director's approval is required. After approval, the originating office may either send the release to the cooperator for distribution after the report is printed, or may itself issue the release after publication of the report, whichever method is satisfactory to both the Geological Survey and the cooperator.

## PROCESSING

Reports to be approved by the Director

Each news release must be reviewed along with the report both at the Region and Division level for technical accuracy, journalistic style, and conformance to Geological Survey policy. One copy of each reviewed news release is retained in the files of the Publications Management Unit, and one is returned, with comments and suggestions, to the originating office with the approved manuscript for later distribution. The Publications Management Unit is responsible for notifying the Public Affairs Office of reports in the WRI and Open-File Reports that might warrant a regional or national news release.

Reports to be approved by the  
Regional Hydrologist (open-file data only)

Each news release is reviewed by the Region. The Region sends one copy to the Publications Management Unit along with a copy of the manuscript-routing sheet and a memorandum indicating approval of the report, and returns the other copy, with the approved manuscript, to the originating office for release. If a news release deals with sensitive subjects, it should not be issued until formal approval is received from the Publications Management Unit.

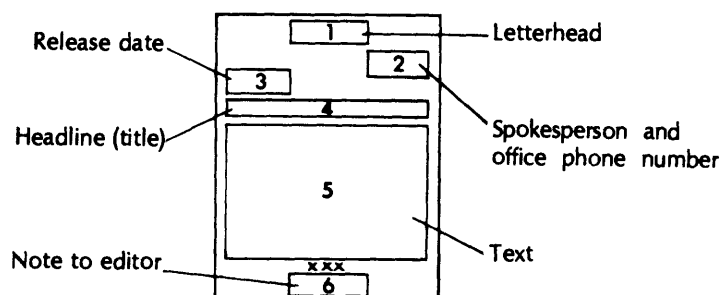
## WRITING NEWS RELEASES

News releases issued locally can reach an audience of several thousand people if properly written. Authors should learn the principles of writing good news releases to ensure that the information they wish to disseminate is distributed widely. Questions concerning style, approval, or issuance of news releases should be directed to the Public Affairs Office, 119 National Center, Reston, Va., 22092 (FTS 959-4460).

The author of a news release should keep in mind the intended audience. In most instances, the audience will be the general public, which has various levels of interest in the field of water resources. Thus, news releases must be brief, easily understood, and accurate.

Where appropriate, include illustrations with a news release. Good, clear photographs are especially helpful in attracting the attention of editors and, eventually, readers. Examples of illustrations include hydrologists working in the field, simplified charts or diagrams showing changes in water level, or areas of flooding.

A news release consists of the basic components given on the diagram below. Numbers on the diagram correspond to the numbered discussion of each item that follows:



1. Letterhead.--Standard letterhead showing Department and Bureau designation followed by the address of the office in which the writer(s) of the news release works.
2. Spokesperson for news release and phone number.--name(s) of the local spokesperson who is responsible for responding to news media inquiries regarding the news release (generally the author). Include the telephone number of the spokesperson(s) to permit news media to make quick contacts for additional information if needed.
3. Release date.--The date when news media can publish or broadcast the news release; one of two formats is preferred:
  - a. For Release (month, day of month, and year)
  - b. For Release: Upon receipt (Prepared--add date of mailing)

A set date for release (format 1) is generally better, because it lets news media know how much time they have to expand on a story before the news breaks. Most editors appreciate a set date of release and will honor that date. If a news release describes events that are of fleeting interest, such as today's flood peak, use format 2; news media then can at least tell how old the information is. Most reports or data will be of such a nature that a news release can be given a lead time of a few days before issue.
4. Headline.--short, eye-catching (but honest) title summarizing the subject. The headline is probably the most important single item because it must catch the eyes of editors and convince them that the story might be of interest to their readers. The headline must be a correct statement of what is given in the news release; it should be applicable to the contents in every respect. A good headline will not be more than one line long.
5. Text.--here is where the following essential questions are answered in the order of their importance for each particular story:
 

a. What happened?	d. Where was it?
b. Who was involved?	e. How was it done?
c. When was it?	f. Why was it done?
6. Note to editor.--This note is used to advise editors of the availability of a photograph or a special contact for further information. It should be placed in parentheses below the end line.

Common words should be used in short, simple, declarative sentences. Use familiar words. Avoid technical terms as much as possible; when their use is unavoidable, explain them in common language. Stick with the facts. Do not adorn the facts with value judgments such as "very important study" or "new revolutionary results."

The best length for a news release is one page or a one-sheet, two-sided release. Paragraphs should be completed on a page and words not split (hyphenated) between two lines of type. This helps prevent errors in retyping and typesetting by news media. If a release goes to a second page, indicate "(more)" at the bottom of the first page. Double space the lead paragraph; single space the remainder of the release with double spacing between paragraphs.

Keep the lead paragraph short--preferably only one sentence. Give the most important news from the standpoint of what is known now that was not known before, or present some attention-arresting statement that will attract readers' interest and make them continue reading. Attract the reader's interest with the first 10 words of the first sentence, and then finish the sentence by giving credit to the U.S. Geological Survey, Department of the Interior.

Tell in order of importance the next ranking features of the story in one- or two-sentence paragraphs. Newspaper and magazine editors commonly cut or pad a story to fit available space. Do not use several paragraphs to build up to a climax because the climax may be removed before publication.

Direct quotations should be used for important explanations or conclusions, as if the author were talking directly to readers. For example, "Water is scarce in the Smithfield area," according to Robert L. James, "but careful prospecting may locate enough for ordinary household use." The quotation should give the impression that James (the author) made the statement in an interview. Because of the difference in style between the spoken and written word, the quote from the author's words will seldom be found verbatim in the report.

With the first mention of a person, give the full name as ordinarily used and the professional affiliation and location. For multiple authors, initials and last names are preferred. In succeeding paragraphs, the Geological Survey uses only the last name without a title (Mr. or Mrs.). News media then can alter this style, if necessary, to agree with their own.

If the subject report resulted from a cooperative effort, mention the other agencies involved, but don't spend an inordinate amount of space describing all facets of the cooperative program. Expounding on the cooperative program should be reserved for the report--not the news release.

Each succeeding paragraph after the first four or five becomes more expendable. The main thrust of the news story must be given within the first few paragraphs. Those that follow, though pertinent, may be considered to be filler or background by many news media editors. Thus, they are often sacrificed to keep a news story within space available.

Specific highlights from the report that encompass the major findings of the study can be listed in short bullets at the end of the release.

End each news release text with "\*\*\*USGS\*\*\*" or some other marks to let editors know the writer has finished.

The examples on the following pages are news releases issued by the Geological Survey Public Affairs Office (for regional or nationwide distribution) and by a District office (for local distribution). Please note, however, that authors are required to provide initial drafts of news releases regardless of whether the release is of local or national importance. The examples incorporate the principal rules of writing for news media and are samples after which news releases can be patterned. (See article 1.02.2 for additional information regarding the role of the Public Affairs Office in preparing news releases.)

### Statement of Availability

Each news release should inform the reader where to obtain copies of the report. Examples of statements of availability in news releases issued by originating offices<sup>1</sup> for WRI and Open-File Reports, flood-prone-area maps, cooperator-published series, and annual District project summaries are given below.

#### 1. WRI and Open-File Reports

"Copies of the report are available for inspection at (originating office) and can be purchased at cost from Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Building 41, P.O. Box 25425, Denver, Colorado 80225." Orders must include checks or money orders payable to Department of the Interior-U.S. Geological Survey and specify report identification number (OFR- \_\_\_\_)."

#### 2. Flood-prone-area maps

News release is optional and does not require approval. If a news release is issued, it should include the statement:

"Copies are available in limited quantity from (originating office)."

#### 3. Annual District project summaries

News release is optional and does not require Director's approval unless particularly interesting or sensitive projects are involved. If a news release is issued, it should include the statement:

"Copies can be obtained in limited quantity from (originating office)."

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<sup>1</sup> For reports originating at the National Center in Reston, only one inspection copy of the report for the U.S. Geological Survey Library in Reston is needed because all offices are within the same building. For reports originating in regional or research offices in California and Colorado, inspection copies at the appropriate U.S. Geological Survey library will substitute for originating-office copies.

5. Reports published by cooperating agency

"Copies are available at no cost from (originating office and (or) cooperating agency).\" If there is a charge, add an appropriate statement.

Examples of statements of availability in news releases issued by the Public Affairs Office, National Center, for Professional Papers, Water-Supply Papers, Bulletins, Circulars, Hydrologic Investigations Atlases, Techniques of Water-Resources Investigations, Geologic Quadrangle Maps, and Miscellaneous Field Studies Maps are given below.

For books:

"Copies can be inspected at major libraries nationwide and can be purchased for \$\_\_\_\_\_ per copy from the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Building 41, Box 25425, Denver, CO 80225.\" Orders must include checks or money orders payable to the receiving agency (Department of the Interior-U.S. Geological Survey) and must specify report identification number.\"

For maps:

"Maps may be obtained by writing the U.S. Geological Survey, Map Distribution Section, Federal Center, Building 41, Box 25286, Denver, CO 80225.\"



Department of the Interior  
U.S. Geological Survey  
119 National Center  
Reston, Virginia 22092



Public Affairs Office

Gail Wendt

(703) 860-7444

For release: UPON RECEIPT (Mailed October 1, 1985)

1985 WATER YEAR PROVES TO BE A DRY ONE FOR MAINE

Three of Maine's index streams turned in a very dry report for the 1985 water year, making this just-completed water year one of the driest in decades for the state, the U.S. Geological Survey said.

USGS hydrologist Bill Bartlett in Augusta, Maine, said that the three streams -- St. John River, Piscataquis River and Little Androscoggin River -- all reported average flows for the water year that were in the deficient range, which means that they were in the lowest 25 percent of historic record.

Bartlett said that the water year used by hydrologists runs from October 1 to September 30 of the following calendar year and is designed to roughly follow the growing season and to begin and end during a period of generally low streamflow.

"We saw the beginnings of the dry 1985 water year last summer when flows were already low," Bartlett said. "Flows continued to be generally below average throughout most of the year, and all three streams had average monthly flows that were well-below normal for at least six months of the water year.

"Overall, flows on these key streams for the water year are some of the lowest yearly averages that we have seen in decades. Despite some help from the rains from Hurricane Gloria, which boosted end-of-September flows on the streams, conditions are generally still drier than normal for this time of year," Bartlett said.

USGS hydrologists in Maine supplied the following information on 1985 water year streamflows:

- o St. John River at Fort Kent -- Flow averaged 4,452 million gallons per day (mgd) for the 1985 water year, which is about 30 percent below the long-term average for the water year and the seventh lowest annual average flow in 59 years of record.
- o Piscataquis River at Dover-Foxcroft -- Flow averaged 241 mgd, which is about 40 percent below the long-term average for the water year and the fifth lowest annual average flow in 83 years of record.

(more)



- o Little Androscoggin River near South Paris -- Flow averaged 45 mgd, which is about 50 percent below the long-term average for the water year and the third lowest annual average flow in 64 years of record.

For the month of September, the final month of the 1985 water year, the USGS supplied the following information:

- o St. John River at Fort Kent -- Flow averaged 1,161 mgd, which is about 62 percent below the long-term average for September.
- o Piscataquis River at Dover-Foxcroft -- Flow averaged 212 mgd, which is about 180 percent above the long-term average for September.
- o Little Androscoggin River near South Paris -- Flow averaged 20 mgd for September, which is about 36 percent above the long-term average for the month.

\* \* \* USGS \* \* \*

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Water Resources Division  
975 West Third Avenue  
Columbus, Ohio 43212

For release: Immediate  
Mailed: July 2, 1985

For information call:  
Kevin J. Breen  
(614) 469-5553

---

Chemical Study Identifies Means of Tracing Oil and Gas Brine  
Sources

Data on oilfield and gasfield brines in Ohio indicate that certain chemical constituents may be useful in identifying the geologic formations that are the sources of the brines. Potassium concentrations and the ratios of potassium to sodium have potential as "tracers" in incidents of water pollution by brines, according to a report released by the U.S. Geological Survey, Department of the Interior.

Kevin Breen, U.S. Geological Survey hydrologist and principal author of the report, said that pollution of ground- and surface-water supplies by improper disposal of brines is a problem in eastern Ohio, where most of the State's oil and gas is produced. "Brines are highly concentrated salt waters commonly associated with deep underground accumulations of oil and gas," Breen said. "They are encountered during oil and gas well drilling operations. Brines are an unwanted byproduct in oil and gas recovery."

If an oil or gas well is improperly constructed or maintained, it is possible for brines to migrate upward and contaminate ground-water supply wells. The contaminated ground water also may flow toward a nearby stream and pollute surface water supplies. Surface impoundments of brines also pose a potential pollution threat if they are not isolated from surface and ground water.

"Knowledge of the chemical makeup of brines is important and serves several purposes," Breen said. "Brines have characteristic chemical 'signatures' that help identify the source of the brine causing water pollution. We can also use the chemical information to help determine the rock formations that are the sources of brine encountered during oil and gas well drilling," he said.

(more)

"In order to discover characteristics that would make it possible to distinguish brines from different formations, the U.S. Geological Survey, in cooperation with the Ohio Department of Natural Resources, Division of Oil and Gas, collected and chemically analyzed brine from three of the principal oil- and gas-producing sandstones in eastern Ohio," he said. "These are the Berea Sandstone, the 'Clinton' sandstone (drillers term) of the Albion Sandstone, and the Rose Run sandstone (informal term) in the equivalent of the Knox Dolomite."

Breen said that of 16 dissolved constituents selected for analysis, only potassium was found to have a unique range of concentrations within each formation. "This means that, given no additional information, potassium concentration is the best single formation indicator for unidentified, undiluted brines. In cases where brine is diluted, however, the concentrations of a brine's constituents will change. The ratios between constituents are less likely to be influenced by dilution, so we examined combinations of the selected constituents to identify which ones best distinguish between the formations studied. We found that the ratio of potassium to sodium offers the best general means of chemically differentiating brines from the Berea, 'Clinton,' and Rose Run sandstones."

Breen said that use of potassium chemistry and concentration ratios are feasible as a means of identifying oilfield and gas-field brines in eastern Ohio, but effective application would require a more comprehensive data base than now exists for brines from the three formations. "Such a data base would not only support local and regional studies of water pollution by brines, but also would aid in studies related to construction and maintenance of oil wells and gas wells," he said.

Copies of the report titled "Chemical and isotopic characteristics of brines from three oil- and gas-producing formations in eastern Ohio, with applications to the geochemical tracing of brine sources," by K. J. Breen, C. G. Angelo, R. W. Masters, and A. C. Sedam, has been released as U.S. Geological Survey Water-Resources Investigations Report 84-4314. Copies are available for inspection at the U.S. Geological Survey, 975 West Third Avenue, Columbus, Ohio 43212. The report can be purchased from the Open-File Services Section, Western Distribution Branch, U.S. Geological Survey, Box 25425, Federal Center, Denver, Colo. 80225 (telephone: (303) 236-7476).

\* \* \*

# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

## SECTION 4

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Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Use of International System (SI) and Inch-Pound Units

#### 4.01.1 Guidelines for selecting system

As outlined in a Director's memorandum of March 9, 1973, the Geological Survey began a policy to encourage use of the International System of Units, abbreviated (SI) in technical reports and maps. In addition, many technical journals require use of SI units or dual units (whereby the SI value is given first, the inch-pound unit in parentheses, or vice versa). With the exception of Professional Papers, in which the use of SI units generally is required, the use of SI units is optional in all other Geological Survey publications.

The choice as to which system to use in a given report is based mainly on the orientation of the target audience. Reports intended primarily for a general or lay-reader audience are normally presented in inch-pound units, particularly those reports describing a study that was designed in rounded inch-pound units (such as a 50 X 100-mi<sup>2</sup> area) or that used equipment calibrated in inch-pound units. Reports containing post-1977 data acquired in SI units should not be converted to the inch-pound system. Authors should also bear in mind that converting values from one system to the other runs the risk of imparting the semblance of greater accuracy (false precision). (See article 4.02.1.) Reports intended for international or specialized scientific audiences generally require the SI or, when specified, dual units.

Authors should evaluate the audience and the manuscript requirements of the selected publisher before writing the report; this will avoid the tedious task of converting all values to the alternate system later on.

Regardless of which system is used in a given report, water temperature must be reported in degrees Celsius (°C), and chemical concentrations must be reported in milligrams (or micrograms) per liter, not parts per million (or billion). SI units for which there are no inch-pound equivalents are not converted.

Whichever system of units is used for the text must also be used in the tables and illustrations.

If a report prepared in SI units incorporates a base map designed in inch-pound units, the scale must be altered to indicate SI equivalents.

Manuscripts published in the Geological Survey series must contain in the preliminary pages a table of conversion factors<sup>1</sup> for the units of measure given in the report, illustrations, and tables. This table generally follows the table of contents, but is not listed in the table of contents.

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<sup>1</sup> A sample conversion table is given in article 3.01.2; a list of conversion factors commonly used in Water Resources Division reports is given in article 4.01.2.

#### References:

- Water Resources Division Memorandum No. 73.203, dated June 29, 1973
- Water Resources Division Memorandum No. 77.14, dated November 15, 1976
- Water Resources Division Memorandum No. 82.20, dated November 18, 1981

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Use of International System (SI) and Inch-Pound Units

4.01.2 Conversion factors and abbreviations

INCH-POUND TO INTERNATIONAL SYSTEM (SI) UNITS

<u>Multiply inch-pound units</u>	<u>by</u>	<u>To obtain SI units</u>
<u>Length</u>		
inch (in.) *	25.4	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
<u>Area</u>		
acre	4,047	square meter (m <sup>2</sup> )
acre	0.4047	hectare
square foot (ft <sup>2</sup> )	929.0	square centimeter (cm <sup>2</sup> )
square foot (ft <sup>2</sup> )	0.09294	square meter (m <sup>2</sup> )
square mile (mi <sup>2</sup> )	259.0	hectare (ha)
square mile (mi <sup>2</sup> )	2.590	square kilometer (km <sup>2</sup> )
<u>Volume</u>		
ounce, fluid (fl. oz)	0.02957	liter (L)
pint (pt)	0.4732	liter (L)
quart (qt)	0.9464	liter (L)
gallon (gal)	3.785	liter (L)
gallon (gal)	.003785	cubic meter (m <sup>3</sup> )
million gallons (Mgal)	3,785	cubic meter (m <sup>3</sup> )
cubic foot (ft <sup>3</sup> )	0.02832	cubic meter (m <sup>3</sup> )
cubic mile (mi <sup>3</sup> )	4.168	cubic kilometer (km <sup>3</sup> )
acre-foot (acre-ft)	1,233	cubic meter (m <sup>3</sup> )
acre-foot (acre-ft)	0.001233	cubic hectometer (hm <sup>3</sup> )
<u>Flow</u>		
foot per second (ft/s)	0.3048	meter per second (m/s)
foot per day (ft/d)	0.3048	meter per day (m/d)
cubic foot per second (ft <sup>3</sup> /s)	0.02832	cubic meter per second (m <sup>3</sup> /s)
cubic foot per second per square mile [(ft <sup>3</sup> /s)/mi <sup>2</sup> ]	0.01093	cubic meter per second per square kilometer [(m <sup>3</sup> /s)/km <sup>2</sup> ]
mile per hour (mi/h)	1.609	kilometer per hour (km/h)
gallon per minute (gal/min)	0.06308	liter per second (L/s)
gallon per day (gal/d)	0.003785	cubic meter per day (m <sup>3</sup> /d)
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m <sup>3</sup> /s)

\* When used with ft, lb, exponents, omit period (3 ft 2 in, 5 lb/in<sup>2</sup>, 4 in.).

## INCH-POUND TO INTERNATIONAL SYSTEM (SI) UNITS (continued)

<u>Multiply Inch-pound units</u>	<u>by</u>	<u>To obtain SI units</u>
<u>Flow</u>		
million gallons per day per square mile [(Mgal/d)/mi <sup>2</sup> ]	1,460	cubic meter per day per square kilometer [(m <sup>3</sup> /d)/km <sup>2</sup> ]
<u>Mass</u>		
ounce, avoirdupois (oz)	28.35	gram (g)
pound, avoirdupois (lb)	4.536	kilogram (k)
ton, short	0.9072	megagram (Mg)
<u>Temperature</u>		
degree Fahrenheit (°F)	°C = 5/9 x (°F-32)	degree Celsius (°C)
<u>Specific capacity</u>		
gallon per minute per foot [(gal/min)/ft]	0.2070	liter per second per meter [(L/s)/m]
<u>Hydraulic conductivity</u>		
foot per day (ft/d)	0.3048	meter per day (m/d)
<u>Transmissivity</u>		
square foot per day (ft <sup>2</sup> /d)	0.09290	square meter per day (m <sup>2</sup> /d)
<u>Pressure</u>		
pound per square inch (lb/in <sup>2</sup> )	6.895	kilopascal (kPa)

## INTERNATIONAL SYSTEM (SI) UNITS TO INCH-POUND

<u>Multiply SI units</u>	<u>by</u>	<u>To obtain inch-pound units</u>
<u>Length</u>		
millimeter (mm)	0.03937	inch (in.)*
meter (m)	3.281	foot (ft)
kilometer (km)	0.6214	mile (mi)
<u>Area</u>		
hectare (ha)	2.471	acre
square centimeter (cm <sup>2</sup> )	0.001076	square foot (ft <sup>2</sup> )
square meter (m <sup>2</sup> )	0.0002471	acre
square meter (m <sup>2</sup> )	10.76	square foot (ft <sup>2</sup> )
hectare (ha)	0.003861	square mile (mi <sup>2</sup> )
square kilometer (km <sup>2</sup> )	0.3861	square mile (mi <sup>2</sup> )
<u>Volume</u>		
liter (L)	33.82	ounce, fluid (oz)
liter (L)	2.113	pint (pt)
liter (L)	1.057	quart (qt)
liter (L)	0.2642	gallon (gal)
cubic meter (m <sup>3</sup> )	35.31	cubic foot (ft <sup>3</sup> )
cubic meter (m <sup>3</sup> )	264.2	gallon (gal)
cubic meter (m <sup>3</sup> )	0.0008107	acre-foot (acre-ft)
cubic hectometer (hm <sup>3</sup> )	810.7	acre-foot (acre-ft)
cubic kilometer (km <sup>3</sup> )	0.2399	cubic mile (mi <sup>3</sup> )
<u>Flow</u>		
meter per second (m/s)	3.281	foot per second (ft/s)
meter per day (m/d)	3.281	foot per day (ft/d)
cubic meter per second (m <sup>3</sup> /s)	35.31	cubic foot per second (ft <sup>3</sup> /s)
cubic meter per second per square kilometer [(m <sup>3</sup> /s)/km <sup>2</sup> ]	91.49	cubic foot per second per square mile [(ft <sup>3</sup> /s)/mi <sup>2</sup> ]
kilometer per hour (km/h)	0.6214	mile per hour (mi/h)
liter per second (L/s)	15.85	gallon per minute (gal/min)
cubic meter per day (m <sup>3</sup> /d)	264.2	gallon per day (gal/d)
cubic meter per second (m <sup>3</sup> /s)	22.83	million gallons per day (Mgal/d)
cubic meter per day per square kilometer [(m <sup>3</sup> /d)/km <sup>2</sup> ]	0.0006849	million gallons per day per square mile [(Mgal/d)/mi <sup>2</sup> ]

---

\* When used with ft/lb, exponents, omit period (3 ft 2 in, 5 lb/in<sup>2</sup>, 4 in.).



## INTERNATIONAL SYSTEMS(SI) UNITS TO INCH-POUND (Continued)

<u>Multiply SI units</u>	<u>by</u>	<u>To obtain inch-pound units</u>
<u>Mass</u>		
gram (g)	0.03527	ounce, avoirdupois (oz)
gram (g)	0.002205	pound, avoirdupois (lb)
megagram (Mg)	1.102	ton, short
<u>Temperature</u>		
degree Celsius (°C)	$F = 1.8 \times ^\circ C + 32$	degree Fahrenheit (°F)
<u>Specific capacity</u>		
liter per second per meter [(L/s)/m]	4.831	gallon per minute per foot [(gal/min)/ft]
<u>Hydraulic conductivity</u>		
meter per day (m/d)	3.281	foot per day (ft/d)
<u>Transmissivity</u>		
square meter per day (m <sup>2</sup> /d)	10.76	square foot per day (ft <sup>2</sup> /d)
<u>Pressure</u>		
kilopascal (kPa)	0.1450	pound per square inch (lb/in <sup>2</sup> )

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Use of International System (SI) and Inch-Pound Units

4.01.3 Sources of additional information on use of International System of Units

The following books and pamphlets describe in detail the procedures, units, conversion factors, and abbreviations used in converting values from one system of measurement to the other.

American National Metric Council, 1978, Metric editorial guide (3d ed.): Washington, D.C., 17 p.

American Society for Testing and Materials, 1974, Metric practice guide--a guide to the use of SI, the international system of units: American Society for Testing and Materials, 34 p.

----- 1976, Standard for metric practice: American Society for Testing and Materials, 36 p.

Johnson, A. I., 1964, Conversion factors and miscellaneous tables: U.S. Geological Survey Open-File Report, 19 p.

National Bureau of Standards, 1977, The international system of units (SI): National Bureau of Standards Report E380-76, 41 p.

Pedde, L. D., and others, 1978, Metric manual: U.S. Bureau of Reclamation, 278 p.

U.S. Geological Survey, 1977, Conversion factors--SI metric and U.S. Customary Units: U.S. Geological Survey, 12 p. (folder).

U.S. Geological Survey, 1978, Suggestions to Authors of the reports of the United States Geological Survey (6th ed.): Washington, D.C., p. 192-196.

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Significant Figures

#### 4.02.1 Conversion and rounding<sup>1</sup>

A. For everyday rounding of SI values obtained by converting inch-pound values, the following simplified rules are suggested. More detailed rounding rules are given in "American National Standard Metric Practice," Publication Z210.1-1976, section 4; in "Metric Manual," 1978, Bureau of Reclamation, p. 175-183; and in "Suggestions to Authors" (6th ed., p. 197-202).

1. If the inch-pound value is expressed by a combination of units, such as feet and inches or pounds and ounces, first express it in terms of the smaller unit of measurement.

Example: 14 ft 5 in = 173 in.

2. When rounding off numbers to n significant figures, add 1 to the nth digit (example 1), if the first of the discarded digits is less than 5, leave the nth digit unchanged (example 2). If the first of the discarded digits is 5 and all the following digits are zero, round off to the nearest even number (example 3-5). If the 5 is followed by any of the digits 1 through 9, add 1 to the nth digit (example 6).

Example	Original Number	Rounded Number
1	0.32891	0.329
2	47,543	47,500
3	11.65	11.6
4	22.75	22.8
5	18.05	18.0
6	18.051	18.1

If the difference between successive numbers is more important than the total or average, it may be desirable to round consistently in one direction all numbers in which the first dropped digit is followed by zeros only, instead of rounding to the nearest even number.

---

<sup>1</sup> Modified from American National Metric Council, 1978, Metric editorial guide: Washington, D.C., p. 12-13.

3. Multiply the inch-pound value by the conversion factor. If the first significant<sup>2</sup> digit of the SI value is equal to or larger than the first significant digit of the inch-pound value, round the SI value to the same number of significant digits as there are in the inch-pound value.

Examples: 11 mi X 1.609 = 17.699 km  
which rounds to 18 km

61 mi X 1.609 = 98.149 km  
which rounds to 98 km

If the first significant digit of the SI value is smaller than the first significant digit of the inch-pound value, round to one or more significant digits, as appropriate.

Example: 8 ft X 0.3048 = 2.4384 m  
which rounds to 2.4 m

4. Exceptions: It is sometimes better to round to one less digit than specified above. For example, according to rule (3), 26 pounds per square inch air pressure in an automobile tire would be converted as follows:

26 lb/in<sup>2</sup> X 6.895 = 179.27 kPa  
which rounds to 179 kPa,

but 180 kPa, where the zero is not a significant digit, would usually be better because tire pressures are not expected to be very precise. The rules do not apply to conversion of °Fahrenheit to °Celsius.

5. The simplified rules given above do not eliminate the necessity for judgment. If you believe that a dimension given as 8 ft is valid to the nearest 1/10 inch, you should consider it to mean 96.0 inches (rule 1) and treat it as having 3 significant digits. The rounded dimension would then be 2.438 m, instead of 2.4 m.

- B. Where a customary value represents a maximum or minimum limit that must be respected, the rounding must be in the direction that does not violate the original limit.

---

<sup>2</sup> One or more zeros at the beginning of a number are not called "significant." Zeros at the end of a number are not considered significant unless their use results in a number that is closer to the true value than would be the case if the number were increased or decreased by 1.

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Editorial Practices

4.03.1 Numbers, hyphens, fractions and decimals, and combined units

A. Numbers

1. Use figures for isolated numbers 10 and larger; spell out numbers smaller than 10, except as indicated in item 2 below. Where a series of numbers is given in a sentence, some 10 and larger and some less than 10, use figures for all:

3 pipes and 12 beakers

the 6th and 12th page

2. Use figures with all units of measurement:

a 3-mL sample

a 5-year study

samples of 0.2 and 5 g

dried for 8 days

Note: Leave a space between the value and the unit: 35 mm; not 35mm

3. Use commas in four-digit integer numbers: 2,400 analyses

Exception: Scales in graphs and scales indicating altitudes in profiles and cross sections in inch-pound units, use commas only in numbers of five digits or more.

11,000

10,000

9000

Note: Spaces, not commas, are used in reporting values in SI units in text, tables, and figures.

4. When two kinds of units follow in succession, spell out the first value.

three 100-mL beakers

ten 3-kg samples

5. Numbers at the beginning of a sentence should be spelled out. (Preferably, the sentence should be rephrased to avoid beginning with a number.)

Twenty-six slides were prepared.

6. Although centimeter is not an official linear measurement in the International System of Units, we will continue to use centimeter in specific conductance (microsiemens per centimeter) and in reporting snow depths. For all other linear measurements in the International System of Units, use millimeters or meters.

B. Hyphens

1. Avoid use of a hyphen in text to represent the word "to": Write "Concentration ranged from 10 to 15 mg/L," not "...from 10-15 mg/L." Write "Use a 5- to 6-inch width," not "a 5-6 inch width."

Exceptions: A single (1-en) dash may be used to indicate a range given in parentheses:

Flow rates are relatively small (5-10 mL/s).

When a list of ranges is given in a table, hyphens may be used:

Range of median values

0.3 - 0.6  
1.2 - 1.8

2. When a number is used as an adjective, place a hyphen between the number and the word or symbol. If the value is not used as an adjective, do not hyphenate.

a 5-pound bass	the bass weighed 5 lb
a 20-mile reach	the reach was 20 mi long

When two or more numbers are used as adjectives to modify the same term, use a hyphen after each:

25-, 50-, and 100-meter distances

C. Fractions and decimals

1. Decimal notation is required when reporting numbers in SI units. For inch-pound units, decimal notation is preferred to fractions, but simple fractions are acceptable (except in engineering drawings):

3.5 m (required)	3.5 ft (preferred)
	or 3 1/2 ft (acceptable)

2. Place a zero before the decimal point in text to prevent the possibility that a faint decimal point will be overlooked.

0.54, not .54

The use of a zero before the decimal point is especially important in powers of a number, as in

$x = 24 y^{0.2}$

Exceptions: In table columns, use a zero in a data column for the first entry under a cross rule or total line if the first entry is less than 1. Also, a zero should precede the decimal point in all multiplication factors less than 1 in conversion tables.

#### D. Combined (compound) units

Compound units are those formed by combining units by means of mathematical symbols, for example m/s, Mgal/d.

1. Compound units, when written out, should use the word "per" in place of the slash:

m/s = meters per second, not meters/second

Although compound units are sometimes written with negative exponents ( $\text{km}\cdot\text{h}^{-1}$ ), this style is not commonly used in Water Resources Division publications. Use km/h; if possible.

2. When more than one slash is used in a compound unit, add parentheses to avoid ambiguity:

gallon per day per foot = (gal/d)/ft, not gal/d/ft

When the entire value is used parenthetically, enclose it in brackets to avoid duplicate parentheses:

[(gal/d)/ft]

3. A ratio of two values of the same unit may be expressed as a fraction (either common or decimal) or as a percentage, to avoid needless diversity of unit multiples:

a slope of 10 mm/m = 1/100 or 0.01 or 1 percent

a ratio of 1:10 = 1/10 or 0.1 or 10 percent

4. Inch-pound units should not be used in combination with SI units, with the exceptions of Mgal and  $\mu\text{mho}$ , which are hybrids of SI and inch-pound units:

$\text{kg}/\text{m}^3$ , not  $\text{kg}/\text{ft}^3$

$\text{kg}/\text{m}$ , not  $\text{lb}/\text{m}$

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#### Reference:

Suggestions to Authors (5th ed.), p. 194-197; GPO Style Manual (1984), p.165-171.

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Editorial Practices

4.03.2 Typewriter symbols

The following symbols should be available on typewriters to produce manuscript copy:

Superscript <sup>2</sup> and <sup>3</sup> (for squared and cubed).

Greek lowercase mu ( $\mu$ ) for micro.

° for degree.

• for a product dot for symbols derived as a product.

$\Omega$  for ohm.

When the above symbols are not available, the following substitutions can be used:

Superscripts or subscripts can be simulated by rolling the platen up or down slightly and using the Arabic numeral ( $mi^2, C_1$ );

Degree sign (°) can be simulated by rolling the platen and using a lowercase "o" (30°C);

Product dot (•) can be simulated by rolling the platen and using the period (x.y);

Lowercase Greek letter mu ( $\mu$ ) can be approximated by using a lowercase u and adding the tail by hand ( $\mu$ ).

Italic letters and words should be indicated by underscoring. (In camera-ready copy, the underscore is deleted and the designated words are typed in italics.)

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Reference:

Society for Technical Communication, 1976, Typing guide for mathematical expressions: Society for Technical Communication, Washington, D.C., 37 p.



Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Editorial Practices

4.03.3 Units for pressure<sup>1</sup>

Kilopascal (kPa) is the unit recommended for fluid pressure, for almost all applications such as barometric pressure, gas pressure, and water pressure. A notable exception is in air conditioning, where pressure differentials are given in pascals (Pa); another is the measurement of high vacuum in terms of absolute pressure, for which Pa, mPa, and so forth are more convenient.

Do not use bar ( $10^5$  Pa) or millibar ( $10^2$  Pa) because they are not SI units. They are also objectionable because their use introduces too many different units, requiring frequent conversions to the preferred SI unit kPa ( $10^3$  Pa), with consequent chance for decimal-point errors.

Absolute pressure is specified either by the identification "absolute pressure" or by adding the word "absolute" after the unit symbol. Do not add the unit symbol "g" for gage or "a" for absolute.

Examples: at a gage pressure of 13 kPa;

13 kPa, absolute

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<sup>1</sup> Modified from American National Metric Council, 1978, Metric editorial guide: Washington, D.C., 17 p.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 4.03.4

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--  
Editorial Practices

4.03.4 Unit for specific electrical conductance  
(Water Resources Division Memorandum No. 85.28)

December 5, 1984

WATER RESOURCES DIVISION MEMORANDUM NO. 85.28

SUBJECT: PUBLICATIONS--Adoption of the Microsiemens as the Unit for Specific  
Electrical Conductance in Water Resources Division Publications

The Water Resources Division has adopted the microsiemens per centimeter at 25 °C as the unit for reporting specific electrical conductance in all Division publications in accordance with common usage in the International System of Units (SI) system. The unit should be abbreviated  $\mu\text{S}/\text{cm}$ . Reports published in non-Survey outlets should continue to conform to the style and format of the publication.

William B. Mann IV  
Acting Assistant Chief Hydrologist  
for Scientific Publications  
and Data Management

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Scientific Publications and Data Management (SP&DM) was changed to Scientific Information Management (SIM) on September 16, 1985.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 4.03.5

Subject: USE OF NUMBERS IN WATER RESOURCES DIVISION REPORTS--Editorial Practices

4.03.5 Use of "concentration of 'x'-constituent in water from wells" and "pumped wells"

March 18, 1986

Memorandum

To: Regional Report Advisors, NR, SR, CR, WR

From: Assistant Chief Hydrologist, Scientific Information Management

Subject: PUBLICATIONS--Use of "concentration of 'x'-constituent in water from wells" and "pumped wells"

In many recently submitted and some published Water Resources Division (WRD) reports, writers report on the "concentration of 'x'-constituent in wells." Such usage is incorrect because what is really being reported is the concentration of 'x'-constituent in the water from the well. Also many writers use the expression "pumping well" when "pumped well" is the correct usage when one is describing a well from which water is withdrawn by a pump. "Pumping well" is incorrect because an inanimate object such as a well lacks the power of action.

Writers can avoid the above, and other awkward and incorrect phrases in descriptive passages in reports, by paying particular attention to the literal meaning of the words they use.

We will appreciate your bringing this information, which we believe will improve the quality of our reports, to the attention of authors in your respective regions.

James F. Daniel  
Assistant Chief Hydrologist for  
Scientific Information Management

# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

## SECTION 5

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## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 5.01.1

Subject: EDITORIAL CONSIDERATION FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Geologic Names

#### 5.01.1 Capitalization and formal use of nomenclature

#### A. Capitalize the following (examples are in parentheses):

##### 1. Geologic-time and time-stratigraphic units:

- a. Phanerozoic Eon, Phanerozoic Eonothem
- b. Mesozoic Era, Mesozoic Erathem
- c. Cretaceous Period, Cretaceous System
- d. Late Cretaceous Epoch, Upper Cretaceous Series or  
Gulfian Series (provincial series)
- e. Cenomanian Age, Cenomanian Stage

##### 2. Rock-stratigraphic units:

- a. Supergroup (Belt Supergroup)
- b. Group (Glen Canyon Group)
- c. Formation (Chinle Formation)
- d. Member (Rock Point Member)
- e. Bed (formal use) (Sonsela Sandstone Bed)
- f. Glacial deposit terms (formal use) (Salmon Springs Drift and  
Stuck Till in Washington; Roxana Silt and Peoria Loess in  
Illinois)

Geologic names of the types listed above should be capitalized in material that is indirectly quoted or modified from another source, such as in correlation tables, columnar sections, and maps. However, quoted material should be left in its original form.

B. Do not capitalize the following terms (examples are in parentheses):

1. Economic terms:

- a. cyclothems (St. David cyclothem)
- b. coal beds (Big Horn seam or bed)
- c. oil sands (McClosky sand)
- d. quarry beds (Tennessee marble)
- e. aquifers (Biscayne aquifer)

2. Informal, morphologic, or genetic terms:

- a. sequence (Sauk sequence)
- b. facies (Catskill facies)
- c. moraine (Harbor Hill moraine)
- d. pluton, stock, and batholith (Loon Lake pluton, Idaho batholith)

3. Informal use of the terms:

- a. age (fossils of early Tertiary age)
- b. stage (Lake Bonneville stage)
- c. time or stratigraphic position terms (early Paleozoic time or lower Paleozoic rocks)

4. Geologic-climatic units (Wisconsin glaciation and Sangamon interglaciation.)

C. For computer printouts in which lowercase is unavailable: The Chairman of the Geologic Names Committee has established the following guidelines for reports that have computer printouts containing stratigraphic units or map symbols.

- o Stratigraphic units or map symbols on the computer printouts should be all capital letters, for example, QUATERNARY ALLUVIUM, QAL.
- o Stratigraphic units or map symbols in parts of the report other than computer printouts should be shown in capital and lowercase letters, for example, Quaternary alluvium, Qal.

# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

## Article 5.01.2

**Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Geologic Names**

### 5.01.2 Major geologic-time and time-stratigraphic units

Subdivisions in use by the U.S. Geological Survey (map symbols)					Age estimates of boundaries in million years <sup>1, 5</sup>	
Eon or Eonothem	Era or Erathem	Period or System		Epoch or Series		
Phanerozoic	Cenozoic (Cz)	Quaternary (Q)		Holocene		0 010
				Pleistocene		2 (1.7-2.2)
		Tertiary (T)	Neogene Subperiod or Subsystem (N)	Pliocene		5 (4.9-5.3)
				Miocene		24 (23-26)
			Paleogene Subperiod or Subsystem (Pe)	Oligocene		38 (34-38)
				Eocene		55 (54-56)
				Paleocene		63 (63-66)
	Mesozoic (Mz)	Cretaceous (K)		Late Early	Upper Lower	138 (135-141)
		Jurassic (J)		Late Middle Early	Upper Middle Lower	205 (200-215)
		Triassic (Tr)		Late Middle Early	Upper Middle Lower	~240
		Permian (P)		Late Early	Upper Lower	290 (290-305)
		Carboniferous Periods or Systems (C)	Pennsylvanian (P)	Late Middle Early	Upper Middle Lower	~330
			Mississippian (M)	Late Early	Upper Lower	360 (360-365)
	Paleozoic (Pz)	Devonian (D)		Late Middle Early	Upper Middle Lower	410 (405-415)
		Silurian (S)		Late Middle Early	Upper Middle Lower	435 (435-440)
		Ordovician (O)		Late Middle Early	Upper Middle Lower	500 (495-510)
		Cambrian (C)		Late Middle Early	Upper Middle Lower	~570 <sup>2</sup>
		Late Proterozoic <sup>3</sup> (Z)				900
		Middle Proterozoic <sup>3</sup> (Y)				1600
Early Proterozoic <sup>3</sup> (X)				2500		
Archean (A)		Late Archean <sup>3</sup> (W)				3000
	Middle Archean <sup>3</sup> (V)				3400	
	Early Archean <sup>3</sup> (U)				(3800?)	
pre-Archean <sup>4</sup> (pA)					4550	

<sup>1</sup> Ranges reflect uncertainties of isotopic and biostratigraphic age assignments. Age of boundaries not closely bracketed by existing data shown by ~. Decay constants and isotopic ratios employed are cited in Steiger and Jäger (1977).

<sup>2</sup> Rocks older than 570 Ma also called Precambrian (pC), a time term without specific rank.

<sup>3</sup> Geochronometric units.

<sup>4</sup> Informal time term without specific rank.

<sup>5</sup> Prepared by G. A. Izett, M. A. Lanphere, M. E. MacLachlan, C. W. Naeser, J. D. Obradovich, Z. E. Peterman, M. Rubin, T. W. Stern, and R. E. Zartman at the request of the Geologic Names Committee. The chart is intended for use by members of the U.S. Geological Survey and does not constitute a formal proposal for a geologic time scale. Estimates of ages of boundaries were made after reviewing published time scales and other data. Future modification of this chart will undoubtedly be required. The general references apply where references are not given for specific boundaries.

Geologic Names Committee, 1983



## References:

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**Holocene-Pleistocene boundary**

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**Miocene-Oligocene boundary**

- Van Couvering, J. A., 1978, *Geology*, v. 6, p. 169.
- Van Couvering, J. A. and Berggren W. A., 1977, in Kauffman, E. G. and Hazel, J. E., eds., *Concepts and methods of biostratigraphy*, Stroudsburg, Pa.; Dowden, Hutchinson, & Ross New York; exclusive distributor: Halstead Press, c. 1977.

**Oligocene-Eocene boundary**

- Hardenbol, J., and Berggren, W. A., 1978, *American Association of Petroleum Geologists Studies in Geology* 6, p. 213-234.
- Odin, G. S., Curry, D., and Hunziker, J. C., 1978, *Journal of the Geological Society of London*, v. 135, p. 481-497.

**Eocene-Paleocene boundary**

- Berggren, W. A., McKenna, M. C., Hardenbol, J., and Obradovich, J. D., 1978, *Journal of Geology*, v. 86, p. 67-81.
- Fitch, F. J., Hooker, P. J., Miller, J. A., and Brereton, N. R., 1978, *Journal of the Geological Society of London*, v. 135, p. 499-512.
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**Paleocene-Cretaceous boundary**

- Lerbekmo, J. F., Evans, M. E., and Baadsgaard, H., 1979, *Nature*, v. 279, p. 26-30.
- Obradovich, J. D., and Cobban, W. A., 1975, *Geological Association of Canada Special Paper* 13, p. 31-54.

**Late-Early Cretaceous boundary**

- Folinsbee, R. E., Baadsgaard, H., and Cumming, G. L., 1963, *National Research Council Publication* 1075, p. 70-82.
- Obradovich, J. D., and Cobban, W. A., 1970, *Geological Association of Canada Special Paper* 13, p. 31-54.

**Cretaceous-Jurassic boundary**

- Lanphere, M. A., and Jones, D. L., 1978, *American Association of Petroleum Geologists Studies in Geology* 6, p. 259-268.

**Jurassic-Triassic boundary**

- Armstrong, R. L., and Besancon, J., 1970, *Eclogae Geologicae Helvetiae*, v. 63, no. 1, p. 15-28.
- White, W. H., Erickson, G. P., Northcote, K. E., Dirom, G. E., and Harakal, J. E., 1967, *Canadian Journal of Earth Sciences*, v. 4, p. 677-690.

**Triassic-Permian boundary**

- Webb, A. W., and McDougall, I., 1967, *Earth and Planetary Science Letters* 2, p. 483-488.

**Permian-Carboniferous boundary**

- Fitch, F. J., Miller, J. A., and Williams, S. C., 1970, *International Congress on Stratigraphy and Carboniferous Geology*, 6th, Sheffield, 1967, *Compte Rendu*, v. 2, p. 771-789.

**Carboniferous-Devonian boundary**

- Fitch, F. J., Miller, J. A., and Williams, S. C., 1970, *International Congress on Stratigraphy and Carboniferous Geology*, 6th, Sheffield, 1967, *Compte Rendu*, v. 2, p. 771-789.
- McDougall, I., Compston, W., and Bofinger, V. M., 1966, *Geological Society of America Bulletin*, v. 77, p. 1075-1088.
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**Devonian-Silurian boundary**

- Ross, R. J. Jr., Naeser, C. W., Izett, G. A., Whittington, H. B., Hughes, C. P., Rickards, R. B., Zalasiewicz, J., Sheldon, P. R., Jenkins, C. J., Cocks, L. R. M., Bassett, M. G., Toghil, P., Dean, W. T., and Ingham, J. K., 1978, *U.S. Geological Survey Open-File Report* 78-701, p. 363-365.

**Silurian-Ordovician boundary**

- Lanphere, M. A., Churkin, M. Jr., and Eberlein, G. D., 1977, *Geological Magazine*, v. 114, no. 1, p. 15-24.
- Ross, R. J. Jr., Naeser, C. W., Izett, G. A., Whittington, H. B., Hughes, C. P., Rickards, R. B., Zalasiewicz, J., Sheldon, P. R., Jenkins, C. J., Cocks, L. R. M., Bassett, M. G., Toghil, P., Dean, W. T., and Ingham, J. K., 1978, *U.S. Geological Survey Open-File Report* 78-701, p. 363-365.

**Precambrian subdivisions**

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- Harrison, J. E., and Peterman, Z. E., 1982, *American Association of Petroleum Geologists Bulletin*, v. 66, no. 6, p. 801-802.

**Proterozoic subdivisions**

- James, H. L., 1972, *American Association of Petroleum Geologists Bulletin*, v. 56, p. 1128-1133.

**Proterozoic-Archean boundary**

- James, H. L., 1978, *Precambrian Research*, v. 7, no. 3, p. 193-204.

**Archean**

- Goldich, S. S., and Wooden, J. L., 1978, in Smith, I. E. M., and Williams, J. G., eds., *Proceedings of the 1978 Archean Geochemistry Conference*, p. 285-318.

# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 5.01.3

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Geologic Names

## 5.01.3 Provincial series accepted for use in Water Resources Division reports

Series	Age	Region
Gulfian-----	Late Cretaceous-----	Texas, Louisiana, Oklahoma, Arkansas, Mississippi, and Alabama.
Comanchean-----	Early and Late Cretaceous--	Do.
Coahuilan-----	Early Cretaceous-----	Texas, Louisiana, Arkansas, Mississippi, and Alabama.
Ochoan-----	Late Permian-----	Texas and New Mexico.
Guadalupian-----	Early and Late Permian-----	Do.
Leonardian-----	Early Permian-----	Do.
Wolfcampian-----	Early Permian-----	Do.
Virgilian-----	Late Pennsylvanian-----	Arkansas, Oklahoma, Kansas, Missouri, Nebraska, and Iowa.
Missourian-----	-----do-----	Do.
Desmoinesian----	Middle Pennsylvanian-----	Do.
Atokan-----	-----do-----	Do.
Morrowan-----	Early Pennsylvanian-----	Includes Middle Pennsylvanian rocks in Arkansas and Oklahoma
Chesterian-----	Late Mississippian-----	Indiana, Kentucky, Tennessee, Illinois, Iowa, Missouri, and Arkansas.
Meramecian-----	-----do-----	
Osagean-----	Early Mississippian-----	
Kinderhookian----	-----do-----	
Cayugan-----	Late Silurian-----	New York, Michigan, and Wisconsin.
Niagaran-----	Middle Silurian-----	Do.
Alexandrian-----	Early Silurian-----	Missouri, Illinois, Michigan, and Wisconsin.
Cincinnatian-----	Late Ordovician-----	Ohio, Indiana, Kentucky, Tennessee, Michigan, Wisconsin, and Iowa.
Canadian-----	Early Ordovician-----	United States.
St. Croixan-----	Late Cambrian-----	Iowa, Minnesota, Wisconsin, and Michigan.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Geologic Names

5.01.4 Stratigraphic names not accepted by the Geological Survey

Before preparing a manuscript, authors should check with the Reston Geologic Names Unit to find out what stratigraphic names have been adopted for use in the study area. If an author wishes to introduce a new name, he/she should write or call the Reston Geologic Names Unit (Mail Stop 902, National Center, FTS 959-6981 or 703-648-6981) requesting approval and reservation of the name for his/her use. If the name has not been preempted, it will be reserved for use by the author. The use of names other than those accepted by the Geologic Names Committee should be cited as coming from another author's work, such as the Branchtown Clay of Lewis (1881), and the citation should be included in the references section of the report. (See "Suggestions to Authors," 1978, 6th edition, p. 155). Names that have not been cited or do not have the Geologic Names Committee's approval may be used if the names are qualified by an appropriate statement that describes the classification and nomenclature that are used in the report. (Use of disclaimer is described in article 5.01.5.)

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References:

U.S. Geological Survey, 1966, Lexicon of geologic names of the United States for 1936-60: U.S. Geological Survey Bulletin 1200, 3 volumes, 4341 p.

----- 1970, Lexicon of geologic names of the United States for 1961-67:  
U.S. Geological Survey Bulletin 1350, 848 p.

----- 1981, Lexicon of geologic names of the United States for 1968-75:  
U.S. Geological Survey Bulletin 1520, 342 p.

----- 1981, Geologic names of the United States through 1975:  
U.S. Geological Survey Bulletin 1535, 643 p.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Geologic Names

5.01.5 Geologic name disclaimers

A geologic name disclaimer qualifies a geologic classification or nomenclature that is used in a report to be published outside the Geological Survey. The purpose of the disclaimer is to prevent misunderstanding regarding the use of names that are not accepted by the U.S. Geological Survey. The disclaimer states that the Geological Survey does not recognize some or all of the geologic names used in the report. The disclaimer should be placed on the title page if the report has not been edited, or in the introduction or on the correlation table, map explanation, or geologic section, or on both if the stratigraphic nomenclature does not follow Geological Survey usage. One of the following forms should be used:

The stratigraphic nomenclature used in this report does not conform to the usage of the U.S. Geological Survey.

The stratigraphic nomenclature used in this report was determined from several sources and may not necessarily follow usage of the U.S. Geological Survey.

The stratigraphic nomenclature used in this report is that of the \_\_\_\_\_ and does not necessarily follow usage of the U.S. Geological Survey.

In special instances, where stratigraphic nomenclature of the publications cited is obsolete, the author may indicate the current nomenclature in brackets.

Geologic disclaimers are occasionally used in Geological Survey publications such as bibliographic compilations.

Data reports may carry the disclaimer:

Not reviewed or edited for conformity with U.S. Geological Survey stratigraphic nomenclature.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 5.01.6

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Geologic Names

#### 5.01.6 Use of "Carboniferous"

When the Geological Survey adopted Mississippian and Pennsylvanian Systems, it was necessary to retain the name Carboniferous. To identify the two systems with the Carboniferous, for correlation purposes, the term "Carboniferous System," and consequently just "Carboniferous," appeared on all map explanations, correlation charts, and tables embracing Mississippian and Pennsylvanian rocks.

Since the Mississippian and Pennsylvanian Systems have become well established in the United States, it is no longer necessary to use the terms "Carboniferous System" or "Carboniferous" on map explanations, correlation charts, and tables. The terms may, however, be used in the text of reports as needed.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Geologic Names

5.01.7 Adoption of "Holocene" and "Wisconsinan Stage"

- A. Holocene.--Because many American geologists have found the formal term "Recent" can be confused with the word "recent," the Geological Survey adopted the term "Holocene" to replace "Recent" as a series subdivision of the Quaternary. Holocene is equal in rank to the Pleistocene.
- B. Wisconsinan Stage.--"Wisconsinan Stage" of the Pleistocene has been adopted as a formal provincial stage in Illinois and Wisconsin. The informal designation "of Wisconsinan age" is not restricted to Illinois and Wisconsin; it may be used elsewhere for equivalent deposits. The adoption of Wisconsinan Stage represents the Geological Survey's first use of stage as a time-stratigraphic term in the Pleistocene.

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References:

- Cohee, G. V., 1970, Stratigraphic nomenclature in reports of the U.S. Geological Survey: American Association of Petroleum Geologists Bulletin, v. 52, p. 852.
- Frye, J. C., Willman, H. B., Rubin, Meyer, and Black, R. F., 1968, Definition of Wisconsinan Stage: U.S. Geological Survey Bulletin 1274-E, 22 p.

## WATER RESOURCES DIVISION PUBLICATION GUIDE

### Article 5.01.8

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Geologic Names

#### 5.01.8 Use of "Paleogene" and Neogene"

The terms "Paleogene" (includes the Paleocene, Eocene, and Oligocene) and "Neogene" (includes the Miocene and Pliocene) have never been officially adopted by the Geological Survey but have been allowed for informal use in texts if adequately defined. These terms are accepted usage by most European geologists, the Deep Sea Drilling Project, and the International Committee on Neogene stratigraphy. To bring Survey usage into conformance with most of the profession, the Survey will recognize and adopt the terms "Paleogene" and "Neogene" as subsystems of the Tertiary System. The boundary between the Paleogene and the Neogene Subsystems equates with the Oligocene-Miocene boundary.

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#### Reference:

Memorandum from Chief Geologist, June 20, 1978.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Geologic Names

5.01.9 Classification of the "Precambrian" and formal  
recognition of "Phanerozoic"

In 1978, the Chief Geologist issued a memorandum formally accepting the terms Archean and Proterozoic Eons as subdivisions of the Precambrian and Phanerozoic Eon as the coordinate eon for post-Precambrian time. The Chief Geologist granted approval for:

1. Recognition by the Survey of the Archean and Proterozoic Eons as the two major time units constituting Precambrian time, with the boundary between Archean and Proterozoic placed at 2,500 million years before present.
2. Recognition by the Survey of the Phanerozoic Eon as the major unit constituting post-Precambrian time. The term is to be used only in title and text but not as a map symbol.

In 1982, the Chief Geologist issued a memorandum formally recognizing six geochronometric units (time terms only expressed in years) in the Archean and Proterozoic Eons. The Chief Geologist granted approval for:

1. Recognition by the Survey of divisions of the Proterozoic Eon into Late, Middle, and Early Proterozoic Eras, the boundary between Late and Middle Proterozoic placed at 900 m.y. and between Middle and Early Proterozoic Eras at 1600 m.y.
2. Recognition of divisions of the Archean Eon into Late, Middle and Early Archean Eras, the boundary between Late and Middle Archean placed at 3,000 m.y., and between Middle and Early Archean at 3400 m.y. No formal base to the Archean is recognized: the informal term pre-Archean may be used for rocks older than 3800 m.y. if needed.
3. Maps symbols for the Proterozoic Eon (P) and Archean Eon (A) will continue; the symbols X, Y, Z are used for Early, Middle and Late Proterozoic Eras, and U, V, and W are used for Early, Middle and Late Archean Eras.
4. The term Precambrian and the map symbol (p6) may be used for rocks older than 570 m.y.; the term is without specific rank.

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References:

Memorandum from Chief Geologist, June 20, 1978.  
Memorandum from Chief Geologist, September 9, 1982.



Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Geologic Names

5.01.10 Geologic names versus aquifer names

All reports should clearly distinguish between formal rock-stratigraphic units and water-bearing stratigraphic units that are called aquifers.

Rock-stratigraphic names vs. aquifer names

If the geographic part of a formal rock-stratigraphic name is used with the term "aquifer," the report must describe the rock-stratigraphic unit in the area (including age) that is the aquifer. A table must show the relationship between the formal stratigraphic unit and the aquifer as follows: System and series; stratigraphic (geologic) unit; thickness; lithology; hydrologic unit (aquifer and confining unit); and hydrologic characteristics. Only the part of the geologic column that pertains to the hydrology under study should be discussed and shown in detail.

General guidelines to aquifer names

- A. Aquifer names for regional interstate ground-water investigations should be determined by the Districts and Region(s) and coordinated through the Reston Geologic Names Unit and the Office of Ground Water.
- B. Do not use the name of a rock-stratigraphic unit for an aquifer name unless the unit is part of the aquifer. If an aquifer includes an abandoned or a geographically restricted rock-stratigraphic unit, the newly assigned stratigraphic name is used as an aquifer name.
- C. If an aquifer crosses State boundaries, the name may include the local rock-stratigraphic units for reports in each State. For example, the lower Hell Creek-Fox Hills aquifer of Montana becomes the lower Lance-Fox Hills aquifer of Wyoming. However, if the aquifer in both States is considered in a single report, a hyphenated aquifer name consisting of rock-stratigraphic names from each State could be used unless this resulted in a long and awkward hyphenated name. If the aquifer in both States contains no common rock-stratigraphic name, a geographic or physiographic name should be used.
- D. The term "aquifer system" is used for two or more aquifers and their confining units that act as a water-yielding hydraulic unit.
- E. Do not mix descriptions of aquifers with descriptions of rock-statigraphic units. For example,
  1. Hydrologic information on potentiometric surface, hydraulic conductivity, porosity, and so forth describes the aquifer, not the rock-stratigraphic unit.

2. Geologic information on dip, strike, plunge, and deposition of sediments, etc. describes the rock-stratigraphic unit, not the aquifer.

- F. The binomial name of a rock-stratigraphic unit should be shortened for use as an aquifer name.

Madison aquifer--not Madison Group aquifer  
Edwards aquifer--not Edwards Limestone aquifer  
Sparta aquifer--not Sparta Sand aquifer

- G. Usage of hydrologic and geologic terminology will vary depending on context and structure of the sentence but certain distinctions between the two should be clear.

Water from the Madison aquifer--not Madison water  
Wells completed in Madison Limestone (or aquifer)--not Madison wells

- H. Use of regional and local aquifer names (for example, Floridan, Chicot, Pocomoke) for unnamed and named rock-stratigraphic units should be consistent in a report. The aquifer names should be included in a table under "hydrologic unit" to show the relation with the unnamed and named rock-stratigraphic units.

#### Format conventions for aquifer names

The following format conventions are recommended for reports that contain discussions of aquifer names:

- A. The terms aquifer, aquifer system, and confining unit are not capitalized.
- B. The informal terms, such as, sand and gravel aquifer, and limestone aquifer, etc., are not capitalized or hyphenated.
- C. Adjective modifiers, except parts of geographic names, are not capitalized: Mississippi River alluvial aquifer.
- D. The relative position terms upper, middle, and lower are not capitalized. However, the terms may be capitalized if they are formal divisions of a regional aquifer system. For example, Miller (1986) formally divided the Floridan aquifer system into an Upper Floridan aquifer and a Lower Floridan aquifer in all Florida and parts of adjacent States.

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#### Reference:

Miller, J. A., 1986, Hydrogeologic framework of the Floridan aquifer system in Florida and parts of Georgia, South Carolina, and Alabama: U.S. Geological Survey Professional Paper 1403-B, 91 p.

- E. Quotation marks are not used for aquifer names unless the term is a misnomer. The "500-foot" sand is in quotes because it is not at 500 feet below land surface everywhere.

Aquifer names based on multiple stratigraphic units

Examples of how to define multiple-named aquifers are given below.

- A. If an aquifer includes all or part of two superimposed rock-stratigraphic units, the aquifer name is hyphenated with the younger unit first; for example, the lower Hell Creek-Fox Hills aquifer is in the lower part of the Upper Cretaceous Hell Creek Formation and the underlying Fox Hills Sandstone. This usage conforms to map explanations, tables, sections, and the computerized Water Data and Storage Retrieval System (WATSTORE) which all show units in chronologic sequence youngest to oldest. However, an aquifer name consisting of units in order of decreasing age may be used if its use is entrenched in an area or has been used in legal terminology. For example, the oldest to youngest named Potomac-Raritan-Magothy aquifer in the Cretaceous Potomac Group and overlying Raritan and Magothy Formations is of longtime usage in New Jersey.
- B. If an aquifer includes three or more superimposed rock-stratigraphic units, the aquifer name is hyphenated and includes all units with the youngest unit first, or the aquifer name is hyphenated and includes the youngest and oldest units. For example, the Galena-Platteville aquifer used locally in Wisconsin is in the Ordovician Galena Dolomite (youngest), Decorah Formation, and Platteville Formation.
- C. If the middle rock-stratigraphic unit is the primary aquifer, that name may be used provided that the overlying and underlying stratigraphic units are clearly identified. For example, the Edwards aquifer is in the Cretaceous Georgetown Limestone (youngest), Edwards Limestone, and Comanche Peak Limestone. The rock units in the Edwards aquifer may vary in different areas.
- D. An aquifer that includes many rock-stratigraphic units that are water-bearing and hydraulically connected vertically and laterally should have a name that is not based on any of the individual rock-stratigraphic names. A geographic name would be appropriate.

An article entitled "Aquifer-nomenclature guidelines" is included in the "Suggestions to Authors," 7th edition (in preparation, 1986). The article discusses in more detail guidelines and recommendations for developing a workable scheme for naming aquifers, and will supersede these guidelines when "Suggestions to Authors," 7th edition, is published.

Subject: EDITORIAL CONSIDERATION FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Terminology

5.02.1 Designation of time

Authors should determine at the beginning of their report what time-designation system to use, and then should be consistent throughout the text and illustrations.

1. Most observations are made and published on a local standard-time basis. In reports containing references to time, the time basis should be clearly stated, preferably in the introduction.
2. In Geological Survey reports in which occasional or casual reference to clock time (for example, 2:10 p.m.) is made, the "a.m." and "p.m." designation should be used. Note that these terms are lowercased and "closed up."
3. In tables of data or in graphs, 24-hour time is useful and easily interpreted (for example, 1410 hours). In reports that of necessity use 24-hour time in some particular section, for example in tables, references to time in the accompanying text should also use 24-hour time for consistency. If a report is expected to reach a large audience unfamiliar with 24-hour time, clock time (a.m. and p.m.) may be added parenthetically in the text.
4. In work in which precise synoptic measurements are needed, a special kind of 24-hour time may be used. These measurements may be referred to universal time (u.t.), Greenwich mean time (G.m.t.), or Greenwich civil time (G.c.t.), and are written 14:10:01.1 (2:10 p.m. plus 1.1 seconds).

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Terminology

5.02.2 Use of "percent" and "percentage"

A. Percent (one word) is used in the following ways:

1. After the word "in" -- in percent
2. In parentheses -- (percent)
3. After a number -- 10 percent
4. When alone at the head of a column -- Percent
5. In the established terms "percent sodium" and "weight percent"

B. Percentage is used in the following ways:

1. Where not preceded by a number -- a small percentage.
2. Where common usage dictates, for example:
  - percentage of particles finer than indicated size
  - percentage of time flow was equaled or exceeded
  - 5 percentage points.

The symbol "%" should not be substituted for "percent" except in tables where space is insufficient for the complete word.

Subject: EDITORIAL CONSIDERATION FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Terminology

5.02.3 Use of "altitude" and "elevation"

The word "altitude" refers to distance above or below the National Geodetic Vertical Datum of 1929 (NGVD of 1929). See article 5.02.7. Its use is not affected by whether the distance is above or below land surface.

The word "elevation" can convey two meanings--vertical distance and uplift. Authors of hydrologic reports describing surface-water relations commonly use elevation to refer to distance above or below some datum that is arbitrarily assigned or NGVD of 1929. Authors of geologic reports often use elevation to indicate uplift.

To eliminate as much ambiguity as possible in usage of the two words, the following is recommended:

Altitude

1. Use in geologic and geohydrologic reports in the main text, in the explanation of contours on maps, in axis labels on graphs, and in axis labels of illustrations showing vertical sections such as geologic sections.
2. Use in hydrologic reports describing principally ground-water relationships in the text and illustrations.
3. Use in other types of reports where custom does not dictate use of elevation.

Elevation

1. Use in hydrologic reports describing principally surface-water relationships in the text and illustration.
2. Do not use in geologic or geohydrologic reports to indicate distance above or below NGVD of 1929.

The words "altitude" and "elevation" should not be used interchangeably in the same report.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Terminology

5.02.4 Use of "concentration" and "content," and "load,"  
"discharge," and "yield"

A. Use of "concentration" and "content"

1. "Concentration" expresses the mass or number per unit volume or area of a water-quality constituent or characteristic. Units of measurement most frequently used are milligrams or micrograms per liter for dissolved constituents and suspended sediment, tons per acre-foot (or SI equivalent) for dissolved solids and suspended sediment, and number of colonies per 100 milliliters for bacteria.
2. "Content" expresses quantity; for example, the value obtained by multiplying concentration by volume. Content is often expressed in volume, mass, or weight, such as reservoir content, in acre-feet, or as suspended-sediment content of a reservoir, in tons.
3. The words "concentration" and "content" should not be used interchangeably in reports.
4. Although the term "total dissolved solids" appears in some literature, the Geological Survey prefers the term "dissolved solids." The word "total" should be used only when a direct quotation is made from a reference.

The following examples show conventional usage of "concentration" and "content."

- a. Dissolved-solids concentration of 250 mg/L.  
Concentration of dissolved solids was 250 mg/L.
- b. Chloride concentration has increased.  
Concentration of chloride has increased.
- c. The sodium concentration of ground water has increased.  
The concentration of sodium in ground water has increased.
- d. Concentration of 250 µg/L iron.
- e. A suspended-sediment concentration of 15 mg/L was noted.
- f. Suspended-sediment concentration in the stream was 10 mg/L.
- g. The content of the reservoir was 315,000 acre-feet.
- h. The suspended-sediment content of the reservoir was 3,450 tons.

B. Use of "load," "discharge," and "yield"

1. "Load" is a general term that refers to the material or constituent in solution, suspension, and (or) in transport. It is not synonymous with discharge, yield, or concentration, and is usually expressed in terms of mass or volume--for example, grams, tons, cubic feet.
2. "Discharge" is the mass or volume of material or a constituent passing a stream transect in a unit of time. It is a rate and usually is expressed in terms of mass or volume per unit time--for example, tons per day, grams per second, cubic feet per second.
3. "Yield" is a measurement of load or discharge per unit area--for example, tons per square mile, grams per square centimeter per day, tons per square mile per year.
4. The use of these terms should be consistent with the units by which they are reported. Most often these terms should be qualified such as: suspended-sediment load, bedload, bed-material discharge, suspended-iron discharge, total sediment yield, total iron yield, chloride yield.

The following are examples of proper usage of "load," "discharge," and "yield:"

a. Load

- (1) the bed-material load for 1981 water year was 150,000 Mg.
- (2) the iron load during September 30 to October 15, 1980 was 25,000 Mg.
- (3) Bedload is the material in the water moving by rolling, sliding, and saltation on or near the stream bed.

b. Discharge and Yield

- (1) the suspended-sediment discharge was 250 Mg/d.
- (2) the annual chloride yield for 1979 was 13 Mg/mi<sup>2</sup>
- (3) the suspended-sediment yield was 1200 (Mg/mi<sup>2</sup>)/yr
- (4) the sulfate yield from atmospheric deposition was 12 (g/cm<sup>2</sup>)/yr.



## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 5.02.5

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Terminology

#### 5.02.5 Revised ground-water terms

The ground-water terminology and corresponding units in Water-Supply Paper 1988<sup>1</sup> are standard for reports of the Geological Survey. As indicated by the Chief Hydrologist in his foreword to that report, "it is permissible to use different terms, if local circumstances or conditions so require, once the standard usage has been made clear."

The standardized terminology as presented in Water-Supply Paper 1988 and the terms they supersede are given below. Superseded terms should not be used except when in direct quotation or as required to meet local circumstances or conditions.

<u>Superseded term</u>	<u>Standard term</u>
Aquiclude, aquifuge, aquitard	Confining bed
Effluent stream	Gaining stream
Coefficient of permeability	Hydraulic conductivity
-----	Intrinsic permeability
Influent stream	Losing stream
Piezometric contour	Potentiometric contour
Piezometric surface	Potentiometric surface
Phreatic zone	Saturated zone
Coefficient of transmissibility	Transmissivity
Vadose zone, zone of aeration	Unsaturated zone

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<sup>1</sup> Lohman, S. W., and others, 1972, Definitions of selected ground-water terms--Revisions and conceptual refinements: U.S. Geological Survey Water-Supply Paper 1988, 21 p.

Remarks

With the adoption of the revised terminology, the unit for transmissivity becomes "cubic foot per day per foot of aquifer thickness" or "cubic meter per day per meter of aquifer thickness." In reduced form this becomes "foot squared per day" or "meter squared per day," but not "square foot per day" or "square meter per day" because this latter terminology would confuse the nontechnical reader.

Similarly, reducing the form for hydraulic conductivity to the lowest order gives foot per second, foot per day, meter per second, or meter per day. The image conveyed, for example, by "cubic foot per square foot per day" becomes in reduced form "foot per day," which conveys the image of a velocity. Accordingly, it is advisable to show both the expanded and reduced forms of a term where it first appears in the report, with a short statement in the text or in a footnote that explains the derivation of the reduced form. Thereafter, the reduced form may be used.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 5.02.6

Subject: EDITORIAL CONSIDERATIONS IN WATER RESOURCES DIVISION MANUSCRIPTS--  
Terminology

#### 5.02.6 Use of "Celsius" versus "Centigrade"

To promote uniformity in temperature nomenclature, the Water Resources Division has adopted the policy of using the name "Celsius" in place of the term "Centigrade" in referring to metric temperature determination.

This editorial policy, which is observed also by the National Bureau of Standards, is in accord with the recommendation of the 11th General Conference (1960) on Weights and Measures, represented by 33 nations that subscribed to the Treaty of the Meter. The principal reasons for preference of Celsius are twofold: (1) with reference to the Kelvin thermodynamics scale, the term "centigrade" is not truly accurate, and (2), in French technical literature, "centigrade" is a term applied to the division of a quadrant of a circle.

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#### References:

GPO Style Manual (1984), p. 143.

Stimson, H. F., 1962, Celsius versus centigrade--the nomenclature of the temperature scale of science: Science, v. 136, no. 3512, April 20, p. 254-255.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 5.02.7

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Terminology

5.02.7 National Geodetic Vertical Datum of 1929 (Water Resources  
Division Memorandum No. 86.104)

August 26, 1986

WATER RESOURCES DIVISION MEMORANDUM NO. 86.104

Subject: PUBLICATIONS--Use of "National Geodetic Vertical Datum of 1929"

The reference surface to which relief features and altitude data of the conterminous United States and Alaska are related is the National Geodetic Vertical Datum of 1929, or in short, the NGVD of 1929. This datum has not been extended to Hawaii, nor to the Pacific Islands, Puerto Rico, nor the Virgin Islands where local datums based on specific control data established at selected tide stations are used. The U.S. Geological Survey replaced "Sea Level Datum of 1929," and "mean sea level" following the issuing of the Acting Director's memorandum, dated February 18, 1978, and Water Resources Division Memorandum 78.84, dated March 21, 1978. This replacement is mandatory.

National Geodetic Vertical Datum of 1929 should be defined in our reports. The definition can be placed in a glossary, immediately after the conversion table, or in the introductory section of a report:

National Geodetic Vertical Datum of 1929 (NGVD of 1929): A Geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "Mean Sea Level."

Difficulties in adjusting to or accommodating the new usage, which occurred following the adoption in 1978, of NGVD of 1929, no longer exist.

NGVD of 1929, sea level, and mean sea level are neither identities nor equivalents. Therefore, use of "sea level" and "mean sea level" as a substitute for NGVD of 1929 in texts and reports, graphs, profiles, and geologic cross sections, authorized in Water Resources Division Memorandum 81.16 (November 26, 1980), no longer will be acceptable.

James F. Daniel  
Assistant Chief Hydrologist for  
Scientific Information Management

This memorandum supersedes WRD Memorandums 81.16, 84.103, and 86.101.

WRD Distribution: A, B, S, FO, PO

Within book reports and on Hydrologic Atlases and Miscellaneous Investigations Maps, where several kinds of geologic and hydrologic information were formerly related to sea level, use the National Geodetic Vertical Datum of 1929 (NGVD of 1929) for that datum. Also use NGVD of 1929 in descriptive texts and on tables, profiles, graphs, and geologic sections. Examples of acceptable usage are:

#### Descriptive Text:

##### First Usage:

The topography is generally flat to slightly rolling with land-surface altitude<sup>1</sup> ranging from about 10 m below to about 80 m above the National Geodetic Vertical Datum of 1929 (NGVD of 1929).

<sup>1</sup> Altitude, as used in this report, refers to distance above or below the NGVD of 1929.

##### Second and Subsequent Uses:

The coastal marsh is an area of low relief and ranges in altitude from 0 ft at the Gulf to 5 ft along the northern border.

#### Tables:

Table 1. Records of selected wells in the Bradys Hot Springs and Desert

Peak areas

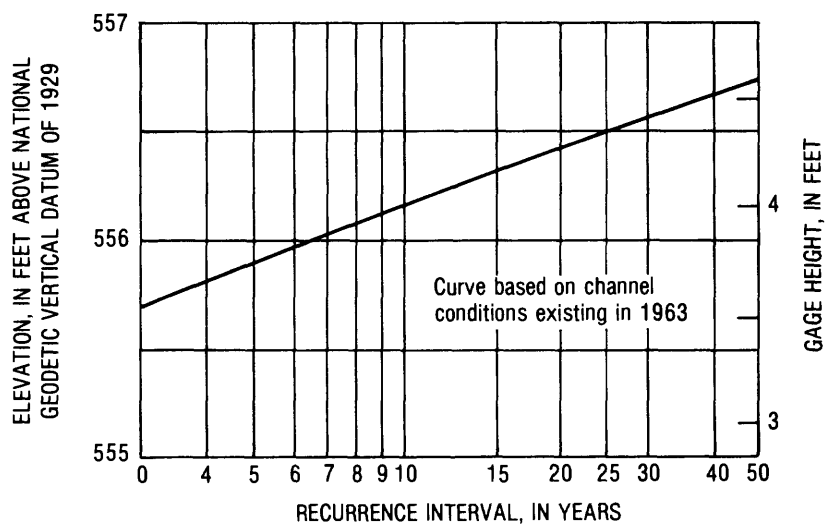
[altitude, in feet, refers to distance above or below the NGVD of 1929.]

Well	Land-surface altitude, in feet	Height of measuring point above land surface, in feet	Depth of screen below land surface, in feet	Casing diameter, in inches	Water-level depth below land surface, in feet
					Jan. 1975      Feb. - Apr. 1981

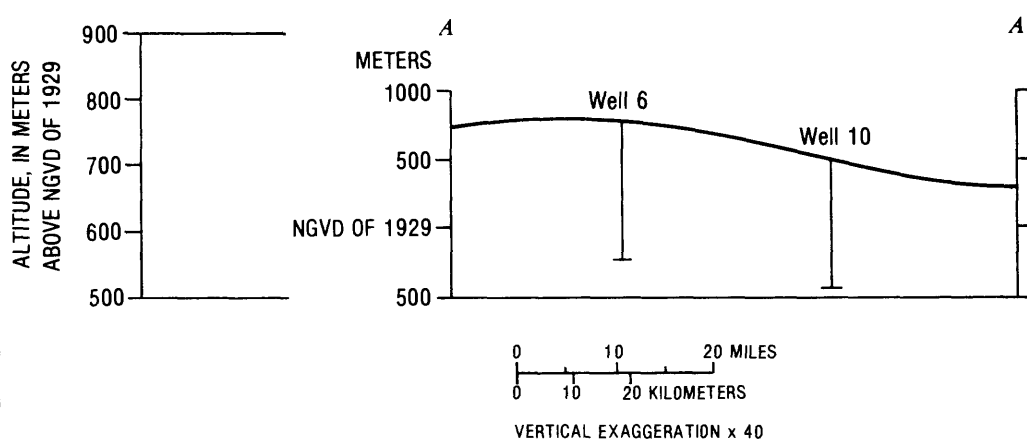
#### Profiles, Graphs, and Geologic Sections:

Refer to page 211 for example usage of NVGD of 1929 for illustrations.

*Where space permits, the spelled out datum must be used*



*Where space is limited, the shortened datum may be used*



*On profiles and geologic sections printed in book and map reports, label the datum formerly "sea level" as "NGVD of 1929."*

Examples of use of "NGVD of 1929" on graphs, profiles, and geologic sections.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Terminology

5.02.8 Use of word "parameters"

Since the advent of computers, the word "parameters" has been used loosely to refer to almost any listed or grouped items having numerical values--such as water-quality constituents, aquifer properties, or basin features. Use of this term in Survey writings is discouraged because the meaning is imprecise and, for the most part, incorrect.

Authors will be clear as well as correct if they restrict their use of the word "parameter" to its mathematical meaning--the numerical value of a constant used as a referent for determining another variable, or as the values used in an equation or matrix. For example, in the equation set

$$2x - y = 0$$

$$6x - 3y = 0$$

the parameters are	2	-1	(not x and y)
	6	-3	

In tables containing lists of items and their values, the items should be grouped under an appropriate heading such as "properties," "constituents," "characteristics," "elements," or other descriptive term other than "parameter." The word "parameter" should be avoided except in reference to numerical values or the "parameter codes" in computer work.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Editorial Style

5.03.1 Word division

Word division, or splitting a word at the end of a line by hyphenating, generally should be minimized because it introduces a potential for type-setting errors and gives an unesthetic appearance if done too frequently. When a word must be divided, one should consult a dictionary or the booklet "Word Division"<sup>1</sup> to determine where to place the hyphen because few people are able to remember all the rules and exceptions. Some of the rules are given below.

1. Wordbreaks generally may be made:

- a. After a short prefix (non-essential, pre-selected).
- b. Before the suffixes -able, -ible, -ing, -tion.
- c. Between letters of a double consonant (except call-ing).
- d. Between vowels if each vowel is pronounced separately (cre-ation).
- e. Between terms of a compound word (bar-keeper, ant-eater).

2. Wordbreaks should be avoided:

- a. In headings and titles.
- b. In the last word of a paragraph.
- c. In a one-letter or two-letter syllable (usu-ally, not u-sually or usual-ly).
- d. In one-syllable words.
- e. In short words (five letters or less).
- f. Within two-syllable prefixes (anti, micro, semi, multi, bromo, hydro, poly).

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<sup>1</sup> U.S. Government Printing Office, 1976, Word Division--Supplement to Government Printing Office Style manual, seventh edition: Washington, D.C., U.S. Government Printing Office, 190 p.



Article 5.03.1

- g. In the combined letters ai, ck, dg, gh, gn, oa, ph, sh, tch, and th.
- h. Between "page" or "p." and the page number (and similar examples).
- i. In words already hyphenated (tax-supported, not tax-supported).
- j. In chemical formulas.
- k. In proper names.
- l. In numerical values (250,000, not 250,-000).
- m. After two consecutive lines ending in hyphens.
- n. At the end of a page.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Editorial Style

5.03.2 Compounding and hyphenation

A compound word is a fusion of two or more words to convey an idea more clearly than if they were separated. In some compound words, the terms are joined by a hyphen (forget-me-not), other words are "closed up" (bookkeeper), and several may be either hyphenated or written separately, depending on whether or not they are used as adjectives.

The question of whether to hyphenate, close up, or leave as two separate words is usually not a matter of being correct or incorrect, but of following convention to provide clarity. The preferred way to write most compound words is given in the "Style Manual" (1984, p. 81-116).

If the desired example or suitable analogy is not given there, one should consult a dictionary.

GENERAL SUMMARY

- A. Write as separate words.--Any two words appearing in regular order where no ambiguity is present (walk in, book value, no one, living costs, flood plain, base flow, ground water).
- B. Close up--(a) Common words containing two short nouns or a short verb or adverb, when only one syllable is accented (saltwater, freshwater, footnote, breakdown, setup); and (b) words with the short prefixes co, de, pre, non, sub, re (cooperation, deemphasize, preexisting, nontechnical, subdivision, reiterate), except to avoid doubling a vowel (anti-inflationary) or tripling a consonant (brass-smith, shell-like).
- C. Hyphenate
  - 1. After figures used as an adjective:
    - 2- by 4-inch boards
    - 8-, 10-, and 12-meter boards

2. Between two words that are combined to form an adjective:

well-written book

water-yielding deposit

Exception: Do not hyphenate when the first word is a comparative or superlative, or ends in -ly:

better drained soil

best selling novel

poorly sorted gravel

gradually rising levels

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References:

U.S. Government Printing Office, 1976, Word Division--Supplement to Government Printing Office Style Manual, seventh edition: Washington, D.C., U.S. Government Printing Office, p. 73-116.

U.S. Geological Survey, Suggestions to Authors, 6th edition, p. 231-234.

GPO Style Manual (1984), p. 73-130.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 5.03.3

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Editorial Style

#### 5.03.3 Capitalization

It would be impossible to give rules that will cover every question concerning capitalization, but the "Style Manual" (1984, p. 23-61) and "Suggestions to Authors" (6th ed., p. 234-236) provide guidelines and a list that should promote uniformity. A summary of the main guidelines is given below:

A. Proper names and their derivatives are capitalized:

Washington	Italy	European	Keynesian
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Exception: Derivatives of proper names with an independent meaning are lowercased:

roman type	plaster of paris	venetian blinds
brussels sprouts	canada balsam	macadam

B. A common noun used in reference to a proper noun is lowercased:

Panama Canal; the canal	Great Lakes; the lakes
Hudson River; the river	Hoover Dam; the dam
Sopchoppe County; the county	Washington; the city

C. The word "the" in association with a proper noun is lowercased, unless it is capitalized as part of the formal name:

The New York Times	the Netherlands
the Earth	the A&P

D. Names of organizations are capitalized:

U.S. Congress  
Department of Agriculture; the Department  
Publications Division; the Division  
Census Bureau; the Bureau  
Armed Forces

E. Names of domains and administrative divisions are capitalized only if used as part of proper names:

Commonwealth of Massachusetts, the Commonwealth  
Province of Ontario, the Province  
State of Maine, the State

F. Names of regions, localities, and geographic features are capitalized:

the Gulf States	the Western Hemisphere
the West, Midwest, Far West, Northeast	the North Pole
the Continental Divide	the Temperate Zone
the Occident	

Exception: A term used to indicate mere direction or position is not a proper name and therefore not capitalized:

north	central area
northward	eastern seaboard
central Europe	

G. Names of months are capitalized; names of seasons are lowercased.

H. Names of historic events, holidays, and religious days are capitalized:

Battle of Bunker Hill	World War II
Fourth of July	Veterans Day
Renaissance	

I. In scientific names, the phylum, class, order, family, or genus is capitalized; the species is not: Canis familiaris

- J. Capitalize Sun, Moon, Earth, and names of the planets.
- K. Write rhodamine B, rhodamine WT.
- L. Write Landsat, not LANDSAT.
- M. Write Fortran, not FORTRAN

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Reference:

GPO Style Manual (1984) rules 9.48 and 9.61 for "Coined Words and Symbols" and "Standard Word Abbreviations".

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Editorial Style

5.03.4 Use of abbreviations

Abbreviations are used to save space and to avoid distracting the reader by needless spelling out of repetitious words or phrases. A comprehensive list of standard abbreviations is given in the "Style Manual" (1984, p. 135-153) and in "Suggestions to Authors" (6th ed., p. 95-108). Abbreviations for units of measure are given in article 4.01.2, "Conversion factors and abbreviations." Some guidelines for the use of abbreviations in technical reports are given below.

1. General use.--Abbreviations should be consistent throughout the report. The standard Survey format when using abbreviations of units of measure is to give the abbreviation first followed by the spelled-out term in parentheses the first time the abbreviation is used in the text, as mg/L (milligrams per liter); thereafter mg/L only.

It may be more convenient or natural for some terms used in papers or correspondence to give the spelled-out term first and the abbreviation in parentheses after the spelled-out term. For example, dissolved organic carbon (DOC), Water Resources Investigations Reports (WRIR), and Water Resources Division (WRD).

The abbreviations used for units of measure in a report should be included in the table of conversion factors. Abbreviations not listed in the table of conversion factors should be spelled out in parentheses after their initial use. The words figure, plate, number, page, volume, series, and so forth are abbreviated when given parenthetically, and should be abbreviated in reference lists.

2. In abstracts.--Abbreviations should be avoided in abstracts. However, if a term is long and used frequently, it should be spelled out on first usage and followed by the abbreviation in parentheses, and abbreviated thereafter--for example:

Water Resources Scientific Information Center (WRSIC)

3. Illustrations and tables.--Abbreviations should be avoided in illustrations and should be used in tables only where space is inadequate. Some computer printouts use abbreviations extensively; if a printout to be used in final copy contains too many abbreviations to list conveniently in a footnote, a page listing all abbreviations and their meaning should be inserted to precede the printout.

4. Units of measure.--In technical writing, units of measure should not be abbreviated except in reference to numbers. For example, "30 ft in diameter" is correct, but "diameter was measured in ft" is not. A list of standard abbreviations for units of measure is given in article 4.01.2, "Conversion factors and abbreviations."

5. Abbreviations containing periods.--These should be "closed up":

U.S.	U.S.S.R.	N.Y.
a.m.	A.D.	B.P.

except those containing a person's initials: A. B. Smith

6. Initials for organizations.--These generally are written without spaces or periods:

AIPG	TVA	NYU	AGU
ASTM	USA	NYSERDA	GSA

7. Names of foreign countries.--These are not abbreviated (except U.S.S.R., because it is long).

8. State abbreviations.--State names (except Alaska, Hawaii, Idaho, Iowa, Maine, Ohio, and Utah) are abbreviated only when they immediately follow a capitalized geographic name (as in Richmond, Va.); they are always spelled out in titles and headings. The preferred abbreviations, and also the Postal Service abbreviations, are given in the "Style Manual" (1984, p. 137) and "Suggestions to Authors" (6th ed., p. 95-96). The Postal Service abbreviations should not be used except when given as part of an address that includes the zip code.

9. Bibliographic reference lists.--In reports for Geological Survey publication, publishers' names and the names of publication series are spelled out; the only abbreviations to be used are the following:

ser.	sec.	fig.	mimeo.
chap.	ed.	pl.	abs.
p.	v.	no.	U.S.

10. Calendar divisions.--Names of months, if followed by the day or year, may be abbreviated in footnotes, tables, parentheses, and bibliographies. Days of the week are preferably not abbreviated.
11. Miscellaneous abbreviations.--Use of other abbreviations, including latitude, longitude, degree mark, ditto mark, and SI units, is explained in "Suggestions to Authors" (6th ed., p. 98).



Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Editorial Style

5.03.5 Use of computer-generated tables

Computer-generated data tables may be incorporated in WRD reports to avoid re-keying of data, particularly where large or massive data tables are involved. However, table titles, headnotes and column headings must conform to format and style as given in the "Style Manual" (1984), "Suggestions to Authors" (5th and 6th editions), and elsewhere in the "WRD Publications Guide."

An exception to this requirement is data formats for the State Data Reports. These reports are comprised of numerous computer-generated tables and would constitute an enormous task to re-format or to revise computer programs for inclusion in the State Data Reports. See following WRD Memorandum No. 85.145.

Some computer-generated tables contain nonscientific terminology, for example, MG/L or UG/L. Where these or similar nonscientific terms are used, an appropriate definition must be given in the headnotes. For example, MG/L represents milligrams per liter, and is properly abbreviated mg/L.

September 11, 1985

WATER RESOURCES DIVISION MEMORANDUM NO. 85.145

Subject: PROGRAMS AND PLANS--Date Formats in Computer-Generated Data Tables

In recent meetings of various Branch personnel and personnel of Scientific Publications and Data Management, a consensus was reached on two items regarding date formats in computer-generated data tables.

1. Dates in computer-generated data tables will be printed in the form MM-DD-YY, with each field separated by hyphens, and values less than ten printed with leading zeros. For example:

January 3, 1985, would be 01-03-85  
November 10, 1985, would be 11-10-85

2. If months are designated in computer-generated data tables, they should either use the three alpha-character form (SEP, OCT, NOV) or use the complete spelling (SEPTEMBER, OCTOBER, NOVEMBER).

In order to implement these changes, and to allow District Offices to complete any reports with tables already in preparation, the following two procedures will be available.

Procedure 1 -- Will use the old version of QWTABLES with the old-style date format and the old unit (micromhos) for specific conductance.

// EXEC QWTABOLD

Procedure 2 -- Will use the new version of QWTABLES with the new-style date format and the new unit (microsiemens) for specific conductance.

// EXEC QWTABNEW

The procedure QWTABOLD will be available only until October 1, 1986. At that time, the procedure QWTABNEW will be renamed QWTABLES.

These formats are being accepted in computer-generated data tables such as those in the State Data Reports because of the enormous cost and effort of

*changing software. The standard abbreviations for months (as found in the GPO Style Manual, 1984 edition, p. 141) should be used for table column headings, illustrations, and other parts of all other reports.*

*James F. Daniel  
Assistant Chief Hydrologist  
for Scientific Publications  
and Data Management*

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Scientific Publications and Data Management (SP&DM) was changed to Scientific Information Management (SIM) on September 16, 1985.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 5.03.6  
Effective

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Editorial Style

5.03.6 Preferred spelling

To avoid the confusion and uncertainty of various authorities on spelling, the Government Printing Office adopted "Webster's Third International Dictionary" as its single guide for spelling and preferred forms. The "Style Manual" (1984, p. 63-72) presents a list of preferred spelling.

Diacritical marks (accents).--These are not used with completely anglicized words:

cliche	menage	naivete	paper mache
piece de resistance	regime	soiree	

Indefinite article before letter h.--The indefinite article "a" is used before an aspirated h; the word "an" is used before a silent h.

a historical building	an hour
a hotel	an herb
a hydrologist	

Note: The phrase "an historical" is British usage to conform with local pronunciation; its use in America has no justification.

Amendments to "GPO Style Manual" (1984).--Refer to WRD Memorandum 86.77, dated July 7, 1986, and attachment. The memorandum and attachment document U.S. Geological Survey Amendments to the "Style Manual" (1984). The amendments should be made a part of your copy of the "Style Manual."

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Reference:

Word Division, a Supplement to Government Printing Office Style  
Manual: Washington, D.C., 190 p.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 5.03.7

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Editorial Style

#### 5.03.7 How to refer to Department of the Interior, the Geological Survey, and Divisions of the Geological Survey

The complete name of the Geological Survey's parent organization is "United States Department of the Interior" and is used in letterhead titles. In bodies of reports and in news releases, the name "Department of the Interior" is used. Note the article "the," which must always be given in the formal name. After the first (formal) mention of the Department in a manuscript, the names "Interior Department" or "the Department" can be used. Both the full and the shortened names are capitalized.

The first use of the Geological Survey's name in the introduction or following pages in a manuscript should be "U.S. Geological Survey." Thereafter, the name "Geological Survey" or "the Survey" can be used, provided that only one Survey is identified in the report. If more than one Survey is mentioned, such as a State Geological Survey, then the full name "U.S. Geological Survey" must be given each time the organization is mentioned. Both the full and the shortened names are capitalized. The abbreviated form "USGS" should be used only in tables where space does not permit the full name.

The policy of the Director's Office is to place emphasis on the Geological Survey, not its subdivisions; thus, the designation "Water Resources Division" should not be used in reports unless necessary for identification purposes. The use of District names also should be avoided. In instances where use of the District name is unavoidable, the following arrangement is recommended:

Georgia District of the U.S. Geological Survey

The use of the District name generally is restricted to a note on the back of the title page of informal reports where the address of the District is provided, as in the following note:

For additional information,  
write to:

District Chief  
U.S. Geological Survey  
Water Resources Division  
123 Main Street  
City, State zip code

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Editorial Style

5.03.8 How to cite publications, documents, and unpublished material

A. Published material

Examples of reference style for most types of published material are given in "Suggestions to Authors" (6th ed., p. 74-81). Authors of reports to be published outside the Geological Survey should follow the publisher's style, which may differ from the Survey's.

When citing hydrologic data that are published in a series of annual reports, combining the citations saves considerable space compared to listing them individually. Among such series are the Geological Survey's water-data reports and the National Climatic Center's climatological data summaries. As an example, water-quality data from the southern Great Basin in California during water years 1966-81 would require only one citation, rather than 16 separate entries; the water-quality records for water years 1966-70 would be cited as follows:

U.S. Geological Survey, 1967-71, Quality of surface waters of the United States. Annual reports as follows: 1966, Water-Supply Paper 1995; 1967, Water-Supply Paper 2015; 1968, Water-Supply Paper 2098; 1969, Water-Supply Paper 2148; 1970, Water-Supply Paper 2158.

The above entry is needed because records of water quality were published from 1941 to 1970 in an annual series of water-supply papers titled "Quality of Surface Waters in the United States".

Beginning with the 1975 water year, State water-data reports were published by the Geological Survey in a new series titled "U.S. Geological Survey Water-Data Report." Water-data reports published during 1971-74 were retroactively numbered and published in this report series. (See Water Resources Division Memorandum No. 81.65.) For example, surface-water records for California occupied volumes 1 and 2 of part 1 of the 1971 water year data report; water-quality records (part 2) occupied a third volume, which would be cited as CA-71-3. Thus, the water-quality records would be cited as follows:

----- 1972-75, Water resources data for California, 1971-74--part 2.  
Water-quality records: U.S. Geological Survey Water-Data  
Reports CA-71-3 to CA-74-3 (published annually).

Beginning with water year 1975, surface-water and water-quality records were merged rather than separated as before; thus, only the appropriate volume is designated, as follows:

----- 1976-82, Water resources data for California, water years  
1975-81--volume 1; U.S. Geological Survey Water-Data Reports  
CA-75-1 to CA-81-1 (published annually).

These citations reflect the fact that data for a specific water year generally are published in the following calendar year.

B. Unpublished material

Material of this sort may include mimeographed documents, letters, field notes, well logs and administrative reports. In general, unpublished material is difficult for the reader to obtain and should therefore be cited only as written communication, as follows:

(R. B. Jones, Monroe County Board of Commissioners, written commun., 1975).

Written communications should not be included in the list of references.

C. Oral communications

If data or information were conveyed to the author only through conversation, the author may cite it in the following style:

(R. B. Jones, Monroe County Board of Commissioners, oral commun., 1975).

Oral communications should not be included in the list of references.

D. Unpublished dissertations or quoted data

a. Unpublished dissertations may be included in the list of references:

Adams, P. S., 1972, Ground-water pollutants: Albany, N.Y., Davison College, unpublished Ph.D thesis, 50 p.

b. Unpublished reports that are quoted or drawn from extensively may be included in the list of references:

Harris, Leo, 1964, Maintenance foreman's report on earthquake damage: Unpublished data on file in Valdez office of Alaska Department of Highways.

E. Reports in preparation or in press

A report that is not yet published, but that is in preparation, may not be cited or referred to in a list of references. Materials from a report in preparation may be referred to in the text only as a written communication. A report that is at a publisher awaiting printing may be referred to as "in press" which should be substituted in place of the date of publication in the citation (for example: Smith, R. J., in press, Ground-water pollutants, Somewhere, U.S.A.). After the report is published, the correct year of publication should be used in subsequent citations. Unless the number of pages in the published report is known with certainty, do not include the number of pages in an "in press" citation.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 5.03.9

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Editorial Style

#### 5.03.9 Use of foreign and Latin phrases

To help provide clear, unambiguous writing, the Geological Survey discourages the use of Latin and uncommon foreign phrases in technical reports. Of course, many terms, such as "per diem," "per capita," "pseudo," and "attache," have become so familiar that their use is not considered questionable, and others, such as "Poltergeist," have no English equivalent and may therefore be used, although with restraint.



## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 5.04.1

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Writing For Special Purposes

#### 5.04.1 General-interest (lay-reader) reports

Writing for the nontechnical reader need not be significantly different from technical writing, but to be successful, it requires certain techniques and a correct judgment of the audience's technical level.

Many of the inquiries received by the Water Resources Division are from business people and others who are concerned with water management, supply, and distribution, but who may know little of geology or hydrology.

#### STYLE OF WRITING

Explain basic principles.--Because many readers may be unfamiliar with the principles and vocabulary of hydrology, basic principles must be explained to make the subject meaningful. An author should not assume that the readers have read (or will read) explanations in earlier publications.

Avoid jargon.--Reports for the general public should not avoid technical content; rather, they should avoid technical vocabulary. If they are too dilute in technical content, they are superficial and of little use. Most people can understand complex processes if they are clearly explained. Where a technical word such as "aquifer" or "permeability" is essential, it should be explained clearly the first time it is used. The explanation may be repeated in a glossary so the reader can check it quickly and easily if he forgets the meaning.

Use analogies from everyday life.--In discussing a complex technical or scientific process, use analogies from everyday life wherever possible. Keep sentences short and simple, with few subordinate clauses. Note that the average length of sentences in magazines with tremendous popular appeal, such as Time and Reader's Digest, is about 17 words.

Plan layout from beginning.--Design of the report starts with the author working in conjunction with the artists and designers. Text and illustrations should be integrated into a unit. Keep in mind that the material will fall on facing pages in the printed copy, and that use of a second color can greatly enhance the comprehensible maps and technical illustrations without greatly increasing the cost. Additional guidelines are given in Section 2.02, "Report Format."

Relate the topic to the individual.--Intellectual curiosity is fairly strong in most people and is even greater when stimulated by self concern. Begin by showing the reader what is at stake. Relate water to jobs, health, recreation, and the local or general economy. Talk later about data collection and the need for research.

Refrain from using humor.--In government publications, humor is appropriate only where it grows naturally out of the subject matter. Where humor is stilted, strained, or applied artificially, it is in poor taste and amounts to an apology for the material being written. If a report's content is important, it does not need forced humor to keep the reader's attention.

Test the product.--Testing the manuscript on neighbors, friends, students, or your spouse is a good way to discover unexpected communication problems. Ask them to mark words or passages they do not understand or find difficult to follow and to suggest any additional material that might be helpful.

Imitation will not hurt--it may help.--Studying samples of good writing for the lay reader may help in developing skill at this kind of writing. Do not overlook the many fine children's books on the earth sciences, for they are simple in style and vivid in graphic presentation. Books intended for children age 12 and up would be the more suitable examples.

#### REACHING THE PUBLIC THROUGH MAGAZINES

Scientists occasionally inquire about placing articles in popular magazines such as Reader's Digest. Actually, it is almost impossible to place an article in the mass magazines, or even in the "slicks" (Harper's, Atlantic, Fortune), unless the author is a successful free-lance writer or employs a literary agent. Most of the big magazines plan their schedules for months in advance, and, with rare exceptions, their material is prepared by their own staff writers. However, there is a market for scholarly but not too technical articles in those scientific magazines that fills the gap between the professional journals and the popular press. Magazines such as Scientific American, The Science Teacher, The Conservationist, Natural History, and others are interested in putting water facts before the public.

If an article is accepted for a magazine of this kind, contact the Chief, Scientific Publications Program to arrange for an appropriate news release or other publicity. Also, permission must be obtained from the U.S. Geological Survey if any of the writing is done on Survey time, or if the writer's affiliation with the Survey is indicated.

CHECK LIST FOR AUTHORS OF GENERAL-INTEREST REPORTS

1. Are all geologic or hydrologic principles explained?
2. Is the jargon pruned away as much as possible?
3. Are the sentences too long--contain more than an average of 17 words?
4. Is the active voice used where possible? (Occasional use of the passive voice is permissible for euphony, but the active voice is much stronger. Check the verbs.)
5. Is the tone too formal, stiff, or unimaginative?
6. Can the text be shortened without spoiling the original concept?
7. Are there enough illustrations, including photographs?
8. Has the manuscript been reviewed by one or more readers?

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Writing For Special Purposes

5.04.2 Leaflets and booklets (general-interest publications)

Leaflets and booklets prepared by the Water Resources Division deal with a specific part of the hydrologic cycle (such as the leaflet "Rain: A Water Resource") or a Congressionally mandated program (such as the leaflet "NAWDEX"). The subject must be approved, as discussed below. The length of the manuscript determines whether it will be printed as a leaflet or as a booklet. Generally, publications that would require more than 24 leaflet pages are produced in booklet format.

Most leaflets and booklets are printed in one color. Multicolor printing is allowed according to content and justification, but the Visual Information Services Group (VISG) makes every effort to use tints, patterns, and screens rather than additional colors.

1. Leaflets

- a. Format.--4 x 9 inches high (folded size and "page" size); 8 to 24 pages (minimum number of words is about 2,500); bound or folded along 9-inch margin; about 350 words per page that contains no illustrations; 10-point type.
- b. Edition size.--Initial printing generally is 15,000 copies. First reprint generally is 25,000 copies.

2. Booklets

- a. Format.--5 7/8 inches wide by 9 1/8 inches high; 16 to 60 pages; bound, separate cover; about 600 words per page on 2-column page, about 630 words on 1-column page that contains no illustrations; 10-point type.
- b. Distribution.--Initial printing generally is 15,000 copies. First reprint generally is 25,000 copies.

PLANNING

1. Concept (from any source) is considered by Office of Assistant Chief Hydrologist for Scientific Information Management, Water Resources Division.
2. Concept and Division's recommendations are forwarded to Director's approving officer for popular publications.
3. Public Affairs Office evaluates concept and makes recommendations to approving officer.
4. Concept is approved or disapproved by approving officer.

FORMS DI-550 and DI-550A

Concept approval for new general-interest publications requires the preparation of forms DI-550 and DI-550A which are to be submitted to the Office of the Assistant Chief Hydrologist for Scientific Information Management, Water Resources Division. Processing of both forms follows the four steps shown in the following section on PLANNING. See samples of completed forms for a new general-interest publication for guidance in preparation of the forms.

If a general-interest publication is undergoing major revision, a change in format, or if it has been more than 2 years since the approval of the last DI-550, both the DI-550 and the DI-550A will need to be prepared and submitted for approval. See samples of completed forms for revised general-interest publication for guidance in preparation of the forms.

If a general-interest publication has been approved by a DI-550 within the past 2 years and is being reprinted without changes (or only minor changes), then a new DI-550 and DI-550A are not required. However, careful track of the costs of reprinting these publications (see cost breakdown section of form DI-550A) must be kept for reporting to OMB under revised Circular A-3 and OMB Bulletin 85-14 as required.

Copies of forms DI-550 and DI-550A are available upon request from the Public Affairs Office, Mail Stop 119, National Center.

DI 550  
(Revised November 1984)

UNITED STATES  
DEPARTMENT OF THE INTERIOR

PUBLICATIONS APPROVAL REQUEST AND CONTROL DOCUMENT

To: Director of Public Affairs Office of the Secretary		From: Public Affairs Office (MS 119) U.S. Geological Survey		Date submitted LEAVE BLANK		
SECTION A PUBLICATION	1. Title "The Big 5"--Some Facts and Figures on Our Nation's Largest Rivers				2. Total Est. Cost	
	3. Category General Interest		4. Status New	5. Format Booklet	\$5,900.00	
	6. SPECIFICATIONS	SIZE	PAGES OR PANELS	INK (Colors)	NO ILLUSTRATIONS	PAPER SPECIFICATIONS TEXT STOCK
		9" x 4"	10	Black & Blue	8	120 sub self
SECTION B JUSTIFICATION	1. Give objective/reason for publication *					
	To respond quickly and efficiently to requests from the public for information about the Big 5 rivers that they hear and read about in the news media.					
	2. Specify advantage over other communication methods.*					
	This publication presents data and information in a limited amount of space and at limited cost, and serves a wider range of audience than other communications methods.					
	3. Is it integrated with other communication methods? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If "yes," specify)*					
	4. Is it a cooperative effort with another governmental or private entity? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If "yes," specify)*					
SECTION C DISTRIBUTION	5. If more than one color, justify					
	Complex illustrations will not be clear unless more than one color is used.					
	6. Primary audience (be specific) Earth science professionals, students, general public--anyone interested in the subject which is an on-going topic in the news media.					
	1. Have distribution and promotion plans been developed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
	2. Recommended for GPO sales? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "no," explain)*					
	a. Recommended for other sales outlets? No					
SECTION D WASHINGTON OFFICE APPROVALS	3. QUANTITIES FOR FREE DISTRIBUTION			TOTAL COPIES	4. Printing to be accomplished by GPO in	
	DOI Employees	General Public	Organizations		<input type="checkbox"/> Region <input checked="" type="checkbox"/> Washington	
	Libraries (Not Depository)	Stock	Other		<input type="checkbox"/> Other (specify)	
		15,000		15,000		
SECTION D WASHINGTON OFFICE APPROVALS	1. Has Quality Control Worksheet (DI-550A) been completed and approved? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Date	4. Signature of Bureau Printing Officer		
			LV BLANK	N/A		
	2. Signature of Publications Liaison Officer		Date	5. Signature of Bureau Official		
	Chief, SPP, WRB		6/24/85	Asst. Director for Research		
SECTION D WASHINGTON OFFICE APPROVALS	3. Signature of Public Affairs Officer		Date	6. Signature of Assistant Secretary		
	L. ...			...		
				7-8-85		
FOR USE BY OFFICE OF PUBLIC AFFAIRS OFFICE OF THE SECRETARY			FOR USE BY DIVISION OF PRINTING AND PUBLICATIONS OFFICE OF THE SECRETARY			
<input checked="" type="checkbox"/> Concept Approved, no further clearance is required <input type="checkbox"/> Concept Approved, except as noted. <input type="checkbox"/> Concept Approved, proceed to develop but submit final copy and layout. <input type="checkbox"/> Submit Quality Control Worksheet. <input type="checkbox"/> Concept Disapproved. <input type="checkbox"/> Requires OMB Approval.			<input checked="" type="checkbox"/> Proposed Publication Approved. <input type="checkbox"/> Proposed Publication Approved, except as noted. <input type="checkbox"/> Proposed Publication Disapproved.			
Signature			Signature			
Title			Title			
Date			Date			
7-9-85			7/11/85			

\*Attach additional sheets, if necessary.

Example of completed Form DI-550 for new general-interest publication

DI 550A  
November 1984UNITED STATES  
DEPARTMENT OF THE INTERIOR

## PUBLICATIONS APPROVAL REQUEST AND QUALITY CONTROL WORKSHEET

To: Assistant Director for Research	From Chief, Scientific Publications Program, WRD	Date submitted LEAVE BLANK
--	---	-------------------------------

## SECTION A PUBLICATION

1. Title The Big 5--Some Facts and Figures on Our Nation's Largest Rivers	6 Total Est Cost \$5,900.00
2. Category General Interest	3 Status New
4 Format Booklet	5 Frequency N/A

## SECTION B JUSTIFICATION

1. Give objective/reason for publication \*
- To respond quickly and efficiently to requests from the public for information about the Big 5 rivers that they hear and read about in the news media.
2. Specify advantage over other communication methods \*
- This publication presents data and information in a limited amount of space and at limited cost, and serves a wider range of audience than other communications methods.
- 3 Is it integrated with other communication methods? ☐ Yes ☒ No (If "yes," specify)\*
4. Is it a cooperative effort with another governmental or private entity? ☐ Yes ☒ No (If "yes," specify)\*
- 5 If more than one color, justify
- Complex illustrations will not be clear unless more than one color is used.
6. Primary audience (be specific) Earth science professionals, students, general public--anyone interested in the subject which is an on-going topic in the news media.

## SECTION C DISTRIBUTION

- 1 Have distribution and promotion plans been developed? ☒ Yes ☐ No
- 2 Recommended for GPO sales? ☒ Yes ☐ No (If "no," explain)\*
- a Recommended for other sales outlets? No
- | 3. QUANTITIES FOR FREE DISTRIBUTION |                |               |        | TOTAL COPIES |
|-------------------------------------|----------------|---------------|--------|--------------|
| DOI Employees                       | General Public | Organizations |        |              |
| Libraries (Not Depository)          | Stock          | Other         | 15,000 | 15,000       |
4. Printing to be accomplished by GPO in  
☐ Region ☒ Washington  
☐ Other (specify)

## SECTION D BUDGET

ESTIMATED COST					
ITEM	CONTRACT	STAFF	ITEM	CONTRACT	STAFF
1. Writing/editing		\$1500.00	3. Typesetting/printing/distribution	\$2400.00	
2. Layout/design	\$2000.00		TOTAL (1, 2, 3)	4400.	\$1500.00
4a Chargeable account(s)		4b. FY	4c Amount budgeted		
5-4062-02200		1985	\$5,900.00		

## SECTION E APPROVALS

1. Project Officer Technical Info. Specialist, WRD	Phone (include area code) (703) 860-7531	Date LEAVE BLANK
2. Office/Field Station Head Susan K. Hampton	Title Chief, Scientific Publications Program, WRD	
3. Program/Regional Official Susan S. Hadden	Title Assistant Director for Research	

SECTION F FORMAT AND SPECIFICATIONS  
To be completed by Printing Management Unit

1. SIZE	2. NO. PAGES	3 PAPER STOCK		4 INKS (COLORS)		5. NO. ILLUSTRATIONS	6 BINDING
		COVER	TEXT	COVER	TEXT		
9" x 4"	10	self	120 sub	Black & Blue	Black & Blue	8	Saddle

(Continued on reverse)

\*Attach additional sheets, if necessary

Example of completed Form DI-550A for new general-interest publication

SECTION F FORMAT AND SPECIFICATIONS (Con.) <i>To be completed by Printing Management Unit</i>						
7. Typewritten, Typeset, or Word Processor  Typeset			8. Artwork requirements  Design and fabricate camera-ready copy to specifications.			
9. SPECIFICATIONS						
<i>(Check appropriate boxes)</i>	YES	NO	<i>(Check appropriate boxes)</i>	YES	NO	QUANTITY
a. Proof required	X		d. Mailing labels required	/	X	
b. Press inspection required		X	e. Envelopes required		X	
c. Mailing list supplied		X	f. Other (specify)			
10. Requested delivery date  September 30, 1985	Signature Bureau/Office Printing Management Specialist			Date		
SECTION G INDIVIDUALS/OFFICES RESPONSIBLE FOR						
1. Policy (Public Affairs Officer or Designated Bureau Official)						
Title Assistant Director for Research			Office Office of the Director			
2. Editorial Quality						
Title <i>Donald L. Holmes</i>			Office Hydrologic Information Unit, SPP, WRD			
3. Technical Accuracy						
Title same as 2 above			Office			
4. Graphics/Layout/Design						
Title same as 2 above			Office			
SECTION H EVALUATION						
1. Need for test marketing						
2. Evidence of effectiveness (May be completed by Project Officer after publication.)						
3. Suggestion for future revision						
4. Cost (Actual)						
PER COPY			TOTAL			
\$			\$			
Comments:						



DI 550  
(Revised November 1984)UNITED STATES  
DEPARTMENT OF THE INTERIOR

## PUBLICATIONS APPROVAL REQUEST AND CONTROL DOCUMENT

To: Director of Public Affairs Office of the Secretary		From: Public Affairs Office (MS 119) U.S. Geological Survey		Date submitted LEAVE BLANK	
---	--	--	--	-------------------------------	--

<b>SECTION A PUBLICATION</b>	1. Title <u>Ground Water</u>					2. Total Est. Cost	
	3. Category <u>General Interest</u>		4. Status <u>Revision</u>		5. Format <u>Booklet</u>		\$5,100.00
	6. SPECIFICATIONS		SIZE	PAGES OR PANELS	INK (Colors)	NO ILLUSTRATIONS	
		9" x 4"	24	Black & Blue	10	120 sub	self

<b>SECTION B JUSTIFICATION</b>	1. Give objective/reason for publication *							
	<u>To incorporate new data and to bring publication up to date.</u>							
	2. Specify advantage over other communication methods *							
	<u>This publication presents data and information in a limited amount of space at limited cost, and serves a wider range of audience than other communications methods.</u>							
	3. Is it integrated with other communication methods? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If "yes," specify)*							
	4. Is it a cooperative effort with another governmental or private entity? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If "yes," specify)*							
<b>SECTION C DISTRIBUTION</b>	5. If more than one color, justify <u>Complex illustrations will not be clear unless more than one color is used.</u>							
	6. Primary audience (be specific) <u>Earth science professionals, students, general public--anyone interested in the subject which is an on-going topic in the news media.</u>							
	1. Have distribution and promotion plans been developed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
	2. Recommended for GPO sales? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "no," explain)*							
	a. Recommended for other sales outlets? <u>NO</u>							
	3. QUANTITIES FOR FREE DISTRIBUTION							
	DOI Employees	General Public	Organizations	Libraries (Not Depository)	Stock	Other	TOTAL COPIES	4. Printing to be accomplished by GPO in <input type="checkbox"/> Region <input checked="" type="checkbox"/> Washington <input type="checkbox"/> Other (specify)
					15,000		15,000	

<b>SECTION D WASHINGTON OFFICE APPROVALS</b>	1. Has Quality Control Worksheet (DI-550A) been completed and approved? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Date LV BLANK	4. Signature of Bureau Printing Officer <u>N/A</u>		Date
	2. Signature of Publications Liaison Officer <u>Chief, SPP, WRD</u>		Date 6/24/85	5. Signature of Bureau Official <u>Asst. Director for Research</u>		Date
	3. Signature of Public Affairs Officer <u>[Signature]</u>		Date	6. Signature of Assistant Secretary <u>[Signature]</u>		Date 6/27/85

FOR USE BY OFFICE OF PUBLIC AFFAIRS OFFICE OF THE SECRETARY		FOR USE BY DIVISION OF PRINTING AND PUBLICATIONS OFFICE OF THE SECRETARY	
<input checked="" type="checkbox"/> Concept Approved, no further clearance is required. <input type="checkbox"/> Concept Approved, except as noted. <input type="checkbox"/> Concept Approved, proceed to develop but submit final copy and layout. <input type="checkbox"/> Submit Quality Control Worksheet. <input type="checkbox"/> Concept Disapproved. <input type="checkbox"/> Requires OMB Approval		<input checked="" type="checkbox"/> Proposed Publication Approved. <input type="checkbox"/> Proposed Publication Approved, except as noted. <input type="checkbox"/> Proposed Publication Disapproved.	
Signature <u>[Signature]</u> Title _____ Date <u>7-8-85</u>		Signature <u>[Signature]</u> Title <u>Chief, Division of Printing and Publications</u> Date <u>7/25/85</u>	

\*Attach additional sheets, if necessary.

Example of completed Form DI-550 for revised general-interest publication

DI 550A  
November 1984UNITED STATES  
DEPARTMENT OF THE INTERIOR

## PUBLICATIONS APPROVAL REQUEST AND QUALITY CONTROL WORKSHEET

To: Assistant Director for Research		From: Chief, Scientific Publications Program, WRD		Date submitted LEAVE BLANK	
--	--	--	--	-------------------------------	--

SECTION A PUBLICATION

1. Title Ground Water				6. Total Est. Cost	
2. Category General Interest	3. Status Revision	4. Format Booklet	5. Frequency N/A	\$5,100.00	

SECTION B JUSTIFICATION

1. Give objective/reason for publication \*

To incorporate new data and to bring publication up to date.

2. Specify advantage over other communication methods \*

This publication presents data and information in a limited amount of space and at limited cost, and serves a wider range of audience than other communications methods.

3. Is it integrated with other communication methods? ☐ Yes ☒ No (If "yes," specify)\*

4. Is it a cooperative effort with another governmental or private entity? ☐ Yes ☒ No (If "yes," specify)\*

5. If more than one color, justify

Complex illustrations will not be clear unless more than one color is used.

6. Primary audience (be specific) Earth science professionals, students, general public--anyone interested in the subject which is an on-going topic in the news media.

SECTION C DISTRIBUTION

1. Have distribution and promotion plans been developed? ☒ Yes ☐ No

2. Recommended for GPO sales? ☒ Yes ☐ No (If "no," explain)\*

a. Recommended for other sales outlets? NO

3. QUANTITIES FOR FREE DISTRIBUTION				TOTAL COPIES
DOI Employees	General Public	Organizations		
Libraries (Not Depository)	Stock	Other	15,000	15,000

4. Printing to be accomplished by GPO in  
☐ Region ☒ Washington  
☐ Other (specify)

SECTION D BUDGET

ESTIMATED COST

ITEM	CONTRACT	STAFF	ITEM	CONTRACT	STAFF
1. Writing/editing		\$1,500.00	3. Typesetting/printing/distribution	\$2,400.00	
2. Layout/design	\$1,200.00		TOTAL (1, 2, 3)	3,600.	\$1,500.00

4a. Chargeable account(s)	4b. FY	4c. Amount budgeted
5-4062-02200	1985	\$5,100.00

SECTION E APPROVALS

1. Project Officer *Andrew D. Holmes*  
Technical Info. Specialist, WRD  
Phone (include area code) (703) 860-7531  
Date LEAVE BLANK

2. Office/Field Station Head  
*Signature R. Hampton*  
Title Chief, Scientific Publications Program, WRD

3. Program/Regional Official  
*Signature B. W. ...*  
Title Assistant Director for Research

SECTION F FORMAT AND SPECIFICATIONS

To be completed by Printing Management Unit

1. SIZE	2. NO. PAGES	3. PAPER STOCK		4. INKS (COLORS)		5. NO. ILLUSTRATIONS	6. BINDING
		COVER	TEXT	COVER	TEXT		
9" x 4"	24	self	120 sub	Black & Blue	Black & Blue	10	Saddle

(Continued on reverse)
\*Attach additional sheets, if necessary.

Example of completed Form DI-550A for revised general-interest publication

SECTION F FORMAT AND SPECIFICATIONS (Con.) To be completed by Printing Management Unit						
7. Typewritten, Typeset, or Word Processor  Typeset			8. Artwork requirements Design and fabricate camera-ready copy to specifications.			
9. SPECIFICATIONS						
(Check appropriate boxes)	YES	NO	(Check appropriate boxes)	YES	NO	QUANTITY
a. Proof required	X		d. Mailing labels required		X	
b. Press inspection required		X	e. Envelopes required		X	
c. Mailing list supplied		X	f. Other (specify)			
10. Requested delivery date  September 30, 1985		Signature Bureau/Office Printing Management Specialist			Date	
SECTION G INDIVIDUALS/OFFICES RESPONSIBLE FOR						
1. Policy (Public Affairs Officer or Designated Bureau Official)						
Title Assistant Director for Research			Office Office of the Director			
2. Editorial Quality <i>Andrew L. Holmes</i>						
Title Technical Info. Specialist, WRD			Office Hydrologic Information Office, SPP, WRD			
3. Technical Accuracy						
Title same as 2 above			Office			
4. Graphics/Layout/Design						
Title same as 2 above			Office			
SECTION H EVALUATION						
1. Need for test marketing						
2. Evidence of effectiveness (May be completed by Project Officer after publication.)						
3. Suggestion for future revision						
4. Cost (Actual)						
PER COPY			TOTAL			
\$			\$			
Comments:						

Example of DI-550A (revised publication - continued)

## MANUSCRIPT AND ILLUSTRATION PREPARATION

After the concept for a popular publication has been approved, author prepares manuscript and illustrations. Text should be typed double spaced and on one side of sheet. The author should define all technical terms and acronyms as a part of the text. In most leaflets and booklets, illustrations occupy 25 to 50 percent of the space. Authors may submit rough draft of line drawings; VISG will accept sketches and photos, but otherwise is responsible for final preparation of all artwork. VISG prefers photographs that are 8 X 10 inches having predominantly medium-gray tones because reproduced photographs are darker than originals.

## ROUTING OF COMPLETED MANUSCRIPT

After manuscript and illustrations have been prepared by author, they are:

5. Reviewed by Water Resources Division peers and by the Public Affairs Office.
6. Submitted for Division approval.
7. Submitted to Director's approving officer for popular publications. The manuscript may also be submitted to the Director's approving officer for technical reports if the approving officer for popular publications thinks it is appropriate.
8. Sent to VISG.

Routing after manuscript has been sent to VISG<sup>1</sup>:

9. VISG edits manuscript and prepares comprehensive mock-up, which it sends to author. Manuscripts are not retyped except for extremely messy pages.
10. Author reviews the editing and the mock-up, making corrections and changes as needed, then returns material to VISG.
11. VISG sends edited manuscript and comprehensive mock-up to the Public Affairs Office for recommendations, and then to the Director's approving officer for popular publications for approval. After this step, no changes may be made except to correct typesetting errors or in response to changes in Geological Survey policy.
12. VISG prepares camera-ready copy, which it sends to Division.
13. Division and author approve camera-ready copy, and return it to VISG.

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<sup>1</sup> If Water Resources Division elects to prepare its own camera-ready copy, steps 10, 11, 13, and 14 still must be followed. If the Division prefers to oversee the printing of one of its popular publications, arrangements must be made with the Director's approving officer.

14. VISG sends the camera-ready copy to the Director's approving officer for popular publications for approval. The camera-ready copy is returned to VISG.
15. VISG corrects camera-ready copy as necessary and sends job to printer.
16. VISG reviews press proofs. Proofs may be sent to Division for approval, but only if VISG has questions concerning the publication.
17. Both the Division and Director's Office review and approve printed publications, and provide notification of approval before public distribution may begin.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Writing For Special Purposes

### 5.04.3 Bibliographies

A bibliography is a list of books, documents, films, or recordings that is arranged in categories and indexed to help the user select and locate the desired material. Bibliographies may be arranged in a variety of formats, depending on purpose and scope.

#### GENERAL PROCEDURES FOR COMPILING A BIBLIOGRAPHY

Authors planning to compile a bibliography should first carefully outline the type of material to be included and should review the scope of available literature. This is best done through a computerized bibliographic search, as described in article 2.03.2. After determining the amount of material available, the authors should establish criteria for evaluating and selecting references. If the bibliography is to include more than a simple reference to each item cited, the authors must decide whether to use annotations or abstracts and must determine a logical arrangement for them.

Once the material has been selected, a detailed outline is prepared showing the proposed subject categories, introductory statements, preliminary material, and indexes to the information. This outline will help determine the most logical arrangement of information.

#### STEPS IN PLANNING A BIBLIOGRAPHY

##### Define the Subject and Purpose

- A. The subject should be significant and clearly defined. It may be broad or narrow but should be clearly stated in the title.
- B. There should be some demand or need for a bibliography on the chosen subject, and this need should be stated in the introduction.
- C. The bibliography should not duplicate a compilation already available, either in content or form. If similar works have been published, the proposed bibliography should make a specific contribution of enough significance to justify the repetition. Some justifications might be (1) to update or supplement previously published bibliography, (2) provide an exhaustive list when only a small compilation is available, or (3) enhance access to a specific aspect of a subject by reducing a larger, broader compilation.

### Limit the Scope

The range of material selected for the bibliography should be complete and encompass all pertinent aspects of the subject within the stated limits. Such limits may be based on:

1. Compiler's judgment as to value or technical level of material cited.
2. Time period and (or) geographic area represented.
3. Languages to be included.
4. Forms of material to be excluded such as theses, unpublished manuscripts, and so forth.

### Describe the Methods Used

The introduction should contain a section that explains the approach and the limits suggested above. It should also describe the principal sources of information, such as names of data bases that were searched, as well as the search strategies and analytical approaches to subject arrangement. If computerized bibliographic data bases are searched, they should be named and their printed equivalents given. Ideally, the authors should review every document; any that are cited but not reviewed by the compilers should be so designated.

### Plan the Arrangement of Citations

Bibliographic references should be arranged so that they can be readily found without an index. Authors might consider dividing the general topic into narrower, more specific categories in which references could be arranged, generally in alphabetical order by author. Type of publications cited may also be a criterion for arrangement.

Once a group of subjects has been decided upon, their arrangement should closely parallel the keywords used in the retrieval. If topics are very broad, authors may need to consult a standard technical thesaurus, such as the "Water Resources Thesaurus" (1980)<sup>1</sup>, to develop a list of narrower categories.

---

<sup>1</sup> Published by the U.S. Water Resources Scientific Information Center  
See article 3.02.1 for additional information on the "Water Resources Thesaurus."

Establish a Citation Format

All references should be complete and should include the elements given in the categories listed below:

1. Books and nonserial reports

- |            |  |
|------------|--|
| a. Author  | e. Publisher and place of publication  |
| b. Date    | f. Pagination (number of pages in original document or specific page(s) in which document is included) |
| c. Title   |  |
| d. Edition |  |

2. Periodicals and serial reports

- |           |                                     |
|-----------|-------------------------------------|
| a. Author | d. Name of journal or series        |
| b. Date   | e. Volume or other numbering system |
| c. Title  | f. Pagination                       |

Additional information, such as distribution of report or ordering procedures, may be included also. However, do not include price information because it is subject to frequent change.

In preparing a bibliography, authors should become familiar with Geological Survey rules for citing publications; these are described in "Suggestions to Authors" (6th ed., p. 76-81). If the bibliography is to be published in a non-Survey series, authors should follow the publisher's bibliographic style.

Decide Between Abstracts and Annotations

Authors should decide during the outlining stage whether to include abstracts or annotations.

An abstract is a shortened version, or a summary, of a document. Most abstracts contain 250 words or less. Abstracts may be taken directly or paraphrased from the cited publication, or they may be written by the compiler from the original document. Abstracts should give enough information to enable the user to decide whether he needs to read the original document. Abstracts prepared by the compiler should tell what the report contributed as well as what it contains. (See article 5.05.3 for requirements of a good abstract.)



Abstracts taken partly or entirely from copyrighted publications may be used only with written permission of the publisher; a statement must be included in the text to indicate that permission to use the material has been granted. This statement may be given in the introduction, in the Acknowledgment section, or in a footnote. (See article 1.03.2.)

An annotation is an informative or descriptive note giving pertinent information about a document. It may be critical or evaluative. Generally it is shorter than an abstract.

#### Develop Index Format

The purpose of an index is to provide multiple access points to a document by concept or topic. The type of index to be included in a bibliography depends on the arrangement of material. If the material is arranged by author without subject categories, a subject key-word index is recommended unless the topic is very narrow. If arrangement is by subject categories, an index of authors and coauthors is recommended. A location index may also be useful in certain kinds of bibliographies.

A "controlled vocabulary" must be developed to compile a subject index. The "Water Resources Thesaurus" (1980) provides the key words (descriptors) and cross references that lead from broad terms to narrow terms, and vice versa.

If the index refers to bibliographic citations by number or letter code rather than page number, indexing can be done as soon as the arrangement of references is final, usually during the last revision after colleague review. If the index refers to page numbers, it cannot be completed until the page layout has been established. Of course, all details of the index must be carefully proofread for accuracy before publication.

#### Publication Format

The authors should plan for a specific publication series as soon as the initial outline has been developed, and should begin by determining the size and format of the series under consideration. Inspection of a recent publication in the intended series will suggest page dimensions, typographic style, nature of preliminary material, and so forth. Another factor to consider when selecting a series is the time required for printing. The sooner the bibliography can be printed and distributed, the greater will be its usefulness.

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References:

- American Library Association, Bibliography Committee, 1972, Criteria for evaluating a bibliography: Reference Quarterly, v. 11, p. 359-360.
- Colaianne, A. J., 1980, The aims and methods of annotated bibliography: Toronto, Canada Scholarly Publishing, July 1980, p. 321-331.
- U.S. Water Resources Scientific Information Center, 1974, Abstracting and indexing guide: Washington, D.C., U.S. Department of the Interior, 71p.
- 1980, Water Resources Thesaurus (3d ed.): Washington, D.C., U.S. Department of the Interior, Report OWRT IT-80/1, 375 p.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 5.05.1

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS---  
Components of Reports

#### 5.05.1 Acknowledgments

Most reports will include a concise statement of appreciation for assistance and cooperation received during the course of an investigation. Assistance and cooperation can take many forms, including transmittal of information, assistance of cooperating agency or of cooperating agency personnel, use of equipment in conducting tests, recording of data by residents, permission for installation of instruments, and furnishing of computations, analyses, or identifications. In short, the acknowledgment expresses gratitude for help rendered by others that made the investigation easier, more complete, or perhaps even possible. In most Geological Survey publications, the acknowledgments are placed at the end of the Introduction, under the subheading "Acknowledgments"; in non-Survey reports it should be located in accordance with publisher's rules.

The most important contributions should be acknowledged first, followed in order by those of decreasing importance. Within this general guideline, assistance from the cooperating agency and people outside the Geological Survey should be acknowledged before that from Geological Survey employees.

Acknowledgment of assistance by Geological Survey employees should be restricted to noteworthy contributions to the investigation or report. Specific pieces of work such as analyses, identification of minerals or fossils, or computations must be credited to the persons who made them; these credits are preferably placed in the tables, lists, or statements in which work is reported. Credit for this assistance fixes the responsibility for the information presented.

Acknowledgment of report review and assistance of a general, supervisory, clerical, or administrative nature by Geological Survey employees should not be made, for assistance of this kind is considered to be part of the job, not a noteworthy contribution to the investigation or report. The Geological Survey considers that every report from a District is prepared under the supervision of the District Chief, and that statements similar to "prepared under the general supervision of \_\_\_\_\_, District Chief," and "under the immediate supervision of \_\_\_\_\_, Subdistrict Chief" are unnecessary and should not, under normal circumstances, be used in Geological Survey- or cooperator-published reports.<sup>1</sup>

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<sup>1</sup> An exception is the statement included in annual State data reports acknowledging individuals and agencies involved in preparing the report.

#### Reference:

Suggestions to Authors (6th ed.), p. 21-22.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 5.05.2

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Components of Reports

#### 5.05.2 Purpose and scope

The most important part of the introduction in a technical report, whether a book or a journal article, is the section explaining the purpose (or objectives) and scope of the study, for this tells the reader what to expect and places it in context. This information generally is given after the opening paragraphs of the introduction under a single heading such as "Purpose and Scope."

The purpose of the study should be clearly differentiated from the scope of the report that is being written if they are different. For example, a purpose might be to describe long-term trends in concentration of chloride within a stated area. In contrast, the scope might identify the actual time period analyzed, specify the data base used, and the analytical techniques employed.

If the report has a complicated layout or contains numerous illustrations or tables, the purpose and scope section also may contain a note explaining the organization and format to aid the reader.

Ideally, the purpose and scope section of the report should be based on statements from the project description, with modifications only to fill in details or to improve clarity. The report should be developed around the purpose and scope. The purpose should be fulfilled by the report and reflected in the concluding section, generally in the same order. For example, if the first stated purpose is to define the chloride trend, the first conclusion should explain that trend in terms indicated by the study.

The authors should study the purpose and scope section and its relation to the introduction, table of contents, and summary or conclusions in several recent Geological Survey publications to develop a feeling for the wording, content, and relationship of these components.

The purpose and scope of a report may or may not be the purpose and scope of the study that generated the report. However, the purpose and scope of a report should in some way be related to the study. A sample purpose and scope section is given on the following page.

Sample Purpose and Scope section
----------------------------------

## PURPOSE AND SCOPE

This report describes the results of a study to refine and extend knowledge of the source, extent, and movement of the brackish water previously found between 500 and 1,000 feet beneath part of the Brunswick peninsula, and to suggest means of alleviating the contamination caused by this water.

The study was performed in several stages, as follows:

1. Geologic data were used to define the framework of the aquifer system beneath Brunswick and to determine probable sources of the brackish water.
2. The chloride concentration of water in selected wells was monitored to establish the extent of the brackish water.
3. The data from monitoring wells were used to ascertain the rate of movement of brackish water in the aquifer.
4. Methods were suggested for alleviating the effects of brackish-water intrusion.

The scope of the work included test drilling, examination of drill cuttings, and geophysical logging of wells to refine the geologic knowledge of the area; water-level measurements to determine the effect of industrial pumpage; and water sampling of selected wells for chemical analyses to determine the presence of rate of change of chloride concentration in the water. Previously completed fieldwork and reports served as a background for this report. This investigation continues cooperation with the city of Brunswick, Glynn County, and the Georgia Department of Natural Resources, Earth and Water Division, and this report discusses findings made from July 1965 to June 1967.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Components of Reports

### 5.05.3 Abstracts

The abstract is a digest of the report and should be a concise, but accurate description of the report. Much of a report's impact and usefulness depends on the adequacy of the abstract. Almost all Geological Survey publications require an abstract. (See article 3.01.1.) Each author is required to abstract his own work and to supply copies of the abstract with his report when it is submitted for approval.

A well-prepared abstract enables readers to identify the basic content of a report quickly and accurately, and thus to decide whether they need to read the document in its entirety. For the author, the abstract is an opportunity to state, in condensed form, what he considers to be his real contribution to knowledge. Authors must bear in mind that many people will read no more than the titles and abstracts of their reports. Indeed, abstracts are sometimes the only means by which scientists are informed of the work of their colleagues. There are two principal types of abstracts--indicative and informative. Indicative abstracts are used for data compilations containing no conclusions. They tell the reader about the general content of the report. Informative abstracts contain the essential facts and conclusions in the original document.

Although abstracts need not conform to any standard format or content, the following general guidelines should be used when preparing one:

1. The abstract is a digest of the significant contents of a report and should be written after completion of the report.
2. The abstract should not include information not contained in the body of the report.
3. The abstract should contain the same basic information and tone (balance, emphasis) as that of the report.
4. Authors should describe findings as concisely and informatively as possible, but should avoid being cryptic or obscure.
5. When findings are too numerous for all to be included, give priority to significant discoveries, findings that contradict previous theories or results, findings relevant to a practical problem, or findings that the author knows are important to a cooperator or other funding agency.

6. With the exception of data reports (see item 7 below), do not state what the report contains, but rather what it contributes. Be informative and include the significant factors of the original document. the following examples do not meet the requirements of a suitable abstract:

"Problems caused by pumping for public-water supply are discussed."

"Effects of commercial pesticides on ground-water quality are described."

"Methods of ground-water recharge are compared."

"Results are given for water-quality analyses."

7. The abstracts of data collections generally are indicative because conclusions are lacking and because of the large amount of tabulated information. A suitable abstract for these reports should include a statement of purpose, a short list of the types of data in the report, and as much information as possible about the source and quantity of data. For example, "Discharge measurements were collected from 1978-81 at 55 gaging stations in 13 Adirondack Lake watersheds."
8. The abstract also should include the following:
  - a. information that accurately reflects both the title and content of the report;
  - b. an initial topic sentence that is a central statement of the report's major thesis (subjects covered), but avoid repeating the words of the report title;
  - c. the geographic location (for reports describing or referring to a particular locality);
  - d. the problems, primary objectives and scope of study, or the reasons why the report was written (unless these are already clear from the title or can be derived from the remainder of the abstract);
  - e. the type of report, when this is not evident from the title or publication outlet of the abstract--for example, water-quality study, case history, hydrologic reconnaissance, progress report, report of original research, areal investigation, and so forth;
  - f. the experimental plan or methodology used, especially new techniques, or special procedures, tests, and equipment;
  - g. the type and accuracy of data collected and used;

- h. whether numerical values are new or derived, and whether they are the result of a single observation or of repeated measurements;
  - i. the principal findings, including newly observed facts, conclusions of an experiment, theoretical results obtained, relationships and correlations noted, new compounds or minerals, new geologic or hydrologic units, and so forth;
  - j. conclusions, including whether the results meet the objectives of the study, how the results can be applied, suggestions for further study, and so forth.
9. Avoid comparing the present work with the work of others or with what has been known previously about the topic. Rarely, an abstract may require reference to a published work if it is a development from other work and it is necessary to show the basis from which the development was made. Then, the complete citation should be given in parentheses, not just the usual text reference to author and year of publication. Citations in abstracts for scientific journals should conform to standards of the journal for which the paper is written.
10. Use standard nomenclature and avoid unfamiliar terms, acronyms, or symbols. Units of measurement should not be abbreviated unless they are long or complex, in which case they may be spelled out in parentheses after they are abbreviated where they first appear.
11. The abstract should be a complete unit, independent of the text, and for this reason, references must not be made to tables, illustrations, or other material in the body of the report.
12. Most abstracts can be limited to two or three paragraphs, except those for long reports.
13. Use complete, connected sentences. Use the active voice wherever possible.
14. The abstract may be written in either the present or the past tense, depending on the type of report. Abstracts for reports describing the results of research or experiments should be written in the past tense, whereas some parts that are independent of time, such as conclusions, may be written in the present tense.



15. The Geological Survey sets no specific limit on abstract length in its publications, either by total number of words or by percentage of length of text, although WRSIC abstracts are limited to about 250 words, and journals or other non-Survey publication outlets may set their own limits. (See article 3.02.1 on WRSIC abstracts.) Authors should remember, however, that the shorter the abstract, the more likely it is to be read and to be included in abstract journals.
16. The abstract should be suitable for publication in abstract journals and for indexing without requiring significant modification.

In conclusion, effective and informative abstracts are vital to communication, and scientific and technical writers need to develop skill in writing them. An abstract that conveys a maximum of information with a minimum of words requires more writing and rewriting than does the preparation of other parts of the report. The preparation of a good abstract is a skill that can only be acquired by diligent practice. Examination of other abstracts--for example, those prepared for "Selected Water Resources Abstracts" and "Geological Survey Research," probably is the best approach for preparing well-written abstracts.

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Components of Reports

#### 5.05.4 Summary and conclusions

Upon completion of a manuscript, many authors inquire about the relationship of the abstract to the conclusions or summary, how conclusions and summary differ from one another, and how to determine whether a concluding section is needed at all. This article describes the purpose of these components and compares their characteristics.

The two most widely read parts of a report are the abstract and the summary and (or) conclusions, for these state the most important ideas and facts and tell their significance. The abstract and concluding material must be in full agreement and together present the essential information from the report. They should not be mere repetitions of each other, although the same statements and data may be included in both. The main difference between the abstract and conclusions or summary is that the abstract is generally restricted in length and concentrates on orientation and results, whereas the conclusions or summary may include greater detail and may also elaborate on the significance and potential applications of the results. Guidelines to follow when writing the abstract are given in article 5.03.3; guidelines for preparing the summary or conclusions are given below.

#### SUMMARY

A summary is a restatement of the main ideas presented in the report. It differs from the abstract in that it may encompass greater detail and broader scope. For example, it may discuss the manner by which interpretations were derived and may also discuss potential applications. The purpose of a summary is to recapitulate the most important facts so that the reader will correctly recall the results and their significance. The summary should describe or list these items in the order in which they are presented in the text; to do this, the author should review the table of contents and the main discussions when writing the summary. A summary generally is appropriate for descriptive rather than interpretive reports.

#### CONCLUSIONS

The conclusions section states the final results and interpretations of a study. All conclusions must be either stated in the report or be easily derivable from the material presented therein. In preparing the conclusions, the author should refer to the "purpose and scope" section to verify that the two sections support each other--that is, the stated purpose of the study has been fulfilled, the scope adhered to, and both are reflected in the report and the conclusions. In general, the conclusions should be listed in the same order as the corresponding objectives in the "purpose and scope" section, and the main conclusions should be incorporated into the abstract.

The conclusions section differs from the abstract in that it is unrestricted in length and may include additional detail, discuss potential applications, or provide suggestions for further research. Conclusions are generally itemized and numbered in order of decreasing importance.

#### SUMMARY AND CONCLUSIONS

In some reports it is appropriate to combine the summary and conclusions under one heading. Here, again, the author should develop this final section with close adherence to the purpose and scope sections and the table of contents, as well as the sections containing results and interpretations. The summary and conclusions section serves to restate the essential information and to emphasize the major results and their significance. Only statements or data that were discussed in the text should be included.

The decision whether to present the concluding material of a report as a summary, conclusion, or both, will depend largely on the report's content and technical level. If the report is short and written for a nontechnical audience, a summary will probably be adequate, whereas a report presenting technical discussions or describing tests and experiments may require a list of conclusions with a discussion of their significance and applications.

#### WHEN TO USE A CONCLUDING SECTION

Reports containing only data, maps, work plans, and similar materials that do not include interpretations or descriptive text generally will not require any concluding section; however, omitting a final statement may leave the reader puzzled or with an erroneous impression. Therefore, a recapitulation of the essential facts and their significance should be provided in all interpretive or descriptive reports.

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**Note:** Under no circumstances may "recommendations" be given in the abstract, concluding sections, or anywhere else in the report with the exception of administrative reports prepared for other Federal agencies. (See article 1.02.3.) If the data or results clearly indicate a particular danger or course of action, the subject may be addressed in terms of probable results of alternative courses of action.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 5.05.5

Subject: EDITORIAL CONSIDERATIONS FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Components of Reports

#### 5.05.5 Indexes and glossaries

##### INDEXES

Indexes are needed in certain types of reports to guide the user to specific points of interest. Comprehensive reports having much technical content and those containing numerous items of information not shown in the table of contents should be indexed.

Responsibility for preparing the index for formal Geological Survey book publications (Water-Supply Papers, Professional Papers, Bulletins, and so forth) rests with the Book Editor, Geologic Division. (See article 2.01.1 for list of formal Geological Survey publications.) However, the author should assist the editor either by underlining, on the page proof, important words to be indexed, or by submitting a list of terms to be indexed with the manuscript. Technical reports in the WRIR series and in cooperator-published series also may have an index; these are prepared by the author.

Guidelines for preparing indexes are given in "Suggestions to Authors" (6th ed., p. 46-47).

The following types of report do not need an index:

1. Short reports having detailed tables of contents or reports easily read in a short time.
2. Reports having alphabetical or numerical organization, numerous tables, general discussion, or highly mathematical content that require only brief analytical examination to locate points of interest.
3. Reports of a popular nature that do not contain original or specific detailed technical information.
4. Reports that are preliminary or of short-term interest.
5. Reports that must be published in haste.

## GLOSSARIES

A glossary is used to define selected words or terms used in the report. It is used mostly in reports for the nontechnical audience to assure that the key words will be correctly understood.

Glossaries generally list the terms in alphabetical order. The glossary may be placed at the back of Geological Survey publications. (See article 7.02.4.) The glossary should be listed in the table of contents.

Subject: EDITORIAL CONSIDERATION FOR WATER RESOURCES DIVISION MANUSCRIPTS--  
Components of Reports

5.05.6 Appendixes and attachments

APPENDIXES

Appendixes are used to present material that could, for the most part, be left out of the report without detracting from its interpretation. They should be used in Geological Survey publications only if absolutely necessary because they add bulk and increase the cost of printing. Any reports containing appendixes must be accompanied by a letter of justification when submitted for Headquarters approval.

Data that must be included to support conclusions may be placed after the list of references in the form of tables. Short tables should be placed within the text; long ones placed at the end. Where long tables are first referred to in the text, the author may use a phrase such as the following:

".....these data are given in tables 6 through 9 (at the end of report)."

ATTACHMENTS

Attachments appear only in computer-related reports. They include all illustrations and materials that may become obsolete, such as job-control language, flow charts, and program listings. Each attachment will bear a letter, starting with A, and a title or caption. The attachments are not included in the main body of the report, but rather are placed at the end of the report. Attachments may be referred to in the report and should be listed in the table of contents. Any reports containing attachments must be accompanied by a letter of justification when submitted for Headquarters approval.

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Components of Reports

5.05.7 Foreword and preface

FOREWORD

The foreword (note spelling, fore-word, not forward) is an introductory statement, by someone other than the author that describes the circumstances and significance of the report. (A preface is written by the author himself.) Most Geological Survey publications require neither a preface nor a foreword; however, under certain circumstances such material may be warranted. For example, a foreword may be useful in (a) a publication that is unusually important, (b) a publication consisting of a collection of papers, each having its own author and title but pertaining to a central theme reflected in the title of the volume, or (c) a report of a cooperative investigation by the Geological Survey and another governmental agency, wherein a foreword is describing the importance and circumstances of the investigation.

PREFACE

A preface can provide a prominent place for essential background information, such as the relation of the report to earlier editions and to other reports on the same subject, and may also give prominence to certain kinds of credits and acknowledgments that are not included on the title page. In organization-type reports--for example, those on surface-water supply of the United States--the preface can give credit to those who supplied data and who, in other types of reports, would be recognized as authors. A preface may be unsigned or may carry the name or initials of the author.

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Components of Reports

5.05.8 Frontispiece

A frontispiece is an illustration preceding and generally facing the title page of a book report. Such reports require a false title page (fig. a) and the frontispiece itself (fig. b). In this configuration, the false title page and the frontispiece page are not numbered (but are, in reality, pages i and ii, respectively). These instructions differ from those given in the "Style Manual" (1984, p. 14), in which the listed order of the false title and frontispiece is incorrectly reversed. In addition, there may be books in which the frontispiece does not precede the title page; for example, the frontispiece in Professional Paper 301 faces a foreword. The placement of the frontispiece generally is decided by the book editor.



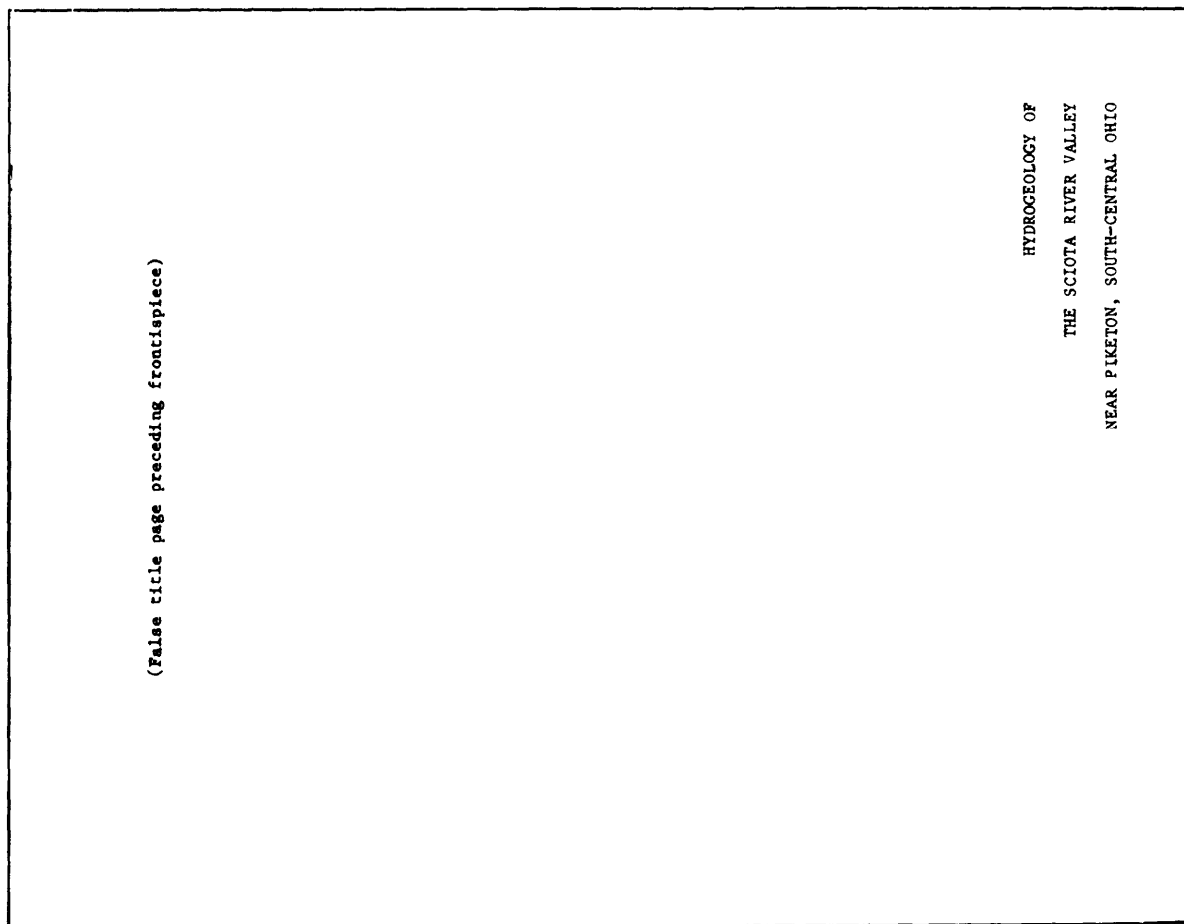


Figure a

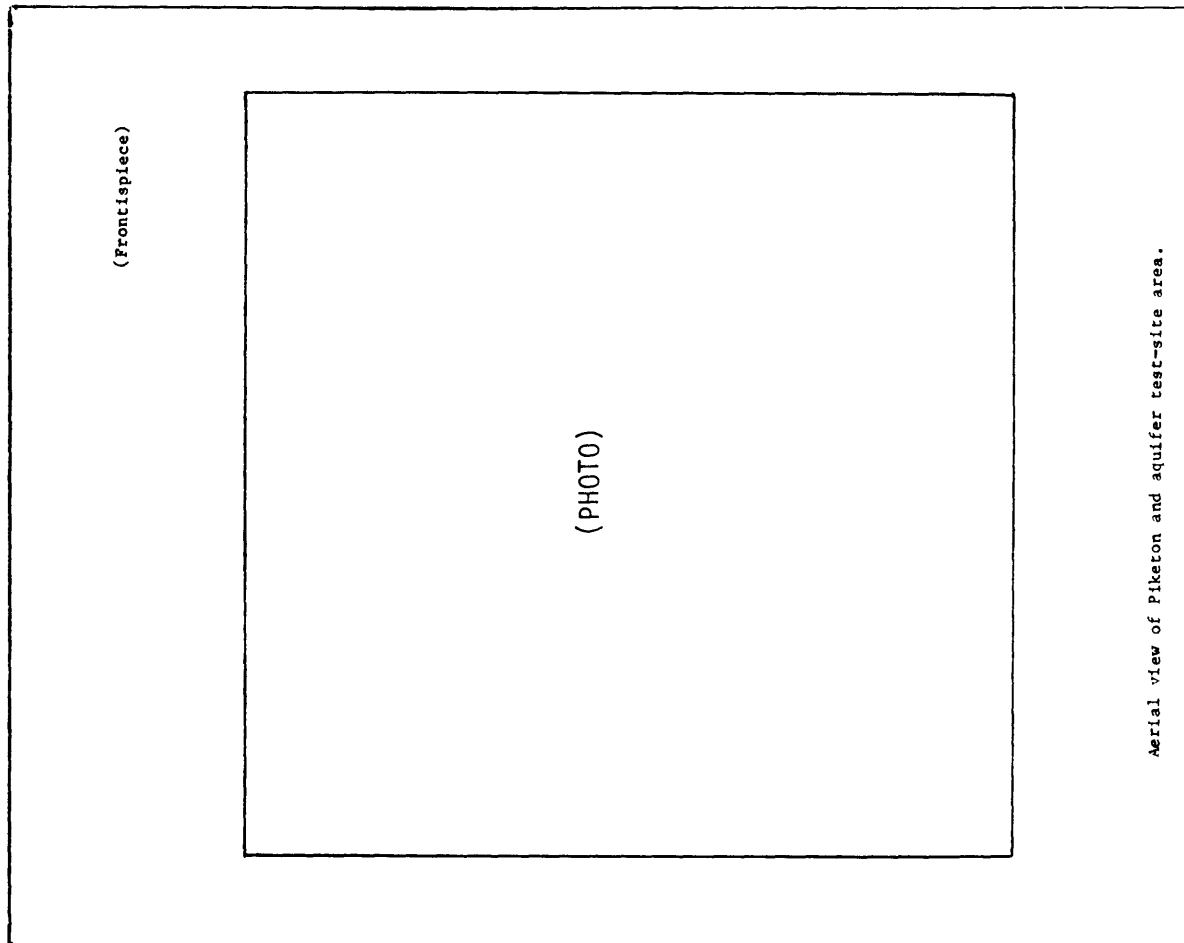


Figure b

# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

## SECTION 6

### Page

#### PREPARING MANUSCRIPTS FOR DIVISION REVIEW

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Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Format

6.01.1 Differences between review draft and camera-ready copy

Typists often are puzzled at being required to type the same manuscript to one set of specifications the first time and another set later, and authors are sometimes confused by editorial notes that seem to contradict those made in earlier drafts. To avoid confusion of this kind, this article summarizes the differences between review copy and camera-ready copy.<sup>1</sup> A full description of how camera-ready copy is made is given in Section 7.02.

REVIEW DRAFT

(Manuscript submitted to Region for Director's approval)

- A. Is entirely double spaced to allow for alterations.
- B. Has illustrations and large tables separated out and placed at end.
- C. May contain hand-lettered tables and illustrations and computer printouts.
- D. Has all pages numbered consecutively, starting with front cover as page 1 (not i).
- E. Allows for insertion of extra pages (designated a, b, c, and so forth).
- F. Contains "cut-ins," or notes stating that a given figure, footnote, or table will be inserted near that point in the printed copy.
- G. Contains separate pages bearing the captions that will accompany the illustrations when final copy is made.
- H. May be typed in any roman typeface.
- I. Generally contains no commercial lettering or other final drafting.

The review draft of a manuscript does not require use of italics or superscripts, nor change of typefaces (except for equations and symbols). Complex equations may be written by hand in the review draft.

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<sup>1</sup> Review drafts are required for all publications. Camera-ready copy is not required for reports in formal Geological Survey series or those to be typeset by an outside publisher.

CAMERA-READY COPY  
(Printer's copy)

- A. Is single spaced except between paragraphs and beneath headings.
- B. Has Roman numerals on the preliminary pages and Arabic figures from the abstract onward.
- C. Does not contain "cut-ins"; instead, the actual figures, tables, and footnotes are fitted into the text.
- D. Contains paragraphs and sentences that carry over from one page to the next.
- E. Is designed on a facing-page basis to provide visual balance.
- F. Is generally typed from a "dummy"--a cut-and-pasted mockup in which the exact position of text, figures, and tables is indicated.
- G. May require use of superscripts, italics, and other characters or changes of typeface; may have commercial lettering for major headings.

If authors or typists are in doubt as to how to prepare a specific component for typing, they should consult the editor or reports specialist.

The following table summarizes the differences between review draft and camera-ready copy.

Item	Review draft	Camera-ready copy
Typeface	Any; use same throughout manuscript to save time.	An elite serif style is preferred for legibility; italics may be used for captions and minor headings. Commercial lettering may be used for major headings.
Line Spacing	Double	Single except between paragraphs and before new sections.
Pagination	Arabic; consecutive from cover 1.	Roman for preliminary pages, Arabic starting with abstract. Odd-numbered pages are always on right, even on left.
Paragraphs	Should be complete on a page.	Run onto next page if needed.
Cut-ins	Used in place of figures, tables, footnotes (not plates).	Deleted, captions are placed beneath illustrations, footnotes at bottom of page.
Illustrations	Grouped together as separate package at end of report; done in rough draft with hand lettering.	Inserted in text in proper order; professionally drafted.
Tables	Typed on separate page, inserted after main reference in text or, if bulky, at end of report. Generally double spaced. May be photoreduced.	If small, may be combined on page with text. If bulky, may be placed after references. Generally single spaced. Reduced to specified dimensions.

Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Format

6.01.2 Size of paper, text, tables, figures, and plates

TEXT

On January 1, 1980, all Federal agencies were informed that 8 X 10 1/2-inch typing paper was to be replaced by 8 1/2 X 11-inch paper. Manuscript typing should be on paper that is opaque, smooth, and takes pencil marks easily. Paper that is erasable, tinted, glossy, textured, odd-sized, or onion skin is unsuitable for manuscripts. Margins of manuscript material should be 1 inch on all sides; page numbers should be typed or handwritten half an inch from the bottom center. Typing generally begins on line 7 and is double spaced. Both 12-pitch elite and 10-pitch pica are acceptable sizes; however, elite is preferred because it gives greater economy.

TABLES

Tables may be typed on oversized sheets for review but should be condensed to the extent possible without crowding so that extreme reduction for camera-ready copy will not be necessary.

If a table in its final form requires excessive reduction to attain a 1-page format, it should be redesigned to occupy two or more successive pages. If it covers two facing pages and is turned sideways (broad measure), the heading should be on the left-hand page but may be omitted from the right-hand page. The column headings should be repeated on the right-hand page, however. The footnotes also are placed on the right-hand page. See "Style Manual" (1984, p. 173-199.) The maximum dimensions for tables in 8 1/2 X 11 inch reports are 6 1/2 X 8 3/4 inches to allow sufficient margins and room for the page number. For reports to be microfilmed (WRI and Open File Reports), reduction to as small as 80 percent of original size is permitted for elite type (67 percent for pica); thus, the maximum image area before reduction to camera-ready copy is about 8 1/4 X 11 inches for elite type and 10 X 13 1/4 inches for pica. Computer printouts may be reduced to 65 percent of original size.

Tables for formal Geological Survey book reports to be set in type commercially may be oversized but must be double spaced and conform to Geological Survey format. (Article 7.02.2 describes typographic style for tables in Geological Survey reports.)

Originating offices are encouraged to prepare tables of formal Geological Survey reports in final camera-ready form (after Director's approval of report). Typists, editors, and authors should endeavor to produce the best possible quality of tables for camera-ready printing.

### FIGURES (Page-size illustrations)

Figures should fit, or should be designed to be reduced to fit, within a 6 1/2 X 8 3/4 inch image area or less in camera-ready copy of 8 1/2 X 11-inch reports. (For publications of other sizes, figures should be designed to meet publisher's specifications.) In WRI and Open-File Reports, the minimum lettering size after reduction is 8 point<sup>1</sup> to ensure readability in reproduced copy. Illustrations should be drafted with the final published size in mind and at a convenient size for review and duplication. They must be drawn in such a way that duplicated copies will be legible.

### PLATES (Oversize illustrations)

Plates should be prepared at as small a size as possible for user's convenience. Before preparation of a plate is begun, the author should consider whether the material could be presented on two facing pages instead. If oversize format is unavoidable, the publisher's restrictions and requirements should be determined in advance so that reformatting will not be necessary later on. (See article 2.01.2.)

To facilitate review, oversize illustrations and plates should be reduced to publication size if possible. One inexpensive procedure is to use a reducing electrostatic machine and reproduce the reduced image on good-quality tracing paper. The tracing paper then can be used as a master for additional diazo review-copy prints. This procedure eliminates the need for costly photoreductions and prints. Because many reducing electrostatic machines distort the reduced image, and affect scalar relationships, review copy obtained with the above procedures should not be used as originals for printing.

---

1

This footnote is typed in 8 point lettering.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 6.01.3

Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Format

#### 6.01.3 Typographic specifications for manuscripts

This article outlines the major typographic specifications for manuscripts submitted for Director's approval in Geological Survey publication series. Format of support documents and preliminary pages is shown in the examples in article 3.01.2; most other questions can be resolved by comparison with recent publications in the same series.

#### PRELIMINARY PAGES (all matter preceding the abstract)

Preliminary pages are double spaced and numbered consecutively in Arabic (not Roman) numerals, with front cover as 1. Examples of all preliminary pages, including contents, list of illustrations and tables, table of conversion factors, and so forth are given in article 3.01.2.

#### TITLE AND ABSTRACT

The main part of the manuscript begins with the abstract. The first item on the abstract page is the report title, centered on line 7, in capital letters, with the longest line on top if possible.<sup>1</sup> The title is double spaced. Three spaces below the title is a centered line containing the word "By," followed by the author's first name, initial, and last name, with the first letters capitalized.<sup>2</sup> Three spaces below the author's name(s), the word ABSTRACT is centered. For example:

#### SURFICIAL GEOLOGY OF PULASKI QUADRANGLE

OSWEGO COUNTY, NEW YORK

By Todd S. Miller

#### ABSTRACT

---

<sup>1</sup> See Water Resources Division Memorandum No. 81.127, dated September 8, 1981, for the requirements of a good title.

<sup>2</sup> See "Suggestions to Authors" (5th ed., p. 18), for recommended format of author's name.



The abstract itself is double spaced, with each paragraph indented five spaces. Other publications should not be mentioned in an abstract, and abbreviations may be used only for long terms that are repeated frequently; in such cases the term should be spelled out in parentheses after its first use. For example, Water Resources Scientific Information Center (WRSIC) (See article 5.03.4.)

In Geological Survey reports, the text abstract may be of any reasonable length but will need to be shortened to about 250 words for the WRSIC abstract sheet.<sup>3</sup> Other journals may also have a limit on length. (Check with publisher.) Abstracts for Geological Survey reports should contain complete paragraphs on a page.

#### TEXT

In nearly all reports, the first section after the abstract is the introduction, followed a series of main sections (each containing any number of subsections), then the summary and (or) conclusions, and finally the references.

#### Introduction

This heading begins on a new page. The word "Introduction" should be capitalized and centered on line 7, and each paragraph thereafter should begin with a five-space indentation. The introduction may contain subsections such as Purpose and Scope, Methods, and Acknowledgments. These are generally second-order headings and should be centered and underscored, with the first letter of the main words capitalized. These sections need not begin on a new page, but paragraphs should be complete on a page.

#### Body of Report

The rest of the report will consist of main sections, each beginning with a first-order heading (B or C below,<sup>4</sup> depending on the number of heading ranks), and perhaps containing subsections bearing second-, third-, and fourth-order headings. The following guidelines will help you choose the format of text headings and subheadings, on the basis of the total number of heading ranks in the report. Formats for the six ranks are as follows:

- A. ALL CAPS, CENTERED, UNDERLINED<sup>4</sup>
- B. ALL CAPS, CENTERED
- C. Caps and Lowercase, Centered, Underlined
- D. Caps and Lowercase, Centered
- E. Lowercase, flush with left margin on line by itself, underlined
- F. Lowercase, paragraph indention on same line with first sentence of paragraph, underlined, with period and two hyphens.--

---

<sup>3</sup> See example in article 3.02.1.

<sup>4</sup> Rank A is used only rarely in Geological Survey reports.

The selection of ranks depends on the total number of ranks in the manuscript, as follows:

<u>Number of Ranks</u>	<u>Use these formats</u>
1	B
2	B, C (or F; see text)
3	B, C, D (or F)
4	B, C, D, E (or F)
5	B, C, D, E, F
6	A, B, C, D, E, F

For example, if your manuscript has a major heading and two ranks of subheadings (total, 3), the major heading should be "all caps, centered" (B), the higher-rank subheading "caps and lowercase, centered, underlined" (C), and the lower-rank subheading "caps and lowercase, centered (no underline)" (D), as follows:

#### SETTING

##### Ground-Water Reservoirs

##### Extent and Boundaries

Note that format "F" should be used for the lowest rank if the section under it is short and of minor importance, regardless of the total number of ranks. Also, it need not be listed in the table of contents unless it has special significance. Rank "F" is particularly appropriate for minor headings that are used repeatedly in a manuscript.

#### FIGURES, FOOTNOTES, AND TABLES

Where the author refers to a figure, table, or footnote, an appropriate insert (cut-in) such as shown in the examples below should be placed either in the margin or before the next line of text. If placed in the text, the insert should be preceded and followed by a solid line. Because plates generally are inserted inside the back cover, they do not require cut-ins.

##### Examples:

---

Figure 1. (caption on next page) belongs near here.

Figures 1-4. (captions on next page) belong near here.

Table 2. (on next page) belongs near here.

Footnote (on next page) belongs near here.

---

The caption, table, or footnote is then typed on a separate page, which is inserted directly after the page on which it is mentioned. (See article 3.01.2 for example.) Short, unnumbered tables may be inserted directly in the body of the text. If the table is bulky, such as a computer printout, a reduced, page-size copy of its first page (or two) will serve as a sample, and the rest need not be included until camera-ready copy is prepared. The reduced sample should indicate how many such sheets the complete table will contain when printed. Captions, footnotes, and tables are typed on separate pages because they may be prepared separately from the text, possibly on a different machine in a different typeface or type size.

Where a figure is referred to in parentheses, the word "figure" is lowercased and abbreviated "fig."<sup>5</sup> Where it is not in parentheses, it is lowercased and spelled out. For example:

"Location of sites is shown in figure 2."

"All wells (fig. 2) were monitored weekly."

#### REFERENCE TO OTHER PUBLICATIONS

Most reports contain references to statements or works by other authors. The correct forms are as follows:

- A. If an author's name is part of a sentence, only the date and the page number are given in parentheses.
- B. If the author's name is not part of the sentence, the name, date, and page number are given in parentheses.

Examples: Depths tabulated by Greylag (1973, p. 335) indicate...

Tabulated depths (Greylag, 1973, p. 335) indicate...

Additional information on bibliographic style is given in article 6.01.4 and "Suggestions to Authors," (6th ed., p. 79-81).

#### QUOTATIONS

When a long quotation (four lines or more) is given, it may be single spaced and indented three to five spaces on both sides, as shown below:

When a quotation is presented this way, quotation marks are not used. When the quotation contains fewer than four lines, however, it may be run into the text and enclosed in quotation marks.

---

<sup>5</sup> In review drafts of manuscripts, all illustrations are to be designated figures. If an illustration is oversize, consult an editor or drafts-person to determine whether it can be made smaller to avoid need for a plate or foldout, or can be prepared in black and white with overlays halftones, screens, symbols, and so forth to avoid use of color.

The comma or period following a quotation is typed inside the last quotation mark, but other punctuation not actually part of the quotation, such as a colon or semicolon, should be typed outside. (This is an American printing convention that may seem illogical but is nevertheless standard within the United States.) For example, write:

"It is so."                      not                      "It is so".

(See "Style Manual" (1984), rules 8.48 and 8.144.)

#### EQUATIONS

Even simple equations may require a change of typeface and use of superscripts or subscripts. To save time in preparing review manuscripts, it is acceptable to have the equation neatly hand lettered rather than typed. An important equation that is referred to later in the text or that is citable by other authors should be centered on a line by itself, and the equation number given in parentheses at the right margin. The equation is followed by a definition of terms and units of measure. For example:

$$Q = 0.00838TIW, \quad (2)$$

where Q is quantity of flow, in acre-feet per year;

T is transmissivity, in cubic feet per foot of aquifer thickness per day;

I is hydraulic gradient, in feet per mile;

W is width of the flow section, in miles; and

0.00838 is the factor that converts cubic feet per day to acre-feet per year.

Where an equation is referred to parenthetically, the word "equation" may be abbreviated (eq. 2) or (eqs. 2, 3, and 7). In typeset reports, it is customary to italicize all variables of the equation, but, because of the difficulty in changing typefaces on most typewriters, this practice is not required in office-prepared copy.

---

Note: A simple unnumbered equation generally is included in the text, rather than on a separate line, and is followed by an explanation of symbols. For example:

.....of the equation,  $Y = mX + b$ , where Y is the .....

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 6.01.4

Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Format

#### 6.01.4 Typographic style for bibliographic references

In Geological Survey reports, all publications referred to in text, tables, and illustrations are listed at the end of the report in a separate section titled "References," "Selected References," "References Cited," or "Selected Bibliography."<sup>1</sup> (See "Suggestions to Authors, 6th ed., p. 76.) References in Geological Survey-published reports are listed alphabetically by principal author, but, in reports to be published outside the Geological Survey, references should follow the style of the publisher. In review manuscripts, this section must be double spaced.

Beginning in 1979, the Geological Survey discontinued the practice of abbreviating names of publishing agencies and series in bibliographic listings, but retains use of the following abbreviations:

ser.	sec.	fig.	mimeo.
chap.	ed.	pl.	abs.
p.	v.	no.	U.S.

All other terms must be spelled out. Representative samples of bibliographic references are given in "Suggestions to Authors" (6th ed., p. 79-81) and may also be found in recent publications of the appropriate series.

#### RULES FOR LIST OF REFERENCES AT END OF REPORT

Where more than one reference by the same author is given, the name is not repeated in subsequent entries but is represented by a five-dash line, followed by the date with a space between.

For example: ----- 1979, Chloride in New Jersey lakes: U.S.  
Geological Survey Open-File Report 79-18, 19 p.

---

<sup>1</sup> If only the works mentioned in the report are listed, the heading should be "References" or "References Cited." If additional works are listed, the heading should be "Selected References" or "Selected Bibliography." These should be typed as first-order headings in capital letters and centered.

If the same author has more than one publication in a given year, the first entry is designated as 1979a, the next as 1979b, and so forth. If some of the works by a given author are coauthored, they should follow the last of those having single authorship and should be listed alphabetically by the first coauthor.

#### REFERENCES IN TEXT, TABLES, AND ILLUSTRATIONS

##### In Text

When a publication is referred to in the text, it is generally given in the form:

. . . . (Smith, 1970, p. 29-32)<sup>1</sup>

If three or more authors are in the same reference, cite the first author and add "and others." For example:

(Jones, Smith, and Block, 1960) should be written (Jones and others, 1960)

However, if the senior author published more than one cited report in the same year and had different coauthors in each report, all the names should be given in the references to avoid confusion.

If the author of the cited work is named in the sentence, the following form may be used to avoid repetition:

. . . . as proved by Smith (1970, p. 29-32).

Inclusion of the page numbers is not always required but should be done, if feasible, to save the reader time if clarification or verification is needed. When unpublished material is referred to, it should be given in the following manner:

(R. L. Smith, Hinkley Water Department, written commun., 1970)  
or (R. L. Smith, Hinkley Water Department, oral commun., 1970)

Neither oral nor written communications should be included in the list of references at the end of the report because the reader probably will be unable to obtain them.

---

<sup>1</sup> Initials may be included only to avoid confusion with other authors having the same last name.

### In Tables

References in tables generally will be given either in headnotes within brackets beneath the title or in footnotes below the bottom line. References should include only the author's last name, the date of publication, and the page numbers. The complete publication reference must be given in the list of references.

### In Illustrations

In general, references in illustrations will be given in the caption, not the figure itself. For example:

Figure 2.--Geologic section A-A', Loudoun County, Va.  
[From Smith, 1970, p. 40.]

Unless the figure or data are taken directly, without alteration, from another source, the words "Modified from" must be included. If material is from a copyrighted source, the source must be cited and written permission obtained from the publisher. (See article 1.03.2.) Notations such as "reproduced by permission of" are not given unless requested by the publisher, however. Even if material is from a source that is not copyrighted, such as a Federal publication, the source must be cited.<sup>2</sup>

For maps that show geologic or hydrologic information, an appropriate mapping credit note should be placed under the south border and end flush with the east border.<sup>3</sup>

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<sup>2</sup> See Water Resources Division Memorandum No. 82.97, dated June 15, 1982.

<sup>3</sup> See article 3.09.5 of the previous (blue-cover) "Publications Guide."

Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Format

### 6.01.5 Typographic style for tables

The objective of a table is to present information or data in a manner that allows easy comparison. The possibilities for arrangement of data are limitless; one approach to developing a layout is to study tables of similar material in published reports and follow their style.

Tables for manuscripts in review stages or that will later be set in type should be double spaced to facilitate editing, but preparation of a single-spaced copy at the same time may help to determine the final size and layout. Tables requiring use of oversized paper should be typed as compactly as possible, without crowding, to minimize the amount of reduction required to achieve page-size copy.

#### TITLE

Lowercase all except the first letter of the first word and proper nouns; underscore and center the full title. Do not end the title with a period. (Titles may be changed to italics in the camera-ready copy if desired.) If a note of explanation is given in headnote form beneath the title, it should be in roman type and enclosed in brackets. Do not end the headnote with a period.

Example: Table 1.--Chemical analysis of water from well 3A

[All concentrations are in milligrams per liter]

#### COLUMN HEADINGS

Capitalize the first letter only. If units of measurement are included, they should be in parentheses and centered beneath the word(s) above them and should be spelled out, but may be abbreviated, if necessary. If two or more columns give data on the same feature, a line should span all such columns, and a general description should be centered above this line.

Concentration (milligrams per liter)							
Nitrate				Chloride			
1960	1965	1970	1975	1960	1965	1970	1975



## LEFT-HAND COLUMN

Capitalize first letter of all entries. If more than one line is needed for an entry, indent succeeding lines two spaces.

## DATA COLUMNS

Use a comma to separate thousands, millions, and higher numbers of four or more digits. Thus: 4,320; 50,491; 1,250,000. (See "Suggestions to Authors," 6th ed., p. 91.)<sup>1</sup> If the table contains SI values, use spaces instead of commas. (See article 4.03.1.) Align decimal points. Where data are lacking, use a double dash (explained in footnote or headnote) in place of the value. Do not leave a blank space nor use "NA," which could be interpreted either as not available or not applicable.

Use of the "ND" (not detected) notation means that an analysis was made, that the detection limit of the analytical technique was unknown, and that the constituent was not detected.

Use of the "<" (less than) notation means that the analysis was made, that the detection limit was known, and that any readout from the analytical device was within two standard deviation units of background noise, meaning that there was not sufficient confidence in the readout to assign a real, numerical value to the concentration.<sup>2</sup>

## "DITTO"

The abbreviation "do" is used only in columns of dates or words. Abbreviate as "do." Capitalize "Do." only in the first and last columns. If successive numbers, symbols, or abbreviations in a column are the same, repeat them--do not use "do." (See "Style Manual" (1984), p. 179-180.)

## FOOTNOTES

Raised numbers or raised lowercased letters are preferred to asterisks and other symbols. They may be written with a shelf and slash (for example, 2/) to avoid changing to a superscript typeface in a manuscript, but superscripts without shelf and slash should be used in the camera-ready copy for improved appearance. Where footnotes are attached to numerical values, they are typed to the left of the value to avoid appearing as an exponent.

Examples:	<u>2/</u> 13,000	not	13,000 <sup>2/</sup>
	or <sup>b</sup> 13,000	not	13,000 <sup>b</sup>

Footnotes are placed to the right in columns of words, symbols, and date. (See "Style Manual" (1984), p. 183-184.)

---

<sup>1</sup> This rule does not apply to graph scales where commas are not used in numbers less than 10,000.

<sup>2</sup> See Quality of Water Branch Technical Memorandum No. 81.22.

## HORIZONTAL AND VERTICAL RULES.

The table is spanned by a full-width rule above the column headings. A full-width rule also spans the bottom; footnotes are beneath this rule. On tables covering two or more pages, the bottom rule is given only on the last page. Downrules are avoided in most Geological Survey tables; an exception is a table of geologic correlations.

## VERTICAL OR BROAD MEASURE LAYOUT

Tables may be arranged either upright on the page or sideways (broad measure), depending on space requirements. Excessive reduction can be avoided if tables are designed to fit on two facing pages or on a sequence of facing pages. Where a broad measure page is used, the table should be oriented so that the reader will turn the table clockwise to read it.

## REDUCTION

For reports to be microfilmed (WRI and Open-File Reports), final letter size must be no smaller than 8-point.<sup>3</sup> Thus, tables typed in elite may be reduced to no smaller than 80 percent of their original size, and tables typed in pica may be reduced to no smaller than 67 percent. Computer tables may be reduced to 65 percent. For 8 1/2 X 11-inch pages, maximum image area for elite type that is to be reduced to 80 percent is 8 1/4 X 11 inches before reduction and that for pica, 10 X 13 1/4 inches before reduction. Tables in reports for other Geological Survey series may be reduced by as much as 50 percent, if necessary; however, legibility will be greatly diminished. (See article 6.01.2.)

To minimize the time spent in typing tables, the author should study published examples and consult with an editor and typist before specifying the layout.

---

<sup>3</sup> This footnote is typed in 8 point lettering.

## Reference:

GPO Style Manual (1984), p. 192-193 ("Definition and Parts of a Table").

Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Format

6.01.6 Pagination of manuscripts and related components

In the review stages, pagination is for identification only and has little bearing on how pages will be numbered in the printed copy. In manuscripts intended for Division review, the following guidelines should be followed:

- A. Page number is at bottom center, about 5/8 inch from bottom of page.
- B. Page numbering begins with outside cover as 1 (not i). Roman numerals are used only in the camera-ready copy.
- C. Caption sheets and tables are numbered as a regular part of the text.
- D. Pages should be renumbered after the manuscript has been proofread and corrected to avoiding use of numbers such as 7a, 7b, and so forth. Handlettering of page numbers is acceptable.
- E. If pages must be added after the manuscript has been numbered, and renumbering is not practical, they are designated as a, b, and so forth. Where page 7a, for example, is inserted, the note "7a fols" must be written beside the page number on page 7, and the note "8 fols" must be added on page 7a. When a page is deleted, a similar note must be placed next to the preceding page number.
- F. The table of contents may be numbered by hand as long as it is done neatly.
- G. When adding the page numbers to the list of illustrations, give the page containing the principal reference, not the caption sheet. (In camera-ready copy, the number should indicate the page displaying the figure.)
- H. On the list of plates, do not type page numbers or leaders unless the plate is a fold-out and bound into the book, because the plates will be inserted in a pocket inside the back cover.

Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Verification and Proofreading

6.02.1 Procedure for making revisions on manuscripts

The following guidelines are intended to help facilitate typing, correction, and final assembly of completed manuscripts for transmittal to Headquarters.

- A. The author and editor can simplify the typist's work by using standard proofreader's marks (see article 6.02.2 or "Style Manual" (1984), p. 5) and by writing out neatly or, preferably, printing on separate pages, rather than between lines, all lengthy additions or badly marked-up sections. Placing a check mark in the margin beside each line containing an alteration will prevent the alteration from being overlooked by the typist.
- B. Use a colored pencil when making corrections because it is more visible than lead pencil. (When correcting camera-ready copy, use only nonreproducing blue.)
- C. To make a deletion, draw a single line through the material to be removed and place a "delete" mark (S) in the margin beside it. The practice of bracketing material to be deleted is confusing to editors and typists because to them it signifies the addition of brackets.
- D. It is the author's responsibility to note factual and numerical errors. All data in the text should be checked against the illustrations and tables and should be given in the same units of measurement and with the same number of significant figures.
- E. Before transmitting the manuscript to the next person, the author should verify that all queries have been resolved, and then checked off and initialed.
- F. After the typist has made all corrections, the author should proofread the retyped pages and compare them against the marked-up copy to assure that no marks have been overlooked and no new errors introduced. The manuscript submitted to Headquarters should be virtually error free, although minor corrections may be lettered in by hand if they are neat and do not give the page a cluttered appearance.
- G. Illustrations, likewise, should be error free. The only marks that should appear on illustrations are those indicating specifications such as percent reduction, shading pattern, lettering style, and so forth.

Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Verification and Proofreading

6.02.2 Standard proofreaders' marks

A list of commonly used proofreader's marks is reproduced from the "Style Manual" (1984), p. 5.

PROOFREADER'S MARKS

⊙	Insert period	<i>rom.</i>	Roman type
↗	Insert comma	<i>caps.</i>	Caps—used in margin
:	Insert colon	≡	Caps—used in text
;	Insert semicolon	<i>C+sc</i>	Caps & small caps—used in margin
?	Insert question mark	≡	Caps & small caps—used in text
!	Insert exclamation mark	<i>l.c.</i>	Lowercase—used in margin
=/	Insert hyphen	/	Used in text to show deletion or substitution
↓	Insert apostrophe	ⓧ	Delete
↔	Insert quotation marks	ⓧ	Delete and close up
—	Insert 1-en dash	<i>w.f.</i>	Wrong font
—	Insert 1-em dash	○	Close up
#	Insert space	□	Move right
⋈	Insert ( ) points of space	□	Move left
<i>shll</i>	Insert shilling	□	Move up
✓	Superior	□	Move down
^	Inferior		Align vertically
(/)	Parentheses	=	Align horizontally
[/]	Brackets	□□	Center horizontally
□	Indent 1 em	□	Center vertically
□□	Indent 2 ems	<i>eq. #</i>	Equalize space—used in margin
#	Paragraph	✓✓✓	Equalize space—used in text
<i>no #</i>	No paragraph	.....	Let it stand—used in text
<i>tr</i>	Transpose <sup>1</sup> —used in margin	<i>stat.</i>	Let it stand—used in margin
~	Transpose <sup>2</sup> —used in text	⊗	Letter(s) not clear
<i>sp</i>	Spell out	<i>run over</i>	Carry over to next line
<i>ital</i>	Italic—used in margin	<i>run back</i>	Carry back to preceding line
—	Italic—used in text	<i>out, see copy</i>	Something omitted—see copy
<b>b.f.</b>	Boldface—used in margin	<i>SI?</i>	Question to author to delete <sup>3</sup>
~~~~	Boldface—used in text	^	Caret—General indicator used to mark position of error.
<i>s.c.</i>	Small caps—used in margin		
—	Small caps—used in text		

<sup>1</sup>In lieu of the traditional mark "tr" used to indicate letter or number transpositions, the striking out of the incorrect letters or numbers and the placement of the correct matter in the margin of the proof is the preferred method of indicating transposition corrections. (See rule 2.88.)

<sup>2</sup>Corrections involving more than two characters should be marked by striking out the entire word or number and placing the correct form in the margin. This mark should be reserved to show transposition of words.

<sup>3</sup>The form of any query carried should be such that an answer may be given simply by crossing out the complete query if a negative decision is made or the right-hand (question mark) portion to indicate an affirmative answer. (See example, p. 6.) (See rule 2.84.)

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 6.03.1

Subject: PREPARING MANUSCRIPTS FOR DIVISION REVIEW--Assembly for Transmittal for Division Review

#### 6.03.1 Inspection, duplication, assembly, and transmittal of manuscript

After the manuscript has been typed, proofread, corrected, and all support documents completed and dated (instructions are given in articles 3.01.1 and 3.01.2), the material may be assembled, as follows, for transmittal to Headquarters, through the appropriate supervisor as indicated on p. 113.

1. The transmittal memorandum should be written as explained in article 3.01.2, and dated, then signed by the District Chief or other designated official.
2. The appropriate number of copies of each support document should be made as indicated in article 3.01.1, including additional sets for files.
3. When all copies have been made, the support documents should be placed in the order in which they are listed at the bottom of the transmittal memorandum.
4. The package containing review comments should be identified and the names of reviewers listed. The reviewer's name should also be written plainly at the top of each set of comments. The author's written response to each review must be included.
5. The two manuscript copies that are sent to Headquarters (with a set of figures attached to each) should be labeled "original" and "duplicate," at the upper right corner.
6. When all required documents have been assembled as stated in the transmittal memorandum, the package should be sent by registered or certified mail.
7. A record of all manuscript transmittals should be filed for reference.

If a report is returned from Headquarters for revision or resolution of comments, a new transmittal memorandum must be written when the report is resubmitted, and copies of all previous correspondence as well as the marked-up pages must be resubmitted with it.



# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

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## WATER RESOURCES PUBLICATIONS GUIDE

### Article 7.01.1

Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL--Processing Approved Manuscripts

#### 7.01.1 Procedures for handling approved manuscripts

Once a manuscript has been approved by the Director for publication and returned to the originating office, it may be regarded as belonging in one of two categories:

- A. Reports for which camera-ready copy is prepared outside the originating office:
  - 1. Geological Survey formal series, including Water-Supply Papers, Professional Papers, Circulars, Bulletins, Techniques of Water-Resources Investigations, Hydrologic Investigations Atlases, Miscellaneous Investigations Maps, and Miscellaneous Field Studies Maps).
  - 2. Non-Survey series<sup>1</sup> (some conference abstracts and articles, journal articles, reports in series published by State or other government agencies).
- B. Reports for which camera-ready copy is prepared by the originating office:
  - 1. Geological Survey WRI and Open-File Reports and administrative reports.
  - 2. Non-Survey series (some conference abstracts and articles, reports in series published by State or other Government agencies).

The procedure for processing the approved manuscript and distributing final copies will depend upon the type of report. The manuscript returned to the originating office by Headquarters will contain a memorandum giving general instructions. Some additional guidelines are as follows.

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<sup>1</sup> Most journals and conference proceedings require camera-ready illustrations from the originating office. The manuscript and illustrations should be prepared to publisher's specifications before the manuscript is submitted for Director's approval because this eliminates the need for reformatting later on. The author is responsible for obtaining and following publisher's specifications. Do not submit single-spaced copy for Director's approval.

REPORTS FOR WHICH CAMERA-READY COPY IS PREPARED  
OUTSIDE THE ORIGINATING OFFICE

Survey Series

1. The approved manuscript is routed to the author, through his supervisor, with a Division memorandum giving (a) instructions for responding to remaining questions and retyping badly marked-up pages, and (b) a date by which the copy should be returned to the Publications Management Unit. Shortly after transmittal of the manuscript to the Geologic Division by the Publications Management Unit, the Publications Management Unit will request the originating office to send original illustration materials for books to a Geologic Division book-preparation unit.

For map reports, the originating office should send original illustration materials to the Publications Management Unit when the manuscript is submitted for preparation for printing.

2. Book manuscripts are edited at Headquarters, Denver, or Menlo Park for typographic style and are returned to the author for verification. Again, the author will be informed as to the deadline for return of the manuscript, this time directly to the appropriate Geologic Division book-preparation unit.
3. After typesetting and drafting have been completed, the author will receive proofs of the text and illustrations (not necessarily together) from the publisher. Proofreading should be done promptly. Proofreading is best done by two people working together, one reading from the original manuscript and the other from the proof. Use only standard proofreader's marks; these are given in "Style Manual" (1984, p. 5) and in article 6.02.2. Because typographic changes are costly, only alterations concerning errors of fact, spelling, or punctuation will normally be accepted. After making corrections, the authors must return all components to the indicated address.
4. When the book has been printed, copies will be sent to the author for inspection. If serious problems are noted, an errata sheet can be prepared or other corrective action taken. Printed copies are distributed by the Branch of Distribution according to lists prepared by Headquarters. The author(s) will receive copies as indicated in article 8.02.4.

Non-Survey Series

When the approved manuscript is received at the originating office, it is sent to the author through the supervisor with the Division memorandum giving (a) instructions for resolving questions and submitting retyped copies of the badly marked-up pages to the Publications Management Unit, and (b) the required distribution for printed copies once they become available. Steps in handling manuscripts to be typeset outside the Geological Survey are as follows:

1. Resolve in writing, to the satisfaction of the District or Research Project Chief, all questions raised during Division review.
2. Retype the manuscript according to the publisher's typographic specifications, even if they differ from Geological Survey rules, then proofread. Also correct the illustrations. If camera-ready illustrations are required, it may be wise to submit only review-quality sketches and to postpone final drafting until the publisher has accepted the article. This will avoid the need to redraft or reformat the material should the publisher reject the article or call for revisions.
3. Send the retyped manuscript and corrected illustrations to the publisher with a cover letter, and retain a file copy of all documents.
4. If the publisher rejects the report, the author may submit the report to a different journal but must notify the Division when and by whom the report is accepted. Alternatively, the report may be published in a Geological Survey series, but must be resubmitted for approval. If approval for WRI or Open-File Reports is requested, only the routing sheet, approval notice, news release, and transmittal memorandum explaining the situation need be included. If publication in a formal Geological Survey series is requested, two copies of the manuscript, a news release, note for the monthly list of new publications, and illustration check lists are required. (See Section 3.) In either case, the manuscript and illustrations must be formatted to Geological Survey style.
5. Upon receipt of galley and illustration proofs from the publisher, authors should proofread them promptly. Proofreading is best done by two people working together, one reading from the original manuscript the other from the proof. Use only standard proofreaders' marks; these are given in "Style Manual" (1984, p. 5), and in article 6.02.2. Because typographic changes are costly, only alterations concerning errors of fact, spelling, or punctuation will normally be accepted.
6. Return the corrected proof and the marked-up manuscript to the publisher with a cover letter, and expect to wait several weeks or months before printed copies are available.

REPORTS FOR WHICH CAMERA-READY COPY IS PREPARED  
BY THE ORIGINATING OFFICE

Instructions for preparing camera-ready copy are given in Section 7.02. The general procedure is briefly summarized below:

1. Upon receipt of the approved manuscript, authors resolve all questions in text and illustrations to satisfaction of the District or Research Project Chief, then deliver all components, including original illustration materials, to the inhouse reports section. Originating offices should retain comments of colleague reviewers for at least one year after the report has been published.
2. A mockup of the report is made with single-spaced text, leaving appropriate space for tables and illustrations. Authors should verify and proofread the mockup before the camera-ready copy is prepared.
3. Illustrations are drafted and tables formatted to fit the space allotted in the mockup.
4. Typist makes author's corrections to text; illustrations are then placed in the corrected camera-ready copy. Author inspects a proof of all camera-ready copy, again indicating all corrections and revisions.
5. Each page, including cover, is given final inspection by an editor to verify that copy is neat, page numbers are in proper order and listed correctly in the table of contents, and printer's instructions for all components are explicit. The material may then be delivered to the printer.

For reports to be published in non-Survey series, the author has no further responsibility, other than to provide printed copies to Headquarters when they become available, as specified in the manuscript-approval notice.

Additional Steps for WRI and Open-File Reports

6. Camera-ready copy is sent to the Government Printing Office with form SF-1, or is machine duplicated inhouse. (See article 7.03.3 for instructions for preparing form SF-1.)
7. Upon receipt of printed copies, the shipment is inspected to verify that printing and binding are not faulty. Sometimes the shipment will need to be sent back for reprinting or rebinding.
8. If serious typographic or factual errors are discovered, an errata sheet is attached inside each copy before distribution.
9. The appropriate number of copies is mailed to Headquarters and depositories, as indicated in the manuscript-approval notice.

Article 7.01.1

10. A news release is issued to the news media. If report has not yet been announced in "New Publications of the U.S. Geological Survey," the copies must not be distributed (except to depositories--step 9 above) until the news release has been issued.
11. After public announcement of the report, copies may then be distributed according to established mailing lists. (Guidelines for distributing WRI and Open-File Reports are given in Sections 10 and 11, respectively.)

Subject: PROCESSING MANUSCRIPT AFTER DIRECTOR'S APPROVAL--Preparing Camera-Ready Copy

7.02.1 Description of design and layout process

This article, and all other articles in Section 7.02 pertain to Geological Survey reports for which camera-ready copy is prepared inhouse, such as WRI and Open-File Reports.

Camera-ready copy is the material supplied to a printing firm (or used in a copying machine) to produce multiple copies. Although the camera-ready copy can be reduced or enlarged and negatives can be screened to decrease image density, the printed copy will contain the same image as the camera-ready copy, including typographical errors and pencil marks. Thus, the camera-ready copy must be complete, clear, and error-free. The general procedure for preparing camera-ready copy is explained below; detailed instructions and suggestions are given further on in this section.

The services needed to prepare camera-ready copy are those of designer or editor, typist, and draftsman or cartographer. In some offices, the team may consist only of author and typist; yet, by following the procedures described herein, one can prepare camera-ready copy of professional quality with minimal effort.

The minimum equipment needed, in addition to drafting material and typewriter or word processor, are listed below; most can be obtained at low cost through local graphics firms.

- colored and lead pencils, including nonreproducing blue
- scissors (mat knife and paper trimmer are optional)
- rubber cement, glue sticks, clear tape, or waxing machine
- rubber-cement thinner and dispenser
- crepe "pickup" to remove dried rubber cement
- pica rule and clear straight edge
- ream of blank paper (8 1/2 X 11 inches)
- reduction-enlargement wheel (circular slide rule)
- dictionary and booklet "Word Division" (GPO, 1976)
- light table
- lettering machine (optional)

A method that will minimize the number of drafts, reduce the time spent in making revisions, and produce the most professional appearance employs a mockup for the typist to follow in final typing. This procedure may be used for publications of any length and format and is the procedure used in virtually all books, magazines, and advertisements. The following steps summarize the preparation of camera-ready copy. Detailed descriptions of major steps are given in articles 7.02.2 through 7.02.6.

1. Author resolves all Division queries in the manuscript in neat penmanship so that the typist can follow them.
2. Typist produces a complete single-spaced draft that includes the preliminary pages, references, tables, and figure captions. After typing, the typist scans all components to verify that no lines or paragraphs have been repeated or omitted and that the margins and spacing between sections are even and balanced.
3. When the text, tables, and captions have been typed, the designer (usually editor or author) cuts and lays them out on sheets of blank paper at publication size<sup>1</sup>. If both sides of each page are to be printed, this step must be done with facing pages side by side, with even numbers on the left. This procedure establishes what material will be on each page of the report and how the book will look when printed; this phase also determines the pagination. Wherever the principal reference to a figure or table occurs, the designer should evaluate that component to determine how much space it will require. Several alternatives may be available; for example, a map or graph may extend across two pages, may fit sideways on one page, or may require only half a page, and some tables may require several pages while others could be reduced to fit on two facing pages or even on one page. The author's review copies should suggest the approximate size (full page, half page, and so forth), but the exact dimensions will be determined by the amount and placement of the surrounding text. Some backtracking will probably be necessary during the layout phase to solve problems of balance, but the total process should not take more than a few hours, even for long, complicated reports.
4. Author proofreads the mockup and suggests changes in layout as needed. The author's supervisor also should inspect and approve the mockup.
5. Once the changes have been agreed upon, the typist runs off camera-ready text exactly as indicated in the mockup, leaving space for the illustrations and tables. The tables and figure captions should be typed separately to allow positioning in the final copy. Concurrently, the draftsman completes illustrations to the dimensions indicated in the mockup.
6. Author and editor inspect every retyped page and component, on a facing-page basis, to verify that no new errors have been introduced and that all pages, including headings, captions, and so forth, are balanced. Any pages needing further correction are retyped, proofread, and inserted into the camera-ready copy.

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<sup>1</sup> If copy is to be reduced, oversized sheets may be used.

7. Completed illustrations, captions, tables, and display heads (if used) are pasted onto the camera-ready copy, and a duplicate copy of the entire report is made. The duplicate is inspected, again with facing pages side by side, to verify alignment, correct pagination, and so forth. When all corrections have been transferred to the camera-ready copy, it is ready for printing.

The advantages of preparing a mockup before final typing are that it enables the designer and author to consider a variety of layout alternatives, relieves the typist of guesswork, reduces the number of drafts and the amount of proofreading, and provides a balanced, professional appearance that would not be possible otherwise.



Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL--Preparing Camera-Ready Copy

7.02.2 Typographic considerations

Whether the originating office uses a typewriter or a composing machine, selection of an appropriate typeface for preparing camera-ready copy of technical reports is a major consideration because it affects both the esthetic appearance and the legibility of the report. Typefaces are available in many sizes, weights, and styles. Some criteria and suggestions for type selection are given below.

TEXT TYPE

Although most new typewriters or word processors accept a variety of typefaces, the most appropriate for text is generally an elite serif roman<sup>1</sup> style such as Prestige Elite or Courier. Numerous studies indicate that the serif typefaces are more legible than either the sans serif<sup>2</sup> (so-called Gothic) or the italic typefaces. Sans serif may be used for illustrations. Either serif or sans serif may be used for tables. Italics should be used only for isolated words or phrases and short, isolated paragraphs. Italics are not underscored.

Examples

**This line is typed with Prestige Elite lettering.**

**This line is typed with Courier lettering.**

**This line is typed with Letter Gothic lettering.**

*This line is typed with Courier Italic lettering.*

- 
- <sup>1</sup> Roman--upright letter style, not italic.  
Serif--line crossing the end points of letters in typefaces, such as Prestige Elite.
  - <sup>2</sup> Sans serif--a typeface lacking serifs, such as Letter Gothic (French sans, without).

The recommended type size for technical reports and news releases is elite (12-pitch) rather than pica (10-pitch) because more words can be typed on a page and because elite provides more space between lines, making it easier to read.

Tables.--Tables may be done in any Roman typeface. If symbols are used in the text, an identical type style for those symbols must be used in tables and illustrations.

Major headings.--Unless special (commercial or rub-on) lettering is used in place of typescript, headings in camera-ready copy should be typed the same as in the review copy.<sup>3</sup> (See article 6.01.3.)

If special lettering is used, the system of heading orders need not be followed, but the lettering and weight size should reflect the heading rank.

Illustrations and table titles.--These may be typed in either Roman or italic, depending on author's and editor's preference, but must be consistent throughout the report. Titles should be centered in relation to the material they refer to but should be slightly narrower. If the title contains more than one line, each line should be nearly the same length, with the top line the longer.

#### SPECIAL LETTERING FOR COVER AND HEADINGS

Although special lettering is not required in Geological Survey reports, it can greatly enhance the appearance of cover and text. To use special lettering effectively, keep the following principles in mind:

Keyboard vs. display.--Most graphics firms provide a wide choice of both keyboard and display lettering; a copy of their specimens book will give examples of size and weights available. Keyboard lettering (6 point to about 18 point) is faster to produce and far less expensive than display type, wherein every letter must be retrieved and printed individually. Display type is used almost exclusively for sizes 18 point and larger. Keyboard faces, though generally conservative, are suitable for virtually all technical reports.

Size and thickness.--Any lettering intended to enhance a page of text should harmonize with the typescript. Lettering that is ornate, severely condensed or expanded, too thin, or too bold will blend poorly or cause imbalance. In general, headings ranging in size from 10 to 14 point in bold or medium-bold sans serif will best enhance typescript. Using 8- or 9-point headings with 10-point typescript will weaken the effect, and using heading sizes larger than 14 point may cause an unbalanced appearance.

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<sup>3</sup> In copy prepared for non-Survey publication, follow publisher's specifications for heading style.

Capital and lowercase letters.--If the title on the cover contains more than a few words, capitals with lowercase will be more legible than all capitals and are generally more attractive. Capital letters without lowercase retard reading speed because they are of equal height and lack the variety of the lowercase. Use all capitals for major text headings only; lowercase roman italic is effective in subheadings. Ensure that the several ranks of headings and subheadings are different enough in appearance to be distinguishable from one another.

Studying examples.--Type styles and arrangements can be readily studied in Geological Survey formal reports and in outside publications such as magazines, newspapers, and journals. By analyzing the different styles and their effects, one can quickly learn to use them effectively in technical reports.

Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL.--Preparing Camera-Ready Copy

### 7.02.3 Instructions for typing single-spaced copy

Preparation of camera-ready copy by the originating office may begin as soon as the approved manuscript has been received and the author has resolved all comments and questions raised during Division review.

The first step in preparing camera-ready copy is to select the typeface, then type a single-spaced draft from the approved manuscript, including figure captions and tables. Cut-ins indicating figure or table locations are deleted at this phase. From this draft the editor or author will develop the individual page layouts, preferably by a cut-and-paste procedure, leaving room for figures and tables, and working on a facing-page basis.

In typing the first single-spaced draft, the typist need not be concerned about the number of lines per page because at least one more complete draft will be typed later. The typist must, however, verify that:

- A. All revisions indicated in the review copy are incorporated into the new draft.
- B. Type style is appropriate. (See article 7.02.2.)
- C. All paragraphs are separated from one another by one vertical space.
- D. There should be at least two vertical spaces between a major heading and the preceding material.
- E. All lines are approximately the same length--6 to 6 1/2 inches on 8 1/2 X 11-inch paper if using a single-column format (without excessive hyphenation).
- F. Hyphenation is correct (no "bad breaks"<sup>1</sup>). (See article 4.03.1.)
- G. Last line of each paragraph contains at least 10 characters.
- H. Form of indentation is consistent throughout the report.

Some additional considerations are:

Justification--Right-margin justification is optional. On most typing equipment it produces awkward wordspacing that becomes more evident with decreasing line length. An unjustified ("ragged") right margin allows equal word spacing and improves readability. Unless proportional spacing is possible, right-margin justification is rarely worthwhile.

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<sup>1</sup> U.S. Government Printing Office, 1976, Word Division, a Supplement to Government Printing Office Style Manual: Washington, D.C., 190 p.

Tables.--Most tables can be single spaced and, if possible, compressed to 6-inch width or less to fit upright on the page. Double spacing or grouping of lines may be used if it significantly improves legibility, however. If a table will not easily fit the 6-inch width, it may be rotated sideways on the page, spread across two facing pages, or typed larger by as much as 25 percent (elite) or 50 percent (pica) for subsequent reduction. (See article 6.01.5.)

Figure captions.--Captions should be separated from the manuscript and listed together, single spaced, on a separate page, at least four lines apart so that they can be cut out with scissors. Phrases such as "map showing" or "graph showing" should be deleted except in the table of contents. The line length of some captions probably will be altered later to balance the illustration, but at this stage the exact figure dimensions may be unknown, and the final length can only be estimated.

Plate captions.--These need not be retyped because they will be done in larger lettering on the final copy.

Equations.--Equations present a unique typing problem. If they contain numerous symbols requiring a repeated change of type style, the typist and author should work together to develop on separate paper a single, error-free copy of each equation that can be spliced into the camera-ready copy. Individual characters may need to be spliced or hand lettered. Once a perfect copy is obtained, it should be machine copied and the original put away for later use. In the first proof and all subsequent versions, the typist should simply leave an appropriate amount of blank space for equations; this will eliminate the need to retype them. The originals are pasted into the camera-ready copy before printing.

Table of contents.--The table of contents (and all preliminary pages) will generally be typed single spaced, but page numbers at the end of the leaders are omitted at this stage because they have not yet been determined. The entry for each illustration must indicate whether the figure is a map, graph, diagram, or photograph. (See article 3.01.2.)

Pagination.--All pages of the single-spaced draft should be numbered in nonreproducing blue pencil at the bottom center, beginning with the cover as Arabic 1 (not i) so that copy can be reassembled should it become shuffled. These numbers are for convenience only and have no relation to final pagination.

Major headings.--These should be typed just as in the review copy, generally three lines below the preceding paragraph.

Cut-ins.--Cut-ins, or indicators that a table or figure is to follow, are deleted from the single-spaced draft, but the typist should indicate in nonreproducing blue pencil where tables or figures will appear (a checkmark will do), as a reminder to the designer or editor.

Italics.--Words or lines to be typed in italics in final copy need not be italicized until the final draft because changing type style at this point would only waste time. However, the typist should underscore in pencil or by machine any words to be italicized, as a reminder to the author and editor.

Quotations.--Quotations of four or more lines should be set apart from the text and indented three to five spaces on both sides, as shown below.

Where a quotation is presented this way, quotation marks are not used. When the quotation contains fewer than four lines, however, it may be run into the text and enclosed in quotation marks.

Paragraph breaks.--There is no need to have only complete paragraphs on a page of camera-ready copy; rather, the more copy that is typed on a page, the less paper is wasted. Sentences, too, may be broken and continued on the next page, and new sections may begin near the bottom of a page. (See article 6.01.1.)

Final inspection.--Before delivering the single-spaced draft with tables, captions, and equations to the editor or author, the typist should verify that no lines are repeated or omitted, that all items discussed above have been done as prescribed, and that the arrangement of type in each paragraph appears neat and well balanced. The single-spaced draft, together with the original version, may then be turned over to others for preparing the mockup.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 7.02.4

Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL.--Preparing Camera-Ready Copy

#### 7.02.4 Preparing the mockup

- Cover
- Preliminary pages
- Abstract
- Text
- Placement of illustrations and tables
- Figure captions and table headings
- Completion of mockup

The purpose of a mockup is twofold--it enables the designer to develop an effective presentation of the material, and it serves as a typist's guide to minimize the amount of retyping and proofreading.

This article explains the mechanics of book design, with specific instructions for cover, preliminary pages, abstract, text, and placement of figures and tables. Although this article assumes printing on both sides of a page and an 8 1/2 X 11-inch format, such as for WRI and Open-File Reports, the principles are applicable to books of other dimensions and to printing on one side of a page as well.

Additional instructions for preparing WRI and Open-File Reports are given in Sections 10 and 11, respectively; procedures for designing books in the STOP format (Sequential Thematic Organization of Publications) are given in article 2.02.4.

Layout of WRI and Open-File Reports, as well as those in many non-Survey series, is generally done by an editor, but could be done by authors or clerical staff. With practice and by following the principles described in this article, one can avoid the common errors and create a professional-quality layout within a few hours for any type of published material.

#### COVER

Although the cover of each approved manuscript has presumably been checked to verify conformance to publisher's requirements, it is advisable to reinspect all details when preparing camera-ready copy, especially the wording and spelling of the title, because the cover is the most conspicuous part of the report. All art covers must be included in the report package submitted to Headquarters for Director's approval, and must be approved by the Director.

The cover contains four main components--cover 1 (outside front), cover 2 (inside front), cover 3 (inside back), and cover 4 (outside back). The printer generally will print them on a single sheet. If the report is to be more than a quarter of an inch thick, the cover will also include a spine backstrip). A page containing the copy for each of these components, including the spine, must be supplied to the printer with the camera-ready copy.

Texture and color.--Most Federal reports are required to be printed on uncoated (dull finish) paper because it is less expensive than coated (glossy) paper. Covers may be any desired pastel shade, including white, but in Geological Survey reports only one ink color is permitted. If colored paper is used, the ink must be dark enough to show clearly. If white lettering on a colored background is desired, prepare the copy in the usual manner but instruct the printer to "reverse" the print. A bold type should be used in "reverse" copy to prevent letters from "filling in" with surrounding ink.

Photographs printed on uncoated covers may give disappointing results because the ink will be absorbed, diminishing contrast. Line drawings, silhouettes, lettering, and uniformly screened areas, however, will be satisfactory on paper of any finish. If a cover photograph is required, consult GPO to be sure that suitable cover stock can be provided.

The ink color used on cover 1 will be used on cover 4, and may be used on covers 2 and 3 as well unless specified otherwise, because the four components are printed as one sheet.

Binding.--If the report contains less than 96 pages, it will be saddle stitched (stapled down the inside center) or side stitched (stapled on the outside at the left margin). If the report contains more than 96 pages (fewer pages if heavy text paper is used), it will be side stitched or perfect bound (squared off with glue binding). Wire, ring, or plastic bindings will be used only if specified; these are more expensive than a staple or glue binding.

#### Cover 1 (outside front)

In simplest form, Geological Survey report covers consist of the title, department and bureau identification, report series and number, and statement of cooperation. Covers do not bear the authors' names nor the date and city of publication; these are given on the title page.

If special lettering is used, its size and weight must be balanced and compatible. (See article 7.02.3.) Specifications for standard typescript covers are given below; examples are given in articles 3.01.2, 10.04.1, 11.04.1, and 12.04. If other than a standard designed cover is desired, an example must be included for inspection when the report is submitted for Director's approval.



Department Identification.--For typescript covers to be reproduced by offset printing, the Department seal is placed near the lower right corner. For art covers, the Department seal may be centered on cover 4, if necessary. For covers of reports to be copied on office equipment, the edge of the seal may produce a "halo" or splice line, in which case it may be omitted. If the seal is omitted, the following imprint must be typed beginning four lines below the top of the page and centered:

DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

Report Title.<sup>1</sup>--Use capital letters, align flush left one inch from the left margin. If the above imprint is used, begin title 4 lines below it; if the department seal is used, begin at least 7 lines below the top of the page. If possible, make the top line the longest, but avoid hyphenation or illogical separation of words. If the title contains 2 lines or more, they should be double spaced. A centered 6-inch horizontal line is typed across the page 3 or 4 lines below the report title.

Bureau Identification.--On reports bearing the Department seal (rather than the above imprint), the words U.S. GEOLOGICAL SURVEY are typed on the third line below the horizontal line, in capital letters, flush left.

Report Series and Number.--Two lines below the words "U.S. GEOLOGICAL SURVEY," or 6 lines below the horizontal line, the report series and number, as indicated on the approval notice, is typed in capital and lowercase, for example:

- Water-Resources Investigations Report 86-XXXX
- Open-File Report 86-XXXX

Statement of Cooperation.--The statement of cooperation is aligned flush left with the title and double spaced about 4 inches above the bottom of the page; for example:

Prepared in cooperation with the  
NEW YORK STATE DEPARTMENT OF HEALTH

For WRI and Open-File Reports, the name of the cooperator should be lettered the same size as that of the Geological Survey.

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<sup>1</sup> Water Resources Division Memorandum No. 81.127, dated September 8, 1981, describes the requirements for a good report title.

Cover 2 (inside front)

In WRI and Open-file Reports, cover 2 is blank. This should be indicated by stating in nonreproducing blue on the bottom of cover 1, and on a separate page:

"cover 2 is blank."

Article 7.03.2 gives instructions for indicating the presence (or absence) of printing on covers 1 through 4 on the GPO Printing and Binding Requisition form SF-1.

Reports to be printed in non-Survey series may require special copy for cover 2, such as a list of county officials. Whenever this is the case, be sure that the following information is included:

DEPARTMENT OF THE INTERIOR

\_\_\_\_\_, Secretary

U.S. GEOLOGICAL SURVEY

\_\_\_\_\_, Director

The Secretary's name is all-capitals; Director's name is capital and lowercase.

If the list of officials is on the back of the title page, cover 2 will be blank. (See example in article 3.01.2.)

Cover 3 (inside back)

Cover 3 of a report may contain printing or may be blank; some reports contain a map pocket. In any case, the printer must be informed as to what to do. Prepare a sheet (in nonreproducing blue) stating "cover 3 blank" or "cover 3 map envelope." Specific instructions regarding the size and configuration of the envelope must be included in Printing and Binding Requisition form SF-1. (See article 7.03.3.) If cover 3 is to contain printing, write "cover 3" (in nonreproducing blue) at the top of the copy and also specify the desired enlargement or reduction, if any, and how the copy is to be positioned.

Cover 4 (outside back)

If copy is prepared for cover 4, give precise instructions, or, if cover 4 is to be blank, indicate so on a separate sheet. Remember that if the report is to be perfect bound or saddle stitched, the cover will be printed as one sheet, with covers 1 and 4 on one side and covers 2 and 3 on the reverse side.

Spine (backstrip).--If the camera-ready copy is to be perfect bound, lettering will be required for the spine. The lettering should be in a size that will fit on the spine (no longer than the book's left margin and no higher than the estimated thickness of the book). The simplest procedure is to type or letter the material lengthwise on 8 1/2 X 11-inch paper, positioning the words exactly as they are to appear on the printed cover; for example:

[Top]

[Bottom]

Smith

GROUND WATER IN MERCER COUNTY, N.J.

USGS/WRIR 82-XXXX

On this sheet, write "spine" in nonreproducing blue and enclose it with the other cover copy. Some titles may need to be shortened or the author's name or series number omitted. Indicate top of book to insure that the spine reads downward. The spine copy can be printed on cover 4 of saddle-stitched books, if desired.

When the camera-ready copy of the cover has been completed, insert a copy of each component in proper order in the mockup. Thus, the first two sheets of the mockup will be covers 1 and 2, and the last will be covers 3 and 4 with spine copy.

#### PRELIMINARY PAGES

Pagination.--In camera-ready copy, the preliminary pages (contents, list of conversion factors, glossary, and so forth) are numbered with lowercase roman numerals, and the text, beginning with the abstract as page 1, is numbered in arabic. Odd-numbered pages must be on the right, even numbers on the left. In standard-format Geological Survey reports, the page number is centered about 5/8 of an inch above the page bottom; other publishers may place page numbers elsewhere, such as in the outside corners.

Title page.--In WRI and Open-File Reports, the title page closely resembles the cover, except that it includes the author's names (first name, middle initial, and last name, in capitals and lowercase, just below the title, and gives the city, State, and date of publication approximately one inch above the page bottom. (Typographic instructions for the title page are also given in article 6.01.3; examples are given in articles 3.01.2, 10.04.1, 11.04.1, and 12.04.) If a frontispiece is used, see article 5.05.8.

Back of title page.--The material for this page depends on the publisher. In WRI and Open-File Reports, this page lists the Department Secretary, the Director of the Geological Survey, the originating office address (see examples in articles 10.04.1 and 11.04.1), and ordering information; in non-Survey reports it may list non-Federal government officials or be left blank. If such officials are listed, the Department Secretary and Director of the Geological Survey also must be included.

Contents (not "Table of Contents").--This will normally begin on page iii, which, in final copy, will face the back of the title page. The wording of headings should be exactly as in the review copy, and the material is single spaced. Leaders (rows of dots or dashes) should extend to the right, leaving room for page numbers once they have been determined.

Other preliminary pages.--At this point, the person making the mockup will assemble all remaining preliminary matter on a facing-page basis, cutting and positioning until visual balance is achieved. In some reports, the contents, list of illustrations, and list of tables may fit on a single page; in others, they may run onto several pages. The list of illustrations (plates and figures) normally precedes the list of tables. The list of tables is followed by the list of conversion factors, which, if short, may be on the same page as the list of tables. The list of conversion factors should not be listed in the table of contents. A "Glossary" or "Definition of Terms" section, if used, may be placed at the back of the report and listed in the table of contents. It follows the "References" section and precedes the appendices, if any, and big, end-of-report tables, if any.

As a rule of thumb, typescript should begin and end at the same depth on each pair of facing pages. A transparent ruler at least 12 inches long and marked in both inches and picas will be useful in measuring the vertical spacing. To help achieve balance across facing pages, space may be added between major sections.

When the preliminary matter has been arranged and pasted down with rubber cement, tape, or wax, the roman numerals may be penciled in at the bottom of each page. Also, the number of lines skipped between components and the line on which typing begins should be indicated to help the typist avoid guesswork.

If the preliminary material ends on an odd-numbered (right-hand) page, the next sheet should be marked "page blank" in nonreproducing blue. This both informs the printer that there is no copy for that page and enables the abstract to begin on the right, in accordance with tradition.

#### ABSTRACT

In nearly all reports, the first page of text (page 1) is the abstract. This page begins with the title, usually centered in capital letters, double spaced, and arranged in "inverted pyramid" fashion--that is, the top line is the longest. If this forms an awkward wordbreak or requires hyphenation, an alternative arrangement should be developed.

Two or three lines below the title is the word "By" and the author's name(s) on the same line (usually first name followed by middle initial and last name). Three or four lines below the author's name(s), the word "ABSTRACT" is centered in capital letters. (See example in article 3.01.2.)

If the abstract is short and appears isolated on the page, three remedies are possible:

1. Double space the abstract, perhaps in italics, but leaving the title and author's name(s) in Roman type.
2. Drop the title from line 7 to line 13 and begin the abstract farther down.
3. Indent the abstract on both sides to form a 5- or 5 1/2-inch line; this will make it narrower and a line or two longer.
4. Develop a combination of the above.
5. Begin the introduction a few spaces below the abstract rather than on the next page. If this is done, typing the abstract in italics and (or) indenting it slightly on both sides will give the necessary contrast and improve the appearance of the page. Italic type should not be used for lengthy abstracts, however, because it is difficult to read.

#### TEXT

The introduction is the first part of the text following the abstract. The introduction may begin either on page 1 below the abstract, on page 2, or on page 3 (right-hand page), leaving page 2 blank. (If the last option is chosen, leave page 2 blank and insert a sheet containing the note "page 2 blank" in nonreproducing blue.)

The designer will find it helpful to establish the image area for the report. For 8 1/2 X 11-inch paper, this is generally 6 1/2 inches wide and 8 3/4 inches (53 lines) deep, beginning on line 7. This gives a slightly larger bottom margin and provides space for the page number. Top and side margins should be 1 inch wide.

Paragraphs.--Paragraphs may be broken and continued on the following page (in camera-ready copy only). The image areas on facing pages should be balanced; that is, the number of lines should be equal. If a paragraph runs just one line over the limit, the designer must decide whether to carry two lines over to the next page, or to create the necessary space by rearranging the preceding material. The latter can be done by (1) slightly widening line lengths so that the last line of a paragraph is absorbed; (2) deleting space between headings, or (3) backtracking a few pages to gain space elsewhere.

Headings.--When a new heading is reached, there is no need to begin a new page unless the heading is so close to the bottom of the page that little or no text can follow it. When this occurs, lengthen the typed area either by adding a line or two from the previous page, by expanding the space above preceding headings, or by slightly narrowing the lines in certain paragraphs so that those paragraphs will each become one line longer. If the page is still too short, achieve balance by shortening the material on the facing page by an approximately equivalent amount. This discrepancy will almost never be noticed, regardless of the length of other pages in the book. It is important, however, to leave sufficient space above the new heading so that it will stand out.

List of references.--The list of references preferably should begin on a new page. However, the list may begin on the last page of text, depending on the number of bibliographic entries, the amount of space left on the preceding page, and the number of entries that will run over onto a new page.

#### PLACEMENT OF ILLUSTRATIONS AND TABLES

Placement of illustrations (figures and plates) and tables requires attention not only to their size, but also to the wording of the text. For example, a table and a map may be intended to face each other, two photographs may belong side by side for comparison, or six or eight similar graphs could be reduced and grouped together on a page or on facing pages.

When laying out the single-spaced text on facing pages, note the principal (not necessarily the first) reference to all tables and figures and inspect those components for size and relation to other components. From the author's illustrations, obtain an idea as to whether the material will require a full page, two or more facing pages, or less than a page, and how they should be grouped. A table or figure should be positioned just after its principal reference and, if possible, within the chapter or subsection in which it is discussed--that is, before the next heading. An illustration or table should be placed within the next chapter only when the advantages would outweigh the disadvantages.

When working through the mockup, indicate to the typist the exact amount of vertical space needed for each table or illustration and heading.

When placing illustrations and tables, avoid broad-measure layout where possible because it inconveniences the reader, who must turn the book sideways to read it, and because it is out of step with the general layout of the book. However, broad measure often is necessary, particularly with computer printouts. Where broad measure cannot be avoided, the imbalance can be minimized if two such pages are placed facing each other so that both can be viewed as a unit.

A series of similar illustrations may be reduced and grouped with two or more on a page or series of pages. If this is done, the captions probably will need to be rephrased to reflect the new arrangement. For example, a revised caption for a series of graphs numbered 6 through 12 would refer to figures 6A through 6G.

A copy of illustrations and tables reduced or enlarged to publication size can greatly facilitate layout work; these can usually be obtained through a local graphics firm. Alternatively, this work may be left to the printer. Simply draw a rectangle in nonreproducing blue on the camera-ready copy showing the exact area to be occupied by the material, and indicate on each component the desired dimensions and the page on which it is to be inserted. When the critical desired dimension has been determined, the other dimension can be calculated from a circular proportional scale, obtainable at graphics firms. If the other dimension is too short or too long, cropping or reformatting will be necessary.

Illustrations and tables provide an advantage in layout because they not only add variety to the typescript but can generally be reformatted as appropriate. For example, a table may be expanded by double spacing, may be separated into halves to occupy two facing pages, or may be compressed or photoreduced to fit a small area. Similarly, an illustration can be expanded or reduced by altering the borders, cropping nonessential areas, or regrouping the components. In all cases, legibility is the prime concern.

#### FIGURE AND TABLE TITLES

When preparing the mockup, figure and table titles should be designed to an appropriate width--slightly narrower than the component they describe, with the top line equal to or slightly longer than the rest. Each line of the title should be approximately the same length.

To prevent a title from blending into the surrounding text, place figures at the bottom of the page and tables at the top, or provide extra space between the title and the text. Alternatively, type all titles in italics. (Note that italics should not be underscored.)

#### COMPLETION OF MOCKUP

When all components have been assembled and all pages rechecked to verify that no copy has been omitted or placed out of sequence, and that all facing pages are balanced, the page numbers are assigned and transferred to the table of contents. Verify that all section headings given in the table of contents contain the same wording and rank as those in the text. Also, verify that the amount of space to be left for figures, tables, and section headings is indicated to avoid errors and retyping.

#### Article 7.02.4

As a final inspection, start again with the front cover and view all pages, two at a time with even numbers on the left, to insure that every component is accounted for and correctly numbered (including blank pages).

Reports to be reproduced by offset printing will contain a total number of pages that is a multiple of 4. For example, if the text ends on page 31 and contains 6 preliminary pages (i-vi), the total is 37. However, to reach 40 (the next multiple of 4), 3 extra sheets must be added, on each of which is written, in nonreproducing blue, "pages \_\_, \_\_, \_\_ blank." This informs the printer that there is no copy for the last three pages. If the report is to be machine-copied (two-sided), this rule does not apply.

The completed mockup should be a full-size replica of the printed report, minus the illustrations, tables and titles, except that all pages are one-sided. Final drafting may now be completed because the exact dimensions are known. After all rubber cement, dirt, and extraneous pencil marks have been removed, the mockup is given to the author for inspection, then to the typist for preparing the camera-ready copy.



Subject: PROCESSING MANUSCRIPT AFTER DIRECTOR'S APPROVAL--Preparing Camera-Ready Copy

#### 7.02.5 Final typing from mockup

After the mockup has been inspected and corrected by the author(s), the typist will produce camera-ready copy. In this step, the typist should follow the mockup exactly, keeping the indicated margins, alignment, paragraph length, space between section headings, position of equations, and amount of space for each illustration and table. Whether the copy is done on word-processing equipment or typewriter, the principles listed below should be followed:

1. Use only clean, white paper (generally 8 1/2 X 11 inches). Do not use tinted, textured, onionskin, or erasible paper. Type on one side only, and use a new carbon (rather than cloth) ribbon.
2. Select a typeface that gives good legibility, such as 12-pitch Prestige Elite or equivalent. (See article 7.02.2 for typographic considerations.) Clean typing elements or printwheels frequently to insure crisp, clean copy.
3. Keep uniform side margins (generally 1 inch from each side of the paper). Unless otherwise indicated, begin on line 7 and end on line 58 or 59. Place the page number at uniform depth (about 5/8 inch from the bottom) on all pages.
4. Keep all text lines approximately equal in length, but avoid excessive hyphenation at the right margin. Be sure all hyphenations are correct by referring to the booklet "Word Division"<sup>1</sup> or to a standard dictionary.
5. Correct all broken letters, crooked lines, faulty spacing, or any other imperfections that would detract from the appearance of the printed copy.
6. Type all illustration titles and complex equations on a separate sheet of paper, single spaced and in the typeface indicated on the mockup so that they can be cut out and positioned manually; this will avoid the need for retyping an entire page. Tables should be typed separately so that they can be positioned by hand in the space allotted and photoreduced if necessary.

If the final copy is to be reproduced by offset printing, minor corrections may be made with correction fluid and (or) by cutting, splicing, and pasting. Comments or questions written in nonreproducing blue may be left on camera-ready copy because these will not show in the printed version. If the final copy is to be duplicated on office equipment, however, it must be clean and free of splice lines to prevent reproduction of these blemishes.

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<sup>1</sup> U.S. Government Printing Office, 1976, Word Division, a Supplement to Government Printing Office Style Manual: Washington, D.C., 190 p.

#### Article 7.02.5

After the entire report has been typed to match the mockup, the typist should reinspect each page to verify that the text alignment and lettering are uniform and neat, that all facing pages are balanced, and that no text has been omitted or repeated. Illustration titles, equations, and tables may then be assembled, and both the old mockup and the new material are returned to the designer for preparation of camera-ready copy.

Subject: PROCESSING MANUSCRIPT AFTER DIRECTOR'S APPROVAL--Preparing Camera-Ready Copy

#### 7.02.6 Final page makeup

Final page makeup for printing or duplication may begin as soon as the illustrations, text, tables, and all other components have been completed, inspected, and corrected. This task consists of five steps, as explained below:

1. Add components such as tables and illustrations, display lettering, Department seal, running heads, equations, and so forth to the pages.
2. Splice or opaque to make minor corrections.
3. Inspect and clean up camera-ready copy.
4. Mark printing instructions on camera-ready copy.
5. Perform final verification.

#### ASSEMBLY OF COMPONENTS

Add components made separately from the main typescript. This is best done at a light table with a ruled sheet or grid placed beneath the copy to insure exact alignment. Insert only line copy that is at publication size; in offset printing, halftones<sup>1</sup> and all copy to be reduced or enlarged must be separated out for they are treated individually by the printer. If the report is to be duplicated inhouse, all components must be at publication size.

When positioning illustrations, tables, and titles in the camera-ready copy, view the facing pages side by side to insure balance. Also be sure that all components are firmly attached and lie flat.

#### SPLICING OR OPAQUING

Splice or opaque minor corrections rather than retype an entire page. Use a light table to obtain correct alignment, and use a sharp blade to avoid damaging the copy. In some cases, it may be easier to have a full paragraph retyped and pasted over the incorrect part than to splice individual words or lines.

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<sup>1</sup> Material submitted for printing is either "line copy" or "halftone." Line copy is artwork or text consisting solely of lines or patterns; it may be photographed directly because it contains no intermediate gray. Halftones are photographs that must be "screened," or converted to a dot pattern to produce the desired gray. Map bases that are screened are also treated separately.

## INSPECTION AND CLEAN UP

Inspect and clean up camera-ready copy. This should be done after all splicing and pasting are complete. Starting with the cover 1, carefully view each pair of facing pages side by side to verify balance, even margins, and general harmony between headings and typescript. If rubber cement has been used, dirt and streaks will probably be visible; these can be removed with a crepe "pickup" (available at graphics firms) or with a piece of dried rubber cement. When erasing pencil marks, be careful not to crease the paper or smear the typescript. If a smudge or spot cannot be removed, cover it with white correcting fluid. All penciled notes must be erased except those written in nonreproducing blue; these may simply be crossed out (in the same blue) so that the printer will not mistake them for instructions.

## MARKING PRINTING INSTRUCTIONS

Mark printing instructions on each cover component and on all pages that are to be blank, that contain copy to be reduced, enlarged, screened, printed as a foldout, or that contain a map jacket. All printing instructions on the camera-ready copy must be written in nonreproducing blue.

## COVER

Each of the four cover pages (and spine copy, if used) should be identified as cover 1, cover 2, and so forth; those to be left blank should also be clearly marked "blank" in nonreproducing blue. If covers 1 and 4 form a continuous design, this must be explained to the printer, and, if there is to be a backstrip, be sure the design of the covers 1 and 4 will accommodate it. Again, note that, unless specified otherwise, the printer will print covers 1 and 4 in the same color.

## SPECIAL PROCEDURES

Special procedures for any page, such as screening a particular area, reversing the color (white lettering on colored background) or using a "flopped" image (negative turned dull side up to print the image backwards), must be spelled out, and the exact location and area to be occupied by that component must be indicated on the camera copy. Also, each component must be labeled to indicate the desired dimensions (or percentage reduction) as well as the page on which it is to be inserted. For halftones, the line screen should be specified (most will be 133 or 150 lines per inch). For shaded areas or screened base maps, the density (30 percent, 50 percent, and so forth) must also be indicated. Further information on art preparation may be obtained from District and Region, from the Publications Planning Unit at Headquarters, or from local graphics firms.

## PRINTOUTS

If oversized copy such as a computer printout is to be reduced to occupy a full page, it should be separated out and a blank page inserted bearing the page number and any other necessary lettering. (If the page number and any other lettering are typed on the printout, they will be reduced and be inconsistent with the rest of the report.) The area to be occupied by the reduced copy should be indicated in nonreproducing blue on the page bearing the page number, and the printout itself must be marked to indicate final dimensions (or percentage reduction) and on which page it is to appear. If several pages are to be reduced, indicate those page numbers in nonreproducing blue on a blank page, then provide the typed page numbers on a separate sheet, about one inch apart. The printer will add these numbers after the printout has been reduced.

## CROPPING

When specifying reductions or enlargements, remember that the proportions do not change; that is, the height will change by the same percentage as the width. To alter the proportions, either crop or redesign the material. If a photograph or other original material is to be cropped, do not write on it; instead, indicate the croplines on a transparent overlay or mount the component on a larger piece of paper and indicate crop lines outside the photograph. Also be sure to indicate the desired final size and the page on which the photograph is to appear. (See article 3.02.3.)

## PROOFS

If the report requires special reductions or insertion of screen copy, a proof should be ordered from the printer to verify that all components are properly done and positioned correctly.

## FINAL VERIFICATION

Final verification should be done by the author and each coauthor, preferably on a duplicate of the camera-ready copy. This is the author's last opportunity to detect errors and make alterations. Authors should inspect, then carefully read, each pair of facing pages, beginning with the cover and including all separate components, to verify that:

1. All statements, data, and references to tables, figures, and publications are accurate.
2. All previous corrections have been made and no new errors introduced.

3. The table of contents and the lists of plates, figures, and tables give correct page numbers and are worded consistently with the headings in the text.
4. The table of conversion factors is correct in all details.
5. All alignment is even and the visual effect pleasing.

After the camera copy has been corrected to incorporate the author's final changes, each corrected page should be inspected to verify that no errors have been introduced. The only task then remaining is to write the printer's instructions and, if the report is to be printed through GPO, to complete the Printing and Binding Requisition form SF-1. (See article 7.03.3.) The camera-ready copy, together with photographs and other special components, may then be delivered to the printer or publisher.

SUBJECT: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL--Printing and Duplicating

#### 7.03.1 Description of printing and duplicating techniques

To successfully prepare copy for printing or duplication, it is necessary to have some understanding of what happens to the material when it reaches the printer. This article describes and briefly summarizes the major characteristics of offset printing and outlines considerations for making copies on office copying equipment. In general, printing may be obtained only through GPO for reports published by the Geological Survey or through a cooperating agency for reports published by the cooperating agency; machine copying may be done only on equipment owned, operated, or rented by the originating office or cooperator.<sup>1</sup> Contact the nearest GPO Regional Printing Procurement Office for information on the least expensive method of printing. (See article 9.03.1.)

#### OFFSET PRINTING

Most printing today is done by an offset process, whereby the image from the original copy is photochemically etched onto a flexible metal sheet called a plate, which is, in turn, placed on the printing press. The plate retains ink only where it has been exposed to light. As the press runs, ink is transferred from the plate to a rubber cylinder and from that directly to the paper.

To prepare the plate, the printer first photographs the camera-ready copy on high-contrast film, obtaining the specified degree of enlargement or reduction. Photographs are treated separately at this stage because they must be "screened," to filter the image into tiny dots, such as those seen in newspaper photos, to create the impression of a full range of gray. Photographs, which must be screened, are referred to as "halftones," and material consisting only of lines or solid areas, such as typescript and graphs, is referred to as "line copy."

The resulting negatives (both line copy and halftones) are taped onto opaque, flexible sheets called "flats," whose size corresponds to that of the plates to be used on the press. At this time, all scratches and unwanted lines on the negatives are opaqued to produce a clean image. Within each flat, the negatives are arranged so that, when the large printed sheets are folded into book size and trimmed, the images will fall in correct order, right-side up, and properly aligned.

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<sup>1</sup> See article 7.03.2, "Procurement of Printing."

The flats are then placed in a "platemaker," which directs light through the negatives to expose the light-sensitive plates, which, in turn, will be placed on the press.

The plates are put on the press and the specified number of pages is printed on paper sheets called "signatures." The signatures are then dried, collated, and folded, and the covers (usually printed separately) are added. The books are then bound by one of several processes, trimmed, and packaged.

When two or more colors are required on the same page, a separate negative and plate must be made for each color, and the signatures must be printed as many times as there are colors. This accounts for the higher cost of color printing.

If the originating office wishes to verify before the book is printed that the position of all images is correct, the proper screens have been used, and the general quality is adequate, proofs may be obtained from the printer at low cost (generally from \$0.50 to \$1 per page). The proof is made from the negatives before the plates are prepared. It should be used only as a verification of printer's work, not a check for author's errors. If any alterations to the copy are desired at this time, a new negative must be made for each corrected page--a process that will delay the printing and increase the cost.

#### Direct-Image Printing

Direct-image printing is a form of offset printing that utilizes the electrostatic process in producing copy. The descriptive term "direct image" is used because the image or impression of the camera copy is produced directly on the plate itself without the intermediate use of negatives in the plate-making process. This direct-method approach in the production of the plates needed for offset printing has many advantages that can help reduce printing costs. The process is faster and less labor-intensive than traditional methods because negatives are not required; thus, several plates can be produced each minute. Less skilled labor is involved because the simplified production of plates requires less training and fewer skills. Also, less costly material can be used, as paper plates are less expensive than metal plates and no negatives are needed.

For many years direct-image printing was often referred to as "quick and dirty," and was thought suitable only for printing not requiring high quality. In recent years, however, advances in technology and paper-plate quality have made this method acceptable for printing many Survey reports. Regional Government Printing Offices now assign a quality level four to requests for direct-image printing, and both annual State water-data reports and Water-Resources Investigations Reports have been printed using this method. Selected illustrations (those containing color, half-tones, screenings, or detailed linework) still require the use of the lithographic process; however, this should normally not be an impediment. For example, the bulk of the pages of annual State water-data reports are printed using direct-image printing and are then collated with those produced by lithography.



The direct-image method can make offset printing more cost effective on shorter runs by reducing much of the expense incurred in preparing the negatives and plates. To help assure quality printing by this method, the printing and binding requisition should request that the text be printed by a high quality direct-image process (Itek<sup>2</sup> or equivalent), and quality-level "four" should be indicated on the requisition. When this method is used, request that two complete, unbound, collated sample books be sent for approval before binding, as warren or blue-line proofs will not be available.

#### INHOUSE COPYING

Inhouse copying refers to reproduction of text and illustrations by photocopy, mimeograph, diazo, or other similar processes using equipment owned, operated, or rented by the originating office.

Inhouse copying generally is used for short runs of fewer than 50 copies. Because copying machines require no intermediate negative, all splice lines, marks, creases, and dirt on the original copy are likely to be visible in the final copy. Thus, copy to be duplicated by this process should contain no paste-ons, smudges, tape, dirt flecks, or the like.

If the duplicated report is to include oversized plates, diazo copies of these may be purchased locally, provided they are made by the direct processes listed above. If they must be reproduced by methods or devices that use an intermediate negative, this must be done through GPO.

When inhouse-produced copy is to be reproduced on both sides of a page, care must be taken that the even-numbered pages fall on the left when the pages are stapled together. If the quality of photographs in duplicated reports is poor, glossy prints should be glued or taped directly over them in all copies.

#### COMPARISON OF TECHNIQUES

The advantages of offset printing over machine copying are (1) superior reproduction and binding quality, and (2) freedom to cut, rearrange, splice, opaque and add pasted-on corrections to the camera-ready copy without retyping. The disadvantage is the higher per-copy cost of short runs. Offset printing of extremely short runs is not cost effective because most of the expense is incurred in preparing the negatives and plates.

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<sup>2</sup> Use of brand names in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.

Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL--Printing and Duplicating

7.03.2 Procurement of printing requirements (Water Resources Division Memorandum No. 75.107)

February 19, 1975

WATER RESOURCES DIVISION MEMORANDUM NO. 75.107

Subject: PUBLICATIONS--Procurement of Printing Requirements

Shown below, in its entirety, is a memorandum from the Director of Management Operations, United States Department of the Interior, on the subject of procuring printing. All WRD offices are to comply with these requirements.

"It has been brought to my attention that there has been an alarming increase in improper procurement of printing and related requirements by a number of the Bureaus and Offices of this Department.

Title 44, U.S. Code, clearly states that all printing and binding work for the Federal Government shall be done at the Government Printing Office (GPO). The GPO is the only recognized source for such work, both in Washington and in the field. Although there are certain specific and limited exceptions to this rule, exceptions may only be granted by the GPO and the Joint Congressional Committee on Printing, in cooperation with the Office of Management Operations, Office of the Secretary. Bureaus and Offices do not have the authority to procure printing directly from commercial sources under any circumstances except those approved by the Director of Management Operations and GPO prior to procurement.

There are no acceptable justifications for actions in contradiction to the above regulations, including the frequently voiced excuses of time and incognizance of or unfamiliarity with applicable regulations. Procurement actions of the type necessitating this correspondence will be settled between the commercial source involved and the individual(s) originating and/or authorizing the improper obligation of Federal funds for such a procurement action.

Your cooperation and assistance in giving the information contained herein the widest possible dissemination within your respective Bureaus and Offices is considered imperative."

G. W. Whetstone  
Assistant Chief Hydrologist  
for Scientific Publications  
and Data Management

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Scientific Publications and Data Management (SP&DM) was changed to Scientific Information Management (SIM) on September 16, 1985.

Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL--Printing and Duplicating

7.03.3 Preparing Printing and Binding Requisition, Standard Form 1 (form SF-1)

This article describes the procedure for preparing the GPO Printing and Binding Requisition form SF-1 (see example), which must accompany in duplicate all GPO printing orders. The form contains many parts; some cover the information needed to print books and maps from camera-ready copy, the others refer to other printing orders not commonly used by Geological Survey offices. The following information refers only to those items needed to print books and maps in the WRI and Open-File Report series. Information on other parts of the form is given in "Agency Procedural Handbook" (1971), obtainable on request from GPO.<sup>1</sup> When filling out form SF-1, use the "Additional Information" section (item 35) if any requested information will not fit in the space provided.

1. Requisition No.--Obtain a requisition number by phone from the Publications Management Unit in Reston. Every printing order requires an individual requisition number.
2. Department or Government Establishment--Enter "Department of the Interior."
3. Bureau or Office--Enter "U.S. Geological Survey."
4. Date--Enter the date on which the requisition is prepared.
5. Appropriation chargeable--Enter bureau control number. For example, 6-4436-90090. The first digit indicates fiscal year; the second number indicates District or office; the third number is the project fund.
6. Billing address code--Enter 4310-31, the Geological Survey's code.
7. Authorized by--Enter initials of District Chief or equivalent official.
8. Title--Enter complete report title as it appears on camera copy; include report series and number.
9. Quality level--The highest and lowest quality levels of printing through GPO are 1 and 5, respectively. Most Geological Survey publications are printed with quality level 3. Enter the number 3 in this space. (State data reports generally are printed with level 4 quality, whereas certain special publications may be printed with level 2 quality.)
10. Quantity--Enter the number of printed copies desired (generally 300 or less).

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<sup>1</sup> The GPO agency procedural handbook for commercial procurement of printing services: GPO Publication 305.1, revised September 1981.

**SF 1 PRINTING AND BINDING REQUISITION****To the PUBLIC PRINTER Please furnish the following:**

FROM (Department or Government Establishment)		JACKET NO (Assigned at GPO)		<input type="checkbox"/> Red <input type="checkbox"/> Black	REQUISITION NO
APPROPRIATION CHARGEABLE/APPLICABLE LAW		(Bureau or Office)		DATE	
TITLE		BILLING ADDRESS CODE (BAC)		AUTHORIZED BY	
QUANTITY (Units of finished products)		QUALITY LEVEL		FORM NO	
FINISHED PRODUCT (Check One) <input type="checkbox"/> Books or Pamphlets <input type="checkbox"/> Blank Forms (Sheets) <input type="checkbox"/> Sets <input type="checkbox"/> Pads or Tablets <input type="checkbox"/> Other (Specify)		CLASSIFICATION		STRAP WITH REQUISITION NO	
THIS ORDER RIDES (Department)		(Requisition No)		(Jacket No)	
PAPER STOCK AND INK	Text	FIRST CHOICE (Grade, color, and basis weight)		SECOND CHOICE (If any)	
	Cover				
	OTHER (Specify)				
COMPOSITION	FURNISHED (Magnetic tape) <input type="checkbox"/> Direct Drive <input type="checkbox"/> Other	(Negatives)	(Camera Copy)	(Manuscript)	(Shoot printed copy)
	TEXT TYPE (Point, Face, Lead/Solid)	DISPLAY TYPE (Face)		MARGINS (After trim) Picas/inches	Back/Left Top Other
	TYPE PAGE WIDTH (Picas)	No of Cols	Col Width	TYPE PAGE DEPTH (Include running head but not bottom folio)	ILLUSTRATIONS (Total)
PRESS AND BINDERY	PRINT ONE SIDE ONLY	HEAD TO HEAD	HEAD TO FOOT	OTHER	COVER PRINTS 1 2 3 4
	SIZE FLAT (inches) FORMS, SETS, PADS	FOLD TO (inches)		SIZE TRIMMED PAGE (inches) BOOKS/PAMPHLETS	
	WIRE STITCH (Side)	(Saddle)	(No)	PASTE ON FOLD	LOOSELEAF
PROOFS AND DELIVERY	PAD/SETS (Gum)	(Stitch)	(Pos)	(Sheets in Pad)	(Sets in Pad)
	GATHER (Explain)	CARBON INTERLEAVE		INDEX (Cut)	(Tab)
	REQUESTED PROOF DATE	PROOF SETS (Galley)	(Page)	DEPT HOLD (Workdays) (Galley)	(Pages)
REQUESTED DELIVERY DATE		KRAFT WRAP	SHRINK FILM	BAND IN SETS	SUITABLE
DELIVER TO		OTHER PACKAGING (Specify)		QUANTITY IN PACKAGE	PACK IN CARTONS
				B/L FURNISHED	

ADDITIONAL INFORMATION

FOR ADDITIONAL INFORMATION CONTACT (Name and Telephone Number)

BILLING ADDRESS (If BAC has not been assigned)

I certify that this work is authorized by law and necessary to the conduct of the business of the above-mentioned government establishment

 STANDARD FORM 1 (Rev July 1979)  
 Prescribed by GPO  
 Title 44 of the U S Code Control No 1-111

(Authorizing Signature)

(Title)

☆ GPO : 1981 O - 355-406

NSN 7540-00-543-7077

PREVIOUS EDITION NOT USABLE

11. Finished product.--Check "books or pamphlets" if the copy is a book; check "other" if it is a map or map jacket.

## PAPER STOCK AND INK

12. Text, first choice<sup>2</sup>.--Specify paper color, grade, and weight. For example, "white, offset book, Sub 120."
13. Text, color of ink.--Specify black, unless a special effect is needed.
14. Cover, first choice<sup>3</sup>.--Specify paper color, grade, and weight. For example, "Blue, vellum, Sub 130." Enclose a sample, if possible.
15. Cover, color of ink.--Specify Pantone<sup>4</sup> color number. For example, "Pantone 279 blue."
16. Other.--Enter "map," "envelope," or any other report component as appropriate.
17. Other, first choice.--Specify map or envelope paper by color, grade, and weight. For example, "white, offset map, Sub 130."<sup>5</sup>
18. Other, color of ink.--Specify Pantone ink color and include a sample if color code is unknown.

## COMPOSITION

19. Furnished.--Check "Direct Drive," or "Other" (if a different type of magnetic tape is furnished). If magnetic tapes are not furnished, check "Negatives" or "Camera Copy" as appropriate.

## PRESS AND BINDERY

20. Head to head.--Check this box, which indicates that printing will be oriented in the same direction on each page.
21. Size flat.--Maps only; specify approximate sheet dimensions, in inches.

---

<sup>2</sup> Text of most reports will be white book offset. Specify Sub 100, or, if extra opacity is required, specify Sub 120.

<sup>3</sup> Covers of most reports will be a pastel shade or white. Specify Sub 130, vellum finish. (Coated finish and or Sub 170 are permitted only with written justification.

<sup>4</sup> Order "Pantone matching system formula guide" (color sample booklet) from Pantone, Inc., 55 Knickerbocker Road, Moonachie, NJ 07074, Phone (201) 935-5500.

<sup>5</sup> Most maps will require white map offset. Specify Sub 120.

22. Fold to.--Maps only; specify desired folded dimensions, in inches. Also provide sample of folded map so that an identifying feature appears when folded.
23. Size trimmed page.--Books only; specify trimmed size (generally 8 1/2 X 11; if designed in broad measure, state 11 X 8 1/2).
24. Pages.--Give total number of pages (minus covers) including preliminary and blank pages.
25. Folding/inserts.--If these are used, provide a sample.
26. Paper covers.--Map jackets only; check "separate."
27. Wire stitch.--Books having less than 96 pages only: check "Saddle." Books having 96 pages or more: check "Side" and request two or three stitches (staples), or leave blank and specify adhesive bound<sup>6</sup> under item 29.
28. Looseleaf.--Punched reports only.
29. Adhesive bound.<sup>6</sup>--Only for reports exceeding 96 pages; an alternative to side stitch. Certain large reports can be both side stitched and perfect bound.

#### PROOFS AND DELIVERY

30. Requested proof date.--Proofs are optional; there may be a substantial charge. The date for delivery of a proof depends on specifications of
31. Requested delivery date.--The delivery date depends on specifications of the contract between GPO and the printing contractor. Contact your GPO Regional Printing Procurement Officer for information. (See article 9.03.1.)
32. Suitable.--An "X" in this space allows the printer to determine the most economical packing.<sup>7</sup>
33. Pack in cartons.--An "X" in this space allows the printer to select the most economical method of shipment. However, the method of shipment may be specified to expedite delivery.<sup>7</sup>
34. Deliver to.--Give name, office address, and room number to which cartons are to be delivered.

---

<sup>6</sup> Called perfect or glue bound elsewhere in the "Publications Guide".

<sup>7</sup> Alternative methods of packing and/or shipping must be specified in the contract between GPO and the printing contractor.

## ADDITIONAL INFORMATION

35. Additional Information.--State type of printing (offset, direct, diazo, duplication); request cost estimate; state any other unusual characteristics or requirements not covered in requisition; refer to list of printer's instructions that will be attached to the cover memorandum.

For WRIR printing requisitions, show the following (see also article 7.03.4):

Print for GPO depository distribution, to be paid by GPO.

Also include the following statement:

U.S. Geological Survey Water-Resources Investigations Reports or Open-File Reports are not recommended as GPO sales items because they are sold to the public from the National Technical Information or Geological Survey's Open-File Services Section.<sup>8</sup>

36. For additional information.--Give name and phone number (FTS and commercial) of person responsible for camera-ready copy.
37. Billing address.--Leave blank; code 4310-31 under item 6 is adequate.
38. Authorizing signature.--District Chief or equivalent official.

A major responsibility of the GPO Regional Printing Procurement Offices is to be available to agency personnel for consultation and technical advice about requisitioning and printing problems. Because not all procedures can be covered or anticipated in this article, Geological Survey personnel are encouraged to request advice and help from the appropriate GPO Regional Printing Procurement Office. (See article 9.03.1.)

## DISTRIBUTION OF FORM SF-1

The Printing and Binding Requisition form SF-1 should be filled out with several carbon copies for the GPO Regional Printing Procurement Office (original plus one copy); Geological Survey Branch of Financial Management (one copy); Publications Management Unit (one copy); District or project files (as needed). When the report is sent to GPO, request that the originating office be furnished with the bid cost for the job as soon as it is known. Enter the bid cost in space (5) of a copy of the SF-1, and submit one copy with this information directly to the Branch of Financial Management, U.S. Geological Survey, 270 National Center, Reston, VA 22092, and one copy to the Publications Management Unit, 435 National Center, Reston, VA 22092. (See Water Resources Division Memorandum No. 82.121.)

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<sup>8</sup> See Water Resources Division Memorandum No. 82.104, dated June 21, 1982.

Additional Information: The U.S. Government Printing Office Paper and Materials Control Section (FTS: 275-2124) can supply copies of paper, ink, and service catalogs.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

## Article 7.03.4

Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL--Printing and Duplicating

7.03.4 WRIR and the GPO depository library program, Print Order (GPO Form 2511)

GPO Printing and Binding Requisitions (SF-1) or Print Orders (GPO Form 2511) for WRIR prepared by District Offices must include instructions regarding printing for the GPO depository libraries. The following statement must be typed on the SF-1 requisition in the box labeled "additional information" or added to the bottom of the Print Order GPO Form 2511:

Print for GPO depository distribution, to be paid for by GPO.

District Offices with direct-deal printing contracts generally use GPO Form 2511. A typical GPO Form 2511 for direct-deal printing contracts is shown below as an example. Note the specific instructions about the number of copies needed by GPO for their use. Districts having this type of contract should contact the GPO RPPD annually and determine the number of copies they need for their use at their expense. Be sure to send a carbon copy of GPO Form 2511 to the local RPPD when you send the order to the printer.

Districts should also consult the GPO RPPD for other instructions concerning preparation and processing of printing forms. Procedures may differ from region to region. Distribution of copies of GPO Form 2511 to Geological Survey offices is as follows: One copy each (with estimated cost) to Geological Survey Branch of Financial Management, Publications Management Unit, and District files.

GPO Form 2511 (8-81) P 57870-3		U.S. GOVERNMENT PRINTING OFFICE 1982-371-299	
S A M P L E		Boggess & Watkins WRIR 85-4161	
PRINT ORDER (formerly "Memorandum Order and Supplementary Specifications")			
DEPARTMENT Interior Geological Survey		REQ NO 6-04300-I-GS	DATE 4/25/86
CONTRACTOR Stewart-Webster Printing Co., Inc. PO Box 130, Richland, GA 31825		JACKET NO 631-135	PURCHASE ORDER NO F1435
TITLE Surficial aquifer system in eastern Lee County, Florida		OBJECT CLASS 24.34	STATE CODE 34-100
PROOFS SETS Galley Page Blues		DATE DUE TO GOVT DAYS GOVT WILL HOLD RETURN DATE TO CONTR APPROPRIATION CHARGEABLE COMPOSITION Phototype Cold Type Hot Metal	ESTIMATED COST SHIP/DEL DATE CONTR'S CODE PROGRAM NO BILLING ADDRESS CODE(BAC) NUMBER COPIES TRIM SIZE
MATERIAL FURNISHED TO CONTRACTOR Manuscript Line illus		Camera Copy Negatives Binders Other	ESTIMATED COST SHIP/DEL DATE CONTR'S CODE PROGRAM NO BILLING ADDRESS CODE(BAC) NUMBER COPIES TRIM SIZE
TEXT STOCK White offset JCP A60		COVER STOCK Tan JCP L20	FOLDING STOCK
FOUR-COLOR PROCESS PRINTING Cover 1 2 3 4 Text		COLOR OF INK Cover Blk Text Blk	COVER PRINTS 1 2 3 4 NO TEXT PAGES (Including Blanks)
BINDER <input checked="" type="checkbox"/> Saddle <input type="checkbox"/> Side <input type="checkbox"/> Perfect <input type="checkbox"/> Sew		FOLDING STOCK Face Only Face & Back STRIP-INS NEGATIVES (No Required)	
QUANTITY 200		DESTINATION Inside delivery to Publications Section U.S. Geological Survey Suite 3056, 227 N. Bronough St. Tallahassee, Florida 32301	
17		Files Sup't of Documents, GPO Washington, D.C. 20402	
373		Depositories Sup't of Documents, GPO Washington, D.C. 20402	
RETURN ORIG. AND/OR NEGS TO:		IN SEPARATE PACKAGE Roz Czajkoski Publications Section, USGS, at address shown at left.	
The 390 copies printed for GPO depository distribution are to be paid for by GPO.		SAMPLE ENCLOSED	
Departmental Authority (Signature and Title) Supv. Technical Publications Editor		Purchase Obligation DATE SENT TO CONTRACTOR 4/25/86	



## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 7.03.5

Subject: PROCESSING MANUSCRIPTS AFTER DIRECTOR'S APPROVAL--Printing and Duplicating

#### 7.03.5 Writing printer's instructions

Whether a report is to be printed through the Government Printing Office or another publisher, a set of instructions will help the printer anticipate needs and avoid guesswork and may also enable a saving on printing costs. While no checklist can be exhaustive, the following list of items to consider when preparing instructions for printing Geological Survey reports is given below. This information should be included in a transmittal memorandum or letter to the printer to clarify the information in form SF-1. The printer's instructions should be attached to the camera-ready copy. Insure that information in the printer's instructions and in form SF-1 are consistent.

#### GENERAL INFORMATION

Report title.--Give full title for identification purposes.

Number of pages.--Specify total number minus covers. In offset printing, this must be a multiple of 4; for example, write "64 pages minus covers (i-vi; 1-58)."

Page size.--Specify in inches, giving width first. For example, 8 1/2 x 11

Number of copies.--Round off to convenient value, for example 50, 100, 300.

Name of contact.--Provide name and phone number (commercial and FTS) of the person who can answer printer's questions.

#### TEXT

Ink color.--Specify black in most cases. If another color is needed, give Pantone code<sup>1</sup> or provide a sample.

Paper weight.--Specify uncoated, medium weight (Sub 100 or Sub 120). Glossy paper generally is permitted only for color photographs.

Pagination.--Specify two-sided printing, with even numbers on left.

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<sup>1</sup> Order "Pantone Matching System Formula Guide" (color sample booklet) from Pantone, Inc., 55 Knickerbocker Road, Moonachie, NJ 07074. Phone (201) 935-5500; 1982 cost is \$20.00.

Reduction.--List pages or components to be reduced or enlarged and give the percentage and desired dimensions of each. For example,

"Fig 3 (p. 22) - reduce to 80 percent (6 inches wide)."

Be sure all components are clearly labeled. If an entire page is to be reduced, the page number will not match the rest in size. To avoid a discrepancy, provide a page containing typed page numbers (at least half an inch apart on all sides) so that the printer can splice them into the reduced copy.

Screen.--List all items to be screened. Specify number of lines per inch (generally 133 or 150) and density (5 percent through 90 percent, with 5 percent the lightest).

Color.--Specify all pages containing additional color(s), and give the Pantone color code. If color is to be screened, give the density (percentage and number of lines per inch). Provide a color proof as an example if possible.

#### PLATES

(Provide example if possible)

Size.--Specify sheet size, in inches, giving width first. For example, 32 X 40.

Ink color.--Specify black plus appropriate Pantone color codes. If map contains areas to be screened, specify the density (percentage) and number of lines per inch.

Overlays.--Be sure each overlay is labeled and the type of screen and color indicated. State how many overlays are given for each plate and how each is to be screened.

Folding.--Indicate whether plate(s) are to be folded and inserted or shipped separately (flat or rolled up). If folded, indicate approximate folded size, state which part should show on the outside, and state whether a pocket should be glued to the inside back cover. Provide a sample of the folded map that displays the plate number and title, if possible.

#### COVER

(Provide sample if possible)

Color.-- Specify paper color (white or pastel shade)<sup>2</sup> and ink color.  
(Specify Pantone ink color code or send a sample.)

---

<sup>2</sup> GPO Paper Catalog lists available cover paper colors.

Weight.--Specify light or medium weight (Sub 130) in most cases.

Finish.--Specify vellum (uncoated) in most cases. Glossy (coated) generally is permitted only for color photographs. Note that uncoated cover stock is unsuitable for most photographs because it absorbs the ink, diminishing contrast.

Spine.--Indicate orientation of spine copy. Reports not thick enough to have a spine, may have a spine strip printed on cover 4.

Covers 2 and 3.--Indicate whether copy is provided for cover 2 and (or) cover 3, and, if so, whether same ink as used on cover 1 is acceptable. Indicate whether map pocket is needed on cover 3. If needed, indicate its size and orientation.

# WATER RESOURCES PUBLICATION GUIDE

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# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

## Article 8.01.1

Subject: DISPOSITION OF FINAL COPIES--Required Distribution

### 8.01.1 Required distribution from originating office

				NUMBER OF COPIES TO BE DISTRIBUTED									
TYPE OF RELEASE													Footnotes
	Departmental Natural Resources Library	Open-File Services Section	Publications Management Unit	Geological Survey Libraries	Library of Congress	Division of Printing and Publication U.S.D.O.I., Room 1307 (for Sup. Docs.) <sup>a,b</sup>	Principal cooperating agencies	Publications Planning Unit	Public Inquiries Office	Author(s) copies <sup>c</sup>			
Administrative report			1			d						a Sup. Docs., Superintendent of Documents.	
Annual data report	3				1 <sup>l</sup>	d	22					b Transmittal to U.S. Department of the Interior, Room 1307, Washington, D.C. 20240.	
Bulletin <sup>m</sup>						d					e	c Copies are sent to the originating office for distribution to the author(s).	
Circular <sup>m</sup>						d					e	d Number determined by originating office, if release to agencies is appropriate.	
Cooperative (State) report	3		4	6 <sup>l</sup>	2							e Fifteen copies for senior author; Ten copies for all others.	
Hydrologic Investigations Atlas						d					e	f Copy must be suitable for reproduction and microfilming.	
Journal article or abstract			4 <sup>g</sup>			d						g Copies or reprints are preferred. Complete bibliographic citation may be substituted if copies or reprints are not available.	
Miscellaneous Field Studies Map						d					e	h Includes only new versions of pages retyped after approval.	
Miscellaneous Investigations Map						d					e	i Timing of distribution depends on public-release mechanism.	
Open file pending publication		1 <sup>f</sup>	4	3 <sup>l</sup> , <sup>l</sup>		d		1 <sup>k</sup>				j Four copies of DI-39.	
Open file (all others)	3	1 <sup>f</sup>	4	6 <sup>l</sup> , <sup>l</sup>	1 <sup>l</sup>	d		1 <sup>k</sup>				k Placement of Open-File and WRI Reports in Public Inquiries Offices is optional, but recommended.	
OWDC report (not administrative)	3		4		1	d						l Two copies each for Reston, Menlo Park, and Denver libraries, except one each for Open-File Reports pending publication.	
Proceedings of meetings or symposiums			4 <sup>g</sup>			d						m Distribution to GPO depository libraries is done by GPO	
Professional Paper <sup>m</sup>						d					e		
Speech (oral only)			4			d							
Speech (handout or publication)			4										
Techniques of Water-Resources Investigations <sup>m</sup>						d					e		
Water-Supply Paper <sup>m</sup>						d					e		
Water-Resources investigations Report	3	1 <sup>f</sup>	4	6 <sup>l</sup> , <sup>l</sup>	1	d		1 <sup>k</sup>	5-10				

Formal Geological Survey book reports and Water-Resources Investigations Reports are distributed to depository libraries by the GPO<sup>1</sup>, and most formal Geological Survey reports are distributed by USGS Headquarters. Originating offices must distribute printed copies of WRIR and OF books and maps, administrative reports, and non-Survey reports to depositories listed in the preceding table.

The Geological Survey is required to furnish three copies of all reports to the Departmental Natural Resources Library. Formal publications are furnished to the Department by the Government Printing Office and the Geological Survey library. The following publications, however, must be supplied by the originating offices of the Water Resources Division:

Annual State Water data reports

Reports in cooperator series

Open-File Reports (basic data, interpretive,  
and interim pending publication)

Water-Resources Investigations Reports

Office of Water Data Coordination (OWDC) Reports

Mailing addresses and distribution for the various depositories in the preceding table are given below:

A. Natural Resources Library

U.S. Department of the Interior  
Natural Resources Library  
Gifts and Exchange Section  
18th and C Street, N.W.  
Washington, D.C. 20240

B. Open-File Services Section

U.S. Geological Survey  
Books and Open-File Reports Section  
Federal Center, Building 41  
Box 25425  
Denver, Colorado 80225

C. Publications Management Unit

U.S. Geological Survey  
Water Resources Division  
Publications Management Unit  
435 National Center  
Reston, Virginia 22092

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<sup>1</sup> For WRIR's the originating office must indicate on its printing requisition "Print for GPO depository libraries, at GPO expense."

D. Geological Survey Libraries

U.S. Geological Survey  
Library  
950 National Center  
Reston, Virginia 22092

U.S. Geological Survey  
Library  
Building 5  
345 Middlefield Road  
Menlo Park, California 94025

U.S. Geological Survey  
Library  
Denver Federal Center  
Box 25046  
Mail Stop 914  
Denver, Colorado 80225

E. Library of Congress

Library of Congress  
Washington, D.C. 20540

F. Department of the Interior (for book reports only)

U.S. Department of the Interior  
Division of Printing and Publications  
Room 1307 Interior Building  
Washington, D.C. 20240

G. Publications Planning Unit (for annual State water-data reports only)

U.S. Geological Survey  
Publications Planning Unit  
Water Resources Division  
418 National Center  
Reston, Virginia 22092

H. Public Inquiries Office

Formal Federal reports published by the Geological Survey are automatically supplied to Public Inquiries Offices by the National Mapping Division. Water-Resources Investigations and Open-File Reports are supplied by the originating office. Please refer to the most recent edition of Circular 900, "Guide to Obtaining USGS Information," for current addresses of the PIO's.

Open-File Reports have no set distribution to PIO's. Distribution is determined by the originating office.



## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 8.02.1

Subject: DISPOSITION OF FINAL COPIES--Official-Use Copies

#### 8.02.1 General description of official-use copies

A part of the edition of all Geological Survey publications is reserved for official use by Survey personnel. The types of publications for which official-use copies are available through the Publications Management Unit are:

1. Water-Supply Papers
2. Professional Papers
3. Bulletins
4. Circulars
5. Techniques of Water-Resources Investigations (published versions only)
6. Special book reports such as:
  - a. "Suggestions to Authors"
  - b. Primers
  - c. "New Publications of the U.S. Geological Survey," 1879-1961 and 1962-70, and annual supplements, post-1970.
7. All Geological Survey map series except topographic maps.
8. All Geological Survey leaflet series.
9. State list (formal Geological Survey reports, by State)

The types of publications for which official-use copies are not available through the Publications Management Unit are:

1. Topographic maps--copies may be obtained from the maps distribution centers in Denver, Colorado and Fairbanks, Alaska.
2. Open-File Reports--copies must be obtained from the originating office or purchased from the Open-File Services Section.

3. Water-Resources Investigations Reports--copies must be obtained from the originating office or purchased from the Open-File Services Section.
4. "Style Manual"--copies must be purchased from GPO.
5. Reports published by other Federal agencies--copies must be obtained from the originating agency.
6. Cooperator-published reports--copies must be obtained from the originating office or cooperating agency.
7. Annual State water-data reports--copies must be obtained from the originating office.

Subject: DISPOSITION OF FINAL COPIES--Official-Use Copies

8.02.2 Ordering information for official-use copies

This article outlines procedures for ordering U.S. Geological Survey formal books and maps for official use. To avoid unnecessary delays in receiving orders, all employees responsible for ordering publications should be made aware of the procedures.

1. Forms for ordering books and maps:<sup>1</sup>

Book orders: For ordering books (including leaflets), offices served by the U.S. Geological Survey interoffice mail service in the Denver area should use Interoffice mailing label Form 9-1189. Offices outside the Denver area should use mailing label Form 9-1015. Account numbers are not needed for book orders.

Instructions for completing the book order form are:

1. Use carbon paper so that information typed on front sheet of form also appears on top part of back sheet of form.
2. Type complete mailing address (or mail stop number) of office where copies are to be sent on front sheet of form.
3. Type name of Geological Survey personnel requesting the copies on front sheet of form.
4. Type number of publications and number of copies desired on bottom part of back sheet of form. For example:

WSP 1865 (1 copy)

PP 708 (6 copies)

Map orders: Use Form 9-2037, January 1986.<sup>2</sup> Do not use mailing label Form 9-1017 (green), or any other form when ordering maps. A sample of a completed Form 9-2037 is attached for your guidance.

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<sup>1</sup> Forms are available from the forms supply source in your area.

<sup>2</sup> The official use policy for U.S. Geological Survey maps is detailed in Administrative Digest 901, dated April 23, 1983.

2. Orders for four or fewer copies of books and maps:<sup>3</sup> Send the order form directly to the Denver distribution offices:<sup>4</sup>

Book order to:

U.S. Geological Survey  
Books and Open-File Reports Section  
Federal Center, Bldg. 41  
Box 25425  
Denver, Colorado 80225

Map order to:

U.S. Geological Survey  
Map Distribution Section  
Federal Center, Bldg. 41  
Box 25286  
Denver, Colorado 80225

3. Orders for five or more copies of books and hydrologic or geohydrologic maps: Send the order form to:

U.S. Geological Survey, WRD  
Publications Management Unit  
435 National Center  
Reston, VA 22092

The Publications Management Unit (PMU) is responsible for maintaining records of orders and for assuring an equitable distribution of official use copies. The PMU will transmit orders to the appropriate distribution office in Denver.

The Books and Open-File Reports Section and the Map Distribution Section have advised us that they will not be able to handle telephone orders. At least 5 weeks should be allowed for delivery of books or maps.

4. Account number on map orders: Your account number must be shown on all map orders, including orders for maps that originated in the Water Resources Division (WRD) for which we have already paid. You will be charged for maps originating in other Divisions. Examples of maps for which you will be charged are National Mapping Division's topographic quadrangles. If you are ordering maps that originated in the WRD, you should include your account number and "NC" (no charge) on the order form; the account number will be used by the Map Distribution office for administrative purposes but you will not be charged.

---

<sup>3</sup> Number of copies may be reduced if stock is low.

<sup>4</sup> Other places where books and maps can be obtained are listed in the monthly publication "New Publications of the U.S. Geological Survey."

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
RESTON, VA. 22092

INTEROFFICE

RETURN IF NOT DELIVERED IN 10 DAYS

OFFICIAL BUSINESS

SENT AT REQUEST OF

STOP\_\_\_\_\_

9-1189

U.S. GOVERNMENT PRINTING OFFICE: 1984-431-271

Form 9-1189

9-1015

**United States**  
**Department of the Interior**  
**GEOLOGICAL SURVEY**  
**RESTON, VA. 22092**

**Return if not delivered in TEN days**

**OFFICIAL BUSINESS**

**PENALTY FOR PRIVATE USE, \$300**

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF THE INTERIOR  
INT 413

Sent at request of

GPO : 1981 O - 344-033

Form 9-1015

Form 9-2037  
January 1986UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## REQUEST FOR MAPS FOR OFFICIAL USE

*Sample*

To (Map Distribution Outlet)		Date	ALC*
Map Distribution, Denver, Colorado		July 9, 1986	OTHER AGENCY USE ONLY Purchase Order No.
Division (Circle)		Account No. (First digit must match Division circled)	
2 Admin.      4 Water Res 2 Dir. Off.   5 Nat. Mapping		8 Info. Sys. 9 Geol.	
		4076-54321 (Fiscal year not required in Account No.)	
Name Last		First	Tel No
JOHNSON		GEORGE	FTS 959-XXXX
Address (Agency, Bldg., Room No., Street)			
U.S. Geological Survey, Water Resources Division, 435 National Center			
City		State	Zip Code
Reston		VA	22092

To expedite order please alphabetize maps in State groups

Item	Quantity	Map Name or Number	State	Scale	Unit Price <sup>1/</sup>	Total Price
1	3	HA-2001 Hydrology of the	VA	1:48,000	\$ 3.00	\$ NC
2		Hampton River Basin				
3						
4	10	Vienna 7 1/2' quadrangles	VA	1:24,000	2.50	25.00
5		38077-H3-TF-024				
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
Total						
RECEIVED BY: <i>George M. Johnson</i> <sup>2/</sup>				TOTAL PRICE OF ORDER		\$ 25.00
(SIGNATURE)				DISCOUNT (50%)		\$ 12.50
				NET COST		\$ 12.50

<sup>1/</sup> Agency Location Code If price is unknown, call Denver Map Distribution office FTS 776-7477.<sup>2/</sup> Individual ordering map should sign.

GPO 922-266

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 8.02.3

Subject: DISPOSITION OF FINAL COPIES--Official-Use Copies

8.02.3 Cooperator's copies

Official-use copies of Geological Survey reports for cooperators are authorized by the Scientific Publications Program as follows:

A. Water-Supply Papers, Professional Papers, Bulletins, and Techniques of Water-Resources Investigations:

Copies must be requested by the cooperator in writing. Requests should be addressed to:

Chief, Scientific Publications Program  
Water Resources Division  
U.S. Geological Survey  
439 National Center  
Reston, Virginia 22092

At the time of publication, no more than 100 copies of a report resulting from cooperation, and no more than 20 copies of other reports, may be sent upon request to the cooperating agency for official use, or to other governmental agencies within that State. Copies are sent to a cooperating agency with the understanding that the agency will not distribute copies to the public in competition with sales by the Superintendent of Documents, Government Printing Office.

B. Circulars:

Up to 200 copies resulting from a cooperative project can be placed with the cooperating agency for distribution by that agency to the public in response to requests. Cooperating agencies should address requests to the Chief, Scientific Publications Program, at the above address.

C. Hydrologic Investigations Atlases and Miscellaneous Investigations Maps:

Cooperator's copies are automatically authorized by the Scientific Publications Program; cooperating agencies need not request copies in writing. At the time of publication, 200 copies are sent to the originating office for transmittal to the cooperating agency.

D. Miscellaneous Field Studies Maps:

A limited number of copies resulting from a cooperative project can be placed with the cooperating agency. Cooperating agencies should address requests to the Chief, Scientific Publications Program, at the above address.

E. Water-Resources Investigations and Open-File Reports:

To provide adequate distribution, the number of copies for cooperating agencies and for depositories should be determined before the printing order is submitted. (See article 8.01.1.) Once the initial supply is exhausted, copies can be obtained only by purchase through the Open-File Services Section. The number of copies duplicated normally depends on the subject and public interest, and ranges from 100 to 400.

F. Reports in non-Survey journals:

Cooperator's copies must be either provided by the author or purchased directly from the publisher. Project funds may be used to secure reprints for official use. (See article 2.01.7.)



WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 8.02.4

Subject: DISPOSITION OF FINAL COPIES--Official-Use Copies

8.02.4 Author's copies

Author's paper cover copies of Geological Survey reports are authorized by the Scientific Publications Program for automatic distribution as follows:

- A. Water-Supply Papers<sup>1</sup>, Professional Papers<sup>1</sup>, and Bulletins<sup>1</sup> before, Techniques of Water-Resources Investigations, Circulars, Hydrologic Investigations Atlases, Miscellaneous Investigations Maps, and Miscellaneous Field Studies Maps:

First Author

15 copies<sup>2</sup>

Other Authors

10 copies<sup>2</sup>

B. Other Series:

Number of Copies for Authors

Water-Resources Investigations  
Reports, Open-File Reports

Number is determined by  
originating office

Reports in cooperator series,  
non-Survey publications

Number is determined by  
publisher

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<sup>1</sup> If cloth bound copies of books are made, authors will receive two copies of a single book, or one copy of a chaptered series.

<sup>2</sup> Number of copies may be reduced when insufficient copies are available for distribution.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 8.02.5

Subject: DISPOSITION OF FINAL COPIES--Official-Use Copies

8.02.5 Phrase "compliments of" forbidden

The regulation forbidding notification that a report is being sent "with compliments of" is given in the United States Code; Title 44, Public Printing and Documents, Chapter 11, Section 1106, as follows:

44 USC 1106. Inserting "compliments" forbidden

A report, document, or publication distributed by or from an executive department or independent agency or establishment of the Government may not contain a notice that it is sent with "the compliments" of an officer of the Government, or with a special notice that it is so sent, except that notice that it has been sent, with a request for an acknowledgement of its receipt, may be given.

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Reference:

Publication L. 90-620, Oct. 22, 1968, 82 Statute 1261.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 8.03.1

Subject: DISPOSITION OF FINAL COPIES--Disposal of Surplus Copies

8.03.1 Return of surplus copies

Field offices occasionally need to dispose of surplus copies of formal Geological Survey book and map publications. Because destruction of the publications is unlawful, they should be distributed to other U.S. Geological Survey offices, cooperating agencies, other Federal agencies, university or local libraries, in that order.

# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

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## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 9.01.1

Subject: GENERAL INFORMATION ON WRSIC, OFSS, AND GPO--Water Resources Scientific Information Center (WRSIC)

#### 9.01.1 Purpose, publications, and services

The U.S. Water Resources Scientific Information Center (WRSIC) was established by the Secretary of the Interior in 1966 after the Water Resources Act was enacted. The Federal Council for Science and Technology, in 1966, designated WRSIC as the national center for scientific and technical information on water resources.

The main objective of WRSIC is to keep scientists, engineers, and managers of the national water-resources community aware of current and retrospective information. WRSIC fulfills this objective by acquiring information, processing it, and producing a data base. This data base is displayed in an abstracting journal and is computer searchable.

As of September 1982, dissemination of scientific and technical information to the public takes the following published forms:

- A. Selected Water Resources Abstracts.--an abstracting journal published monthly. Each issue has an abstract section (700 abstracts average), subject index, author index, organization index, and accession-number index. Official-use subscriptions are available to Water Resources Division offices on application to the WRSIC, 425 National Center, Reston, Virginia 22092.
- B. Selected Water Resources Abstracts, Annual Cumulated Indexes.--published each January. Part 1 contains author index, organization index, and accession-number index; part 2 contains the cumulative subject index from the semimonthly issues. Cumulated indexes are supplied automatically as part of the subscription to Selected Water Resources Abstracts.

A research-in-progress data base is currently being developed.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 9.02.1

Subject: GENERAL INFORMATION ON WRSIC, OFSS, AND GPO --Open-File Services  
Section (OFSS)

#### 9.02.1 Purpose and operation

The Open-File Services Section (OFSS) of the Geological Survey's Distribution Branch (Central Region) was established in 1977 and is managed by the National Mapping Division. The purpose of OFSS is to provide a centrally located sales unit to make Geological Survey WRI and Open-File Reports available to the public at cost on a per-copy basis.

Participation by the Water Resources Division in the Open-File Services system became mandatory in June 1979.<sup>1</sup>

OFSS is designed to be self-sustaining on a reimbursement-to-appropriations basis; therefore, the cost of each copy must be recovered. No free copies will be provided for "official use"; Geological Survey offices requesting copies will furnish the account number to be billed. Copies authorized for members of Congress, other Federal Agencies, cooperators, and so forth will be billed to the Division giving the authorization. Public Inquiries Offices, Libraries, and other depositories will refer orders and payments to OFSS.

Copies of WRI and Open-File Reports are sold as paper copy or microfiche. The originating office provides original materials from which sale items are duplicated.

When a report is superseded by formal publication or when it is evident that the demand has ceased, the original materials will be returned to the originating office. Only a microfiche copy will be permanently stored by OFSS, and all future requests will be filled with microfiche or paper copy made from the microfiche.

OFSS maintains a computer inventory of WRI and Open-File Reports to assist in determining sales, reorder levels, and location of inspection copies. A print-out of total holdings may be obtained on request.

Inquiries concerning the program should be directed to:

U.S. Geological Survey  
Books and Open-File Reports Section  
Federal Center  
Box 25425  
Denver, Colorado 80225  
(FTS: 776-7476)

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<sup>1</sup> See Water Resources Division Memorandum No. 79.117, dated June 14, 1979.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 9.02.2

Subject: GENERAL INFORMATION OF WRSIC, OFSS, AND GPO--Open-File Services  
Section (OFSS)

#### 9.02.2 Submitting WRI and Open-File Reports to OFSS

A final reproducible copy of every approved WRI and Open-File Report must be submitted promptly to OFSS for sale to the public. (The originating office should nevertheless produce adequate supplies for distribution to cooperators and depositories.) Page-size color illustrations in a WRIR will be reproduced in color by OFSS<sup>1</sup>; however, each multicolored page that is reproduced by OFSS costs the requestor \$2 (price as of May 1986). Procedures for preparing and distributing WRI Reports with oversized multicolored illustrations are different from those of WRI Reports with page-size multicolored illustrations. See article 9.02.3 for specific instructions. A note of public availability from OFSS and ordering information should appear on the back of the title page of the report.

#### Procedures for Submittal to OFSS

When a new WRIR or Open-File Report book or map has been approved by the Director for release, the following steps should be taken:

##### A. Publications Management Unit (PMU):

1. contacts the National Mapping Division to obtain an Open-File Report number (WRIR numbers are maintained and assigned by the PMU);
2. establishes the release date;
3. prepares a transmittal-form memorandum (see article 9.02.4) giving name, address, and FTS number of the originating office, the title, author(s), content of the report, list of depositories where inspection copies are available, date of Director's approval, and estimated date on which the report will be available for public inspection;
4. returns the Director-approved copy of the report to the originating office; for Open-File Reports, sends a copy of the transmittal-form memorandum to the originating office.

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<sup>1</sup> See Water Resources Division Memorandums No. 82.115, dated July 22, 1982, and No. 82.116, dated July 15, 1982, for additional information regarding Geological Survey Policy on use of color.

B. Originating office:

1. prepares one accession card (form 9-1982-B), reproducibles, and depository copies of the report;
2. for Open-File Reports only, sends one accession card to OFSS, a copy of the report suitable for reproduction, and a transmittal-form memorandum prepared by PMU.<sup>4</sup>
3. sends an inspection copy of the Open-File Report or WRIR with a copy of the transmittal-form memorandum to each depository.

C. OFSS

1. accesses the report to the system, then:
2. establishes a sale price to recover the cost of providing copies to the customers;
3. transmits reproducibles to contractors for machine duplication and microfilming;
4. mails the pre-addressed accession card (with price of paper and microfiche copies, and OFSS receipt date) to Publications Management Unit (PMU). After recording, PMU will return the card to the originating office. If there is an immediate need for prices of reports, contact OFSS at FTS 776-7476.
5. sells paper and microfiche copies on request.

- D. Originating Office issues a news release, if warranted. (See article 3.02.4 "News release.") It is essential that the report actually be available at OFSS and all depositories before the news release is issued.

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<sup>3</sup> One card must be preaddressed for transmittal to the Publications Management Unit, Mail Stop 435, from OFSS (with prices of paper and microfiche copies). Accession cards (form 9-1982-B) are available from the Administrative Division forms supply source in Reston, Denver, and Menlo Park.

<sup>4</sup> The transmittal-form memorandum should include a list of depositories for the report. For a WRIR, send one preaddressed accession card, a copy of the report suitable for reproduction, and a copy of the manuscript-approval memorandum to the Publications Management Unit. Do not send materials for a WRIR directly to OFSS.



- E. Reproducibles will be returned to the originating office when an Open-File Report is superseded or when demand for the reproducibles decreases. When it is apparent that the demand has ceased, OFSS will consult the originating office for instructions on how to dispose of reproducibles. Once the reproducibles have been returned, only microfiche will be permanently stored, and future requests will be filled only with microfiche or paper copies made from the microfiche. The originating office sends four copies of any published reports that supersede open-file interim copies to PMU. PMU then notifies OFSS to withdraw the interim open-file report from circulation. If requests are received for copies of a superseded Open-File Report, the requestor should be informed that the report is available as a formal publication and be given the full reference of the formal published report.

Inquiries concerning the OFSS should be directed to:

U.S. Geological Survey  
Books and Open-File Reports Section  
Federal Center  
Box 25425  
Denver, Colorado 80225  
FTS 776-7476

Subject: GENERAL INFORMATION ON WRSIC, OFSS, GPO--Open-File Services  
Section (OFSS)

9.02.3 Preparation and distribution of oversized multicolored maps  
in WRIR

The OFSS lacks facilities for reproducing oversized multicolored illustrations. Therefore the originating office is required to furnish 100 copies of this type of illustration to OFSS. Procedures for preparing and distributing oversized multicolored illustrations are as follows:

1. Print 100 extra copies of this oversized multicolored map, each inserted in a jacket.
  - a. Map Report: The map should be folded to 8 1/2 X 11 inches and inserted in an upright-opening jacket 9 1/2 X 11 3/4 inches. The jacket must be labeled--Department of the Interior, United States Geological Survey, title of report, author's name, series title and number, and year of printing. The jacket should also list the content. Text and explanation should be on the map sheet.
  - b. Book Report with multicolored maps: The multicolored maps should be folded and inserted in a labeled jacket similar to item "Map Report" above. Show the title, author's name, figure numbers(s) and series name and number (for example, WRIR 86-4001) on the jackets. In addition, send to OFSS one reproducible copy of the book. (Do not send 100 copies of the printed book.) On customer demand, OFSS will reproduce the book and provide the customer with a copy of the multicolored map furnished by the District.
2. If a WRIR includes black and white maps in addition to multicolored maps, the black and white maps should be printed (100 extra copies for OFSS), folded and placed in the envelope together with the multicolored maps. One hundred copies of black and white maps and 100 copies of multicolored maps should be sent to OFSS, after PMU examination (as explained below).
3. Before sending the 100 copies of multicolored map (folded and inserted in a properly labeled envelope) to OFSS, please send one copy of the map in a properly labeled jacket, one reproducible copy of the text or book report (if text is separate from the map), a list of depositories (with addresses) where the map can be examined by the public, Form 9-1982-B (blue card) and a transmittal memorandum from the District Chief to the Chief, Publications Management Unit, U.S. Geological Survey, 435 National Center, Reston, Virginia 22092. The District Chief's memorandum should state the purpose of the transmittal and should list the items being sent.

The PMU will examine the multicolored map, the map envelope, and other material listed above. PMU will prepare the OFSS transmittal memorandum listing the depositories. PMU will return all material to the District Office. The District Office should then mail the 100 maps (folded and in labeled envelopes), reproducible material for the text, blue card, and OFSS transmittal memorandum (prepared by PMU) to OFSS (address shown below) along with the memorandum by the District Chief, requesting OFSS to access and distribute the report on demand.

U.S. Geological Survey  
Books and Open-File Reports Section  
Federal Center  
Box 25425  
Denver, Colorado 80225

If the map and related material are not satisfactory, PMU will return them to the originating office with instructions for correction.

The published WRIR oversized multicolored map (map report and book report) should be distributed to Water Resources Division offices (including 4 copies to the Chief, Publications Management Unit), libraries, and other depositories in the usual manner.

# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

## Article 9.02.4

Subject: GENERAL INFORMATION ON WRSIC, OFSS, AND GPO--Open-File Services Section (OFSS)

### 9.02.4 Transmittal form memorandum to Open-File Services Section

The form memorandum shown below is prepared by the Publications Management Unit (PMU), WRD, Reston. The PMU sends the completed form to the originating office together with the approved Open-File Report. The originating office sends this form memorandum and a reproducible copy of the Open-File Report (and other documents as required) to the Open-File Services Section (OFSS). (The PMU uses the same form memorandum to transmit reproducible copies of Water-Resources Investigations Reports directly to the OFSS.)

UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY Water Resources Division Reston, Virginia 22092	AUTHOR(S): PLEASE MAKE SURE THAT THIS DEPOSITORY MEMO IS TRANSMITTED TO OFSS WITH THE REPRODUCIBLE REPORT
In Reply Refer To: WGS-Mail Stop 435	Date
Memorandum	
To: U.S. Geological Survey, Open-File Services Section, Box 25425, Federal Center, Denver, Colorado 80225	
From: Chief, Publications Management Unit, Water Resources Division, MS 435	
Subject: New U.S. Geological Survey Open-File Report	
The following report was authorized by _____ for the Director on _____ for release to the open files.	
TITLE:  AUTHOR(S):  CONTENTS: _____ p., _____ over-size sheets (for example, larger than 8 1/2 x 11 inches)	
Depositories: See monthly list of "New Publications of the U.S. Geological Survey" for addresses of libraries and Public Inquiries Offices (PIO)	
1. NC - Library, Reston, Virginia 2. DA - Library, Denver, Colorado 3. M - Library, Menlo Park, California 4. WB - USDI, Natural Resources Library, Washington, D.C.	
ORIGINATING OFFICE	
PRICE: _____ Fiche \$ _____ Paper \$ _____	Name: _____ Address: _____ Telephone: FTS _____
Release date: _____ Area: _____ OFR No. _____	
Copies to: Regional Hydrologist, District Chief, WRD, OFR Book, PMU Joe Taubr, Denver, Colorado	
Kathleen T. Isari	

Subject: GENERAL INFORMATION ON WRSIC, OFSS, AND GPO--U.S. Government Printing Office (GPO)

9.03.1 Purpose and services

Title 44, U.S. Code, states that all printing and binding work for the Federal Government shall be done through the Government Printing Office (GPO) as stated in article 7.03.2. Exceptions to this requirement are limited to individual printing and related orders costing \$500 or less provided that:

- a) they are not of a continuing repetitive nature,
- b) they are not conducive to the establishment of an open-end indefinite quantity type contract, and
- c) the printing cannot be ordered against GPO contracts.

These orders must be reported and identified on JCP Form No. 2, (Government Printing and Binding Regulations (1977) no. 24, p. 25-26).

Printing of a WRIR is not to be accomplished through sources other than GPO unless the requesting office supplies GPO with copies required for distribution to GPO libraries (about 400 copies).

To implement the Federal Printing Program's rules concerning decentralization and regionalization of printing services, GPO maintains 14 Regional Printing Procurement Offices in 10 regions throughout the United States. Duties and responsibilities of the Regional Offices are related mainly to procuring services from commercial printers on a competitive bid basis and to make themselves readily accessible to Federal agencies for consultation and technical advice about printing.

GPO encourages inquiries from agencies and, when necessary, will visit with the agencies to provide assistance. Examples of questions in which GPO could provide advice would be those concerning:

- most economical sheet size for maps
- cost increase for use of additional color or oversized plates
- cost increase for rush orders
- how to specify reductions, screens, and so forth for illustrations

Upon request, GPO offices will send information pamphlets, samples of materials, and instruction booklets. A list of Regional Printing Procurement Offices is given below.

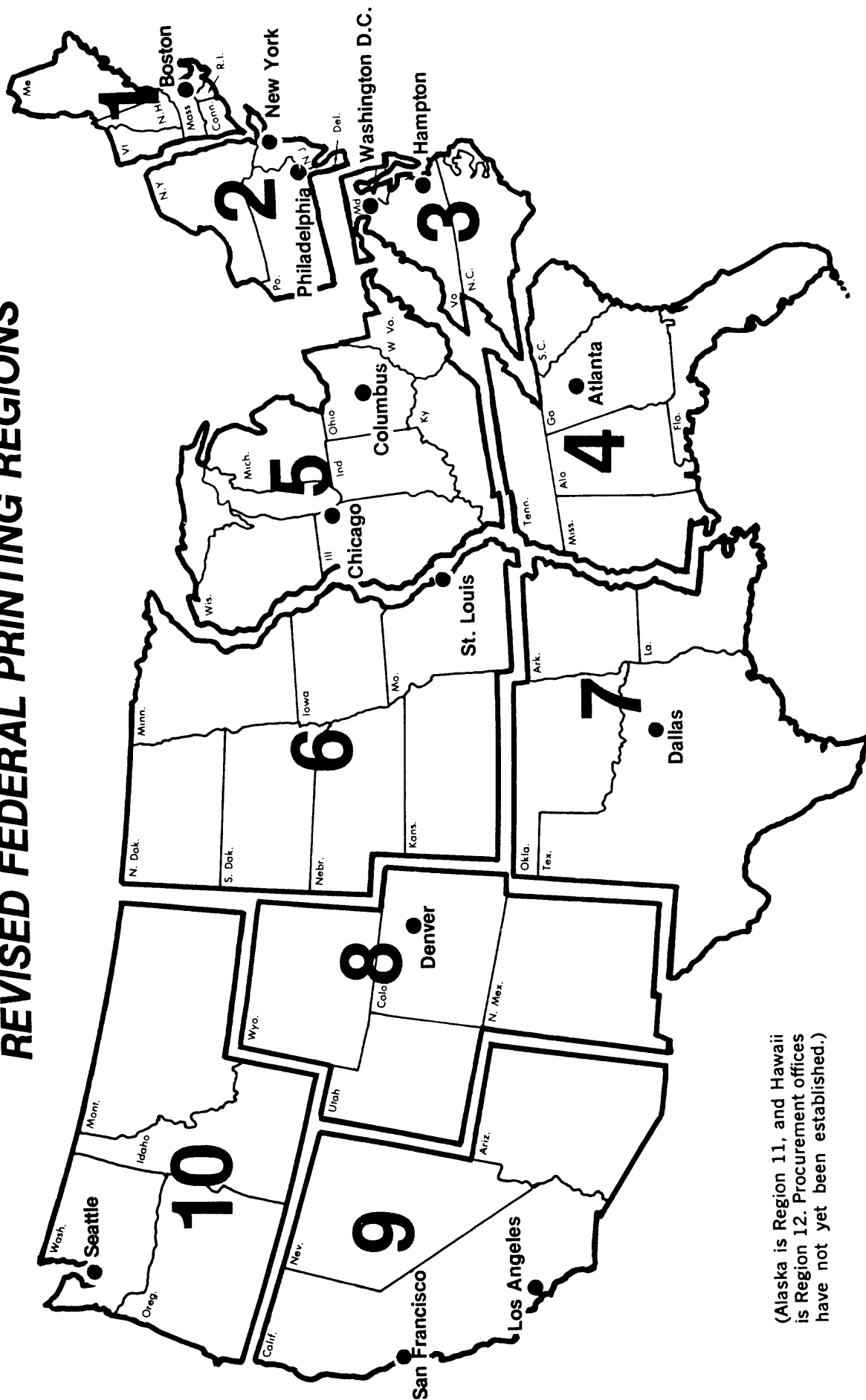
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References:

U.S. Government Printing Office, 1971, Agency Procedural Handbook for commercial procurement of printing services: Regional Printing Offices, 27 p.

Joint Committee on Printing, 1977, Government Printing & Binding Regulations: U.S. Congress, no. 24, 51 p.

# REVISED FEDERAL PRINTING REGIONS



(Alaska is Region 11, and Hawaii is Region 12. Procurement offices have not yet been established.)

## GOVERNMENT PRINTING OFFICE REGIONAL PRINTING PROCUREMENT OFFICES

### REGION 1

U.S. Government Printing Office  
Regional Printing Procurement Office  
John W. McCormick Post Office & Court House  
Room 1402, Post Office Square  
Boston, Massachusetts 02109  
Telephone: 617-223-7566 FTS: 223-7566

### REGION 2 (I)

U.S. Government Printing Office  
Regional Printing Procurement Office  
8001 Roosevelt Blvd.  
Suite 306, Third Floor  
Philadelphia, Pennsylvania 19152  
Telephone: 215-951-5585 FTS: 486-5585

### REGION 2 (II)

U.S. Government Printing Office  
Regional Printing Procurement Office  
201 Varick Street, Room 752  
New York, New York 10014  
Telephone: 212-620-3321 FTS: 660-3321

### REGION 3 (I)

U.S. Government Printing Office  
Rapid Response Center (Procurement)  
1st and N Streets, S.E.  
Washington, D.C. 20403  
Telephone: 202-755-2110 FTS: 755-2110

### REGION 3 (II)

U.S. Government Printing Office  
Regional Printing Procurement Office  
11836 Bunker Blvd., Suite 400  
Newport News, Virginia 23606  
Telephone: 804-873-2800

### REGION 4

U.S. Government Printing Office  
Regional Printing Procurement Office  
R. B. Russell FOB, Room 788  
75 Spring St., SW  
Atlanta, Georgia 30303  
Telephone: 404-221-5198 FTS: 242-5198

### REGION 5 (I)

U.S. Government Printing Office  
Regional Printing Procurement Office  
610 South Canal St., Room 1051  
Chicago, Illinois 60607  
Telephone: 312-353-3916 FTS: 353-3916

### REGION 5 (II)

U.S. Government Printing Office  
Regional Printing Procurement Office  
200 North High Street  
Federal Building, Room 614  
Columbus, Ohio 43215  
Telephone: 614-469-6884 FTS: 943-6884

### REGION 6

U.S. Government Printing Office  
Regional Printing Procurement Office  
210 N. Tucker Blvd., Room 216  
St. Louis, Missouri 63101  
Telephone: 314-425-4371 FTS: 279-4371

### REGION 7

U.S. Government Printing Office  
Regional Printing Procurement Office  
U.S. Courthouse & Federal Office Building  
Room 3B7, 1100 Commerce Street  
Dallas, Texas 75242  
Telephone: 214-767-0451 FTS: 729-0451

### GPO Satellite Procurement Office

2851 ABG/DAR, Building 1552  
Kelly A.F.B., Texas 78241  
Telephone: 512-229-4775 FTS: 730-4775

### REGION 8

U.S. Government Printing Office  
Regional Printing Procurement Office  
Denver Federal Center  
Building 53, Room D-1010  
Denver, Colorado 80225  
Telephone: 303-236-5292 FTS: 776-5292

### REGION 9 (I)

U.S. Government Printing Office  
Regional Printing Procurement Office  
Room 2E26, Federal Office Building  
15000 Aviation Boulevard  
Lawndale, California 90261  
Telephone: 213-536-6650 FTS: 966-6650

### REGION 9 (II)

U.S. Government Printing Office  
Regional Printing Procurement Office  
Building 99, Treasure Island  
San Francisco, California 94130  
Telephone: 415-974-0847 FTS: 454-0847

### REGION 10

U.S. Government Printing Office  
Regional Printing Procurement Office  
4735 East Marginal Way, South  
Seattle, Washington 98134  
Telephone: 206-764-3726 FTS: 399-3726

## FIELD PRINTING OFFICES

### CHICAGO FIELD PRINTING OFFICE

433 West Van Buren St., Room 300D  
Chicago, Illinois 60607  
Telephone: 312-353-2943 FTS: 353-2943

### DENVER FIELD PRINTING OFFICE

Denver Federal Center  
Building 53, Rm H-1004  
Denver, Colorado 80225  
Telephone: 303-236-5278 FTS: 776-5278

### NEW YORK FIELD PRINTING OFFICE

201 Varick Street, Rm. 752, 7th Floor  
New York, New York 10014  
Telephone: 212-620-3327 FTS: 660-3327

### SAN FRANCISCO FIELD PRINTING OFFICE

Building 99, Treasure Island  
San Francisco, California 94130  
Telephone: 415-974-0847 FTS: 454-0847

### SEATTLE FIELD PRINTING OFFICE

4735 East Marginal Way, South  
Seattle, Washington 98134  
Telephone: 206-764-3726 FTS: 399-3726

### WASHINGTON, D.C. RAPID RESPONSE CENTER

Building 136, Washington Navy Yard  
Washington, D.C. 20403  
Telephone: 202-755-9865 FTS: 755-9865

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

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Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Definition and Categories

#### 10.01.1 Definition

The Water-Resources Investigations Reports (WRIR) series was established in 1973 for rapid release of interpretive reports and maps, mainly of local interest, that require wider distribution than the open file provides but do not warrant the national distribution or high-quality printing offered by the formal Geological Survey series. The need for the WRIR series resulted from (1) a sharp increase in local studies by the Districts since the 1960's, (2) a shortage of technical journals or cooperator-published series suitable for such reports, and (3) an increased demand for an inexpensive format that can accommodate color if necessary and that can be published rapidly, within a few weeks after Director's approval.

In May 1982, approval was granted to restructure the WRIR series; WRI/NTIS and WRI/Open-File Reports were combined into a new series known simply as Water-Resources Investigations Reports. Major features of the restructuring are:

1. Water-Resources Investigations Reports will be assigned a separate numbering system; previously, WRI/Open-File Reports were numbered in the same sequence as Open-File Reports. All Water-Resources Investigations Reports will be numbered in the 4000 series to distinguish them from Open-File Reports.
2. Water-Resources Investigations Reports will now be available through the Open-File Services Section<sup>1</sup> of the Geological Survey rather than through NTIS.
3. Water-Resources Investigations Reports will be made available to the Government Printing Office for distribution to the official depository libraries used for Water-Supply Papers.

Water-Resources Investigations Reports may be designed in book format, with or without oversized components, or in map format. Color is permitted, if justified. Final copies are printed by photo-offset, direct-image, or electrostatic process through the U.S. Government Printing Office (GPO). Book size is 8 1/2 X 11 inches. Map reports may have a paper jacket if desired. Details of format are given in article 10.04.1.

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<sup>1</sup> U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Building 41, Box 25424, Denver, Colorado 80225; FTS 776-7476.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 10.01.2

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Definition and Categories

10.01.2 Categories

Reports appropriate for the WRIR series include:

- A. Those of mainly local interest.
- B. Those based on studies for which no formal Geological Survey series, cooperator-published series, or technical journal is available or appropriate.

Some examples of reports not appropriate for the WRIR series include:

- A. Those of wide geographic interest, long-term value, or significant scientific value that warrant wide distribution or high-quality printing. (These should be in a formal series or scientific journal.)
- B. Those scheduled for publication elsewhere but requiring immediate release for interim use. (These should be released to the open file pending publication.)
- C. Those that describe preliminary findings and that have little or no expected distribution other than to cooperators. (These should be released to the open file.)
- D. Those containing only noninterpretive data. (These should be released to the open file.)
- E. Those that were previously approved administrative reports, specially prepared reports for the Justice Department, or graduate-school theses. (See article 11.01.2.)

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 10.02

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Preparation and Review

See "Publication Guide," Section 6, for information on manuscript preparation, and articles 2.03.3 and 2.03.4 regarding review of Water-Resources Investigations Reports.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 10.03.1

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Approval

10.03.1 Obtaining Director's approval

All Water-Resources Investigations Reports must be approved by the Director's approving offices in Reston. See "Publications Guide," Section 3, "Obtaining approval to publish or release reports," for additional information.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 10.03.2

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Approval

#### 10.03.2 Assigning identification number

After a report has been approved by the Director for release in the WRIR series, it is assigned a WRIR identification number by the Publications Management Unit. This number consists of two parts: the first gives the last two digits of the calendar year in which the number is assigned; the second is a sequential WRIR-series number for the calendar year (for example, 86-4060). The report is then returned to the originating office with a memorandum giving the WRIR identification number and instructions for further processing. The identification number must appear on all subsequent copies of the report and should be used in all citations of the report thereafter.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 10.04.1

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Preparing Copy for Duplication

#### 10.04.1 Book reports

Water-Resources Investigations Reports may be designed in book or map format, with color if needed.<sup>1</sup> The following paragraphs give guidelines for the layout of WRIR books being prepared for printing. Additional suggestions for typefaces, cover design, and layout of text, tables, and illustrations are given in article 7.02, "Preparing camera-ready copy."

#### PAPER AND TYPE STYLE

Camera-ready copy of WRIR books should be typed on 8 1/2 X 11-inch white bond paper. Do not use erasable, onionskin, tinted, or textured paper. For economy, use elite type, single-spaced, in one-column (6-inch line) format. Type on only one side of each sheet. (Printed copies will be two sided, however.)

#### IMAGE AREA AND MARGINS

Ideal image area, excluding page number, is 6 1/2 X 8 3/4 inches. Margins should be 1 inch on the sides and top, 1 1/4 inches on the bottom. Page numbers are centered 5/8 inch from the bottom.

#### PAGINATION

The title (page i), contents (page iii), and abstract (page 1) each begin on a new right-hand page. If the last preliminary page is odd-numbered, insert a blank sheet bearing the next even Roman numeral in nonreproducing blue so that the abstract (page 1) will begin on the right-hand side. The introduction may begin below the abstract on page 1 if space permits; otherwise it should begin on page 3. The introduction should begin on page 2 only if it would reduce the total number of pages to a multiple of four (which would avoid having three blank sheets at the end of the report).

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<sup>1</sup> With permission of the Scientific Publications Program. See Water Resources Division Memorandum No. 82.116, dated July 15, 1982, "Use of Color in Geological Survey Publications."

## REPORT COMPONENTS

Covers

## Paper Stock

Light-colored or white cover stock can be used, but only one color of ink is permitted. Cover stock and ink color should harmonize and provide adequate contrast. The originating office should provide OFSS with black-and-white cover copy for reproduction from typescript. Authors' names must not appear on the cover; these are given on the title page and above the abstract on the first page of text. Lettering on the backstrip (if used) should be oriented to read from top to bottom of cover. (See examples at end of this article.)

The items of identification required for the cover are listed below; only these items should be shown. Recommended placement of each item is shown in the examples at the end of this article; the arrangement and type style may be changed, if desired, by the originating office. For example, if the cover contains an illustration, an alternative arrangement of items will be needed.

## Cover 1 (Outside Front Cover)

Cover 1 should display:

1. Report title (align flush left, longest line on top if possible, double space, all caps, double space). Subtitle (if any) should be subordinate to the main title in size and boldness.
2. U. S. Geological Survey (all caps).
3. Water-Resources Investigations Report XX-XXXX (series and number).
4. Cooperative credit statement (if appropriate).
5. Department seal.

If cover 1 is to be done by typewriter or equivalent, follow the example at the end of this article; if commercial or display lettering is used, the arrangement may be altered, but note the following guidelines:

1. Title should contain the largest, boldest lettering (generally 14- to 18-point size), either in capitals or capitals with lowercase.
2. U.S. Geological Survey should be lettered somewhat smaller than the title.
3. Water-Resources Investigations Report XX-XXXX should be subordinate in boldness or size to the words "U.S. Geological Survey."

4. Cooperator name(s) cooperating agency's name should be in the same lettering as that of the Geological Survey, for informal reports, WRI and Open-File Reports.
5. Department seal (1-inch diameter) may be ordered as wax-backed filmstrip from the Publications Management Unit or may be clipped from printed material if the image is sharp and was printed in black on a white background.

#### Cover 2 (Inside Front Cover)

Cover 2 of a WRIR will be blank, unless an explanation of cover art is required, in which case the caption should be positioned near the lower left corner.

#### Cover 3 (Inside Back Cover)

Cover 3 of a WRIR will be blank. However, if plates are included, specify to the printer that a pocket for folded plates should be attached to cover 3.

#### Cover 4 (Outside Back Cover)

Cover 4 may be blank or may be a continuation of the cover design.

#### Spine (Backstrip)

If the report exceeds 96 pages (or somewhat less if printed on heavy paper), spine copy should be provided to the printer. The spine should give the author(s) last name(s), an abbreviated report title, and the WRIR series number--for example, USGS/WRIR 86-4020. Copy should be oriented to read from top to bottom of the report. Lettering should be smaller than the thickness of the printed book. On saddle-stitched books, backstrip copy, if desired, may be printed along the right-hand margin of cover 4.

### Preliminary Pages and Text

#### Title Page

The title page may be done either by typewriter or word processor as shown in the example at the end of this article, or in display lettering. The components should reflect the same respective rank shown on the cover. The main difference between the title page and the cover is that the title page (1) does not contain a design or illustration, and (2) does contain the authors' names and the city, State, and date of publication. The title page must contain the following:

1. Report title (all caps, double spaced).
2. Names of authors (generally, first name followed by middle initial and last name). Include affiliations only if the report was coauthored by one or more members of another organization. Use capital and lowercase letters.



3. U.S. Geological Survey (all caps).
4. Water-Resources Investigations Report XX-XXXX (upper and lowercase).
5. Cooperative credit statement if appropriate, in the same format used for cover.
6. Department seal.
7. City and State of originating office (spell out State name). Use capitals and lowercase, generally centered near bottom of page.
8. Year in which report is duplicated. Center just below city and State.
9. Page number (i). Do not type "i", but write it in nonreproducing blue at bottom center. This informs the printer that this is to be a right-hand page.

Back of Title Page

Back of title page, generally done by typewriter or equivalent, must give:

1. Department of the Interior (capital letters)
2. Name of Department Secretary (capital letters) and title "Secretary" (capital and lowercase).
3. U.S. Geological Survey (capital letters).
4. Name of Geological Survey Director (name and title "Director" in capital and lowercase).
5. Source of additional information (include address of originating office in capital and lowercase letters), and information on purchasing additional paper or microfiche copies (include address of the Open-File Services Section). For example:

For additional information  
write to:

Title of Chief of  
originating office  
U.S. Geological Survey)

(Show complete address)

Copies of this report can  
be purchased from:

U.S. Geological Survey  
Books and Open-File Reports Section  
Federal Center  
Box 25425  
Denver, Colorado 80225

An example of the placement of these items is given at the end of this article.

## Contents, List of Conversion Factors, Abstract, and Text

These components and the remainder of the report should be arranged and typed single-spaced, as explained in Section 7.02, "Preparing camera-ready copy."

The text is typed in one-column format (6- to 6 1/2-inch line length), generally beginning on line 7 and continuing to line 52 or 53, giving a total depth of 8 3/4 inches excluding page number. Paragraphs and sentences may be broken and run onto the next page if at least two lines are carried over. New sections should begin three or four lines below the previous one (space permitting) and need not begin on a new page.

### Tables and Illustrations

Tables and illustrations are preferably positioned upright on the page so that they can be viewed without turning the book sideways. If they must be positioned sideways (broad measure), orient them so that they can be turned clockwise for viewing. If two illustrations, two tables, or a table and an illustration are to face each other, they should be similarly oriented, if possible.

#### Tables

Tables may be designed to fit within the image area of a single page or less, across two facing pages, or in a series of pages. They may be typed double spaced if necessary to improve legibility and may also be photoreduced if necessary. Because the smallest lettering size permitted for a WRIR is 8 point (to insure legibility of paper copies made from microfilm), the maximum reduction for elite type is 80 percent of original size, and that for pica type and computer printouts is 67 and 65 percent, respectively. Therefore, the maximum image area for elite type before reduction is about 8 X 11 inches, and that for pica type and computer printouts is about 10 X 13 inches.

#### Page-Size Illustrations

Page-size illustrations, together with title and page number, will occupy no more than the standard image area. If an illustration is oriented sideways, use a side title typed in broad measure (maximum length, 8 1/2 inches). If an illustration will not be legible at page size, it should be redesigned to fit across two facing pages, with a dividing point through the middle to allow for the margins and binding. (This technique is more economical than printing foldouts or separate plates.) Single illustrations designed for two facing pages will start on an even-numbered page, and the title should be centered across both pages, again allowing for the inside margin. All lettering should be at least 8-point<sup>1</sup> size to ensure legibility of copy produced from microfilm. Because solid black or dense dot and line patterns cannot be photocopied clearly, solid black areas should be avoided, and the density of dot patterns and lines should not exceed 40 rows per linear inch.

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<sup>1</sup> This footnote is typed in 8 point lettering.

### Oversize Illustrations

Except for size limitations, procedures for printing oversize illustrations through GPO are the same as for page-size illustrations.<sup>2</sup> However, authors should bear in mind that OFSS will reproduce oversize illustrations in black and white only. If multicolor must be used on an oversized illustration, follow instructions given in article 9.02.3.

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<sup>2</sup> Standard paper sizes for oversize illustrations are 26 X 36 inches, 36 X 44 inches, and 44 X 58 inches. Maximum image size of Geological Survey presses is 42 X 56 inches. Maximum image size of commercial presses is 48 X 75 inches.

QUALITY AND MOVEMENT OF GROUND WATER

IN LARHIER CREEK BASIN,

CORTLAND COUNTY, NEW YORK

U.S. GEOLOGICAL SURVEY

Water Resources Investigations Report 82-4835

Prepared in cooperation with  
CORTLAND COUNTY, NEW YORK



QUALITY AND MOVEMENT OF GROUND WATER

IN LARHIER CREEK BASIN,

CORTLAND COUNTY, NEW YORK

By Roger T. Atkins

U.S. GEOLOGICAL SURVEY

Water Resources Investigations Report 82-4835

Prepared in cooperation with  
CORTLAND COUNTY, NEW YORK



Albany, New York  
1982

DEPARTMENT OF THE INTERIOR  
DONALD PAUL HODEL, Secretary  
U.S. GEOLOGICAL SURVEY  
Dallas L. Peck, Director

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For additional information  
write to

Title of Chief of  
originating office  
U S Geological Survey  
(Show complete address)

Copies of this report can  
be published from

U.S. Geological Survey  
Books and Open-File Reports Section  
Federal Center,  
Box 25425  
Denver, Colorado 80225

(Note: Do not show telephone numbers)

Typescript back of title page of Water-Resources Investigations Report

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 10.04.2

Subject: WATER-RESOURCES INVESTIGATIONS REPORT--Preparing Copy for Duplication

#### 10.04.2 Map reports

##### ITEMS OF IDENTIFICATION

Water-Resources Investigations Report maps have the same characteristics and format as map reports published in the formal Geological Survey series. Required items of identification (listed below) generally are the same; their placement and lettering specifications are outlined in article 2.02.3, "Map reports."

1. Department identification.
2. Cooperative credit statement (if applicable).
3. Series identification (Water-Resources Investigations Report XX-XXXX, and sheet number if more than one sheet).
4. Title.
5. Authors' names (first name, middle initial, last name).
6. Year of publication.
7. Base credit.
8. Mapping credit (if reproduced from previous study).

In addition, the city and State in which the originating office is located and ordering information will be shown at the lower right corner below the mapping credit note. For example:

For additional information  
write to:

Title of Chief of  
originating office  
U.S. Geological Survey  
(Show complete address)

Copies of this map may be  
purchased from:

U.S. Geological Survey  
Books and Open-File Reports Section  
Federal Center  
Box 25425  
Denver, Colorado 80225

## MAP JACKET

Water-Resources Investigations Report maps of one or more sheets may be folded and inserted in a jacket of approximately 9 X 11 1/2 inches. The layout and color of the jacket should differ from that used in the Hydrologic Atlas map series to avoid confusion. An index map may be shown if desired. Camera-ready copy of the jacket will be included when the map is sent to GPO. Folding and inserting may be done through GPO at extra cost.

The following items of identification are required for the jacket. Suggested placement of each item is described below; however, the originating office may rearrange them if necessary. An example of a typed map jacket is shown on the following page. Lettering size and boldness should reflect the rank described for WRIR covers in the preceding article.

- A. Department of the Interior (line 1), U.S. Geological Survey (line 2), all caps, centered, and single spaced.
- B. Title (all caps, centered). Subtitle (if any) should be subordinate to the main title in size and boldness.
- C. Authorship (generally first name, middle initial, last name). Include affiliations only if report was coauthored by one or more members of another organization.
- D. U.S. Geological Survey (all caps, centered).
- E. Report series and number. Show "Water-Resources Investigations Report XX-XXXX" (one line, all caps, centered).
- F. City and State of originating office (spell out State name). Use capital and lowercase letters, centered, double spaced
- G. Year of publication (centered).
- H. Cooperative credit statement (if applicable). The type size of the cooperating agency's name should be the same as that of the Geological Survey. The credit statement should use the following format:

Prepared in cooperation with the  
NEVADA DIVISION OF WATER RESOURCES

DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY

MAPS SHOWING GROUND-WATER CONDITIONS IN  
THE WHITE FALLS AREA,  
ARCONA AND GRAHAM COUNTIES, NEVADA

By Linda B. Simmons and George D. Johnson

U.S. GEOLOGICAL SURVEY  
WATER-RESOURCES INVESTIGATIONS REPORT 82-4915



Tucson, Arizona

1982

Prepared in cooperation with the  
NEVADA WATER AUTHORITY

Typescript map jacket of Water-Resources Investigations Report  
(Display lettering and location map may also be used;  
Department seal is optional.)



## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 10.05

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Duplication and Binding

Specific instructions for requesting duplication and binding of a WRIR is given in Section 7.03.

The maximum number of copies of a Water-Resources Investigations Report that may be printed through GPO is 300 unless special written permission is granted by the Publications Management Unit beforehand. The primary considerations in determining the number of copies to produce are (1) projected demand within the Geological Survey and by cooperating and other government agencies, (2) total cost of duplication, and (3) storage space needed. The originating office must determine the number of copies needed, including those for recipients listed in article 10.07. A supply of about 20 copies should be kept for loans and future requests. Keep in mind that distribution to the public is through the OFSS.

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Preparing Reproducible Copy for Open-File Services Section

When copies of a WRIR are received from GPO, one complete, reproducible copy will be prepared for transmittal to OFSS through the Publications Management Unit. OFSS will then offer both paper and microfiche copies for sale to the public at cost.

All copy to be reproduced by OFSS must be clearly legible. Any materials for OFSS received by the Publications Management Unit that are not of reproducible quality will be returned to the originating office for acceptable replacements. Some reports contain components that must be replaced with suitable copy before transmittal to OFSS. Among these components are:

- A. Cover 1.--If printed copy has an ink color other than black or red, or if cover stock is other than white, insert a standard typescript cover.
- B. Pages containing errors.--An errata sheet should not be included. Instead, all errors in text and plates must be neatly corrected.
- C. Oversize illustrations.--All oversize illustrations (black and white) must be submitted on scale-stable film positives.
- D. Color in illustrations.--Page-size color illustrations in a WRIR will be reproduced by OFSS in color, at a per-page cost to the requester of \$2 (price as of May 1986). For color illustrations larger than page size, see article 9.02.2. This article indicates that 100 copies of the printed map, inserted correctly in labeled envelopes, should be furnished OFSS.

Send the reproducible report materials, a transmittal memorandum, list of depositories, and one completed OFSS accession card (form 9-1982-B), to the Publications Management Unit (PMU). (See article 9.02.2 for specific instructions for submitting a WRIR to PMU.)

Once the initial demand for the report has subsided, OFSS will consult the originating office as to the disposition of reproducibles. This material will be discarded by OFSS or returned to the originating office; OFSS will retain only the microfilm copy for future requests.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 10.07

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Distribution and Announcement of Availability

After a WRIR has been printed, the originating office provides copies to Geological Survey depositories as indicated in article 8.03.1. A simplified distribution list for a WRIR is given below.

To fulfill the Geological Survey's obligation to make results of its investigations available to all on equal terms, a WRIR should not be distributed (not even to cooperating agencies) until a Director-approved news release announcing the report's content and availability has been issued locally. (See article 3.02.4.) If a local news release is not issued, distribution of the report must await an announcement of availability in the monthly pamphlet "New publications of the Geological Survey," which occurs at least 3 months after receipt of the reproducible report copy by OFSS.

Only after the report has been properly announced may copies be provided to cooperating agencies, to other local, State, and Federal units of government, and to public and college libraries.<sup>1</sup>

The public, which includes consultants and industry, may inspect file copies at depositories, borrow copies from the originating office, or purchase copies from OFSS.

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<sup>1</sup> Many of these libraries are listed by State in: U.S. Government Printing Office, 1976, Government depository libraries; the present law governing designated depository libraries: Washington, D.C., U.S. Government Printing Office report, 43 p.

Recipient	Number of copies
<u>Upon Receipt of Printed Copies</u>	
Open-File Services Section <sup>1</sup> . . . . .	1 reproducible copy
Publications Management Unit . . . . .	4
Geological Survey Libraries <sup>2</sup> . . . . .	2 each
Public Inquiries Offices <sup>3</sup> . . . . .	1 each
Interior Department Natural Resources Library. . . . .	3
Interior Department, Division of Printing and Publications <sup>4</sup> . .	1
Authors. . . . .	as needed
Survey offices and staff . . . . .	as needed
Loan and archive . . . . .	20

After Formal Announcement

Cooperating agencies . . . . .	as needed
Other Local, State, Federal government units <sup>5</sup> . . . . .	as needed

<sup>1</sup> Send to Publications Management Unit, Water Resources Division, U.S. Geological Survey, 435 National Center, Reston, Virginia 22092, rather than directly to OFSS. Include one completed accession card (form 9-1982-B) and a copy of the manuscript-approval memorandum. The card should be preaddressed for return to the Publications Management Unit in Reston from OFSS (with prices of paper and microfiche copies). The Publications Management Unit will record the prices and return the card to the originating office.

<sup>2</sup> Reston, Virginia; Lakewood, Colorado; and Menlo Park, California

<sup>3</sup> Optional but recommended; one paper copy to each appropriate PIO. OFSS will independently supply two microfiche copies to PIO's.

<sup>4</sup> For GPO. Division of Printing and Publications, USDI, Room 1307, Interior Building, Washington, D.C. 20240.

<sup>5</sup> Includes public and college libraries.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 10.08

Subject: WATER-RESOURCES INVESTIGATIONS REPORTS--Citation as a Reference

After a report has been approved by the Director for release in the WRIR series, it is assigned a WRIR identification number by the Publications Management Unit. This number consists of two parts: the first gives the last two digits of the calendar year in which the number is assigned; the second is a sequential WRIR-series number for the calendar year (for example, 86-4060). This number will appear on all subsequent copies of the report and will be used in all citations of the report.

Examples of correct bibliographic citations for WRIR book and map reports are as follows:

Smith, J. Q., 1986, Appraisal of water quality in the Hudson River, New York: U.S. Geological Survey Water-Resources Investigations Report 85-XXXX, 72 p.

Jones, S. R., 1986, Inundated areas along the Potomac River during July 1980: U.S. Geological Survey Water-Resources Investigations Report 86-XXXX, map (3 sheets).

When citing a WRIR, note the following:

- A. The words "Water-Resources Investigations Report" are always spelled out in the citation.
- B. The date preceding the report title is the year of publication, which may differ from the year indicated by the first two digits of the report-identification number.

# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

## SECTION 11

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Subject: OPEN-FILE REPORTS--Definition and Categories

11.01.1 Definition

The Geological Survey's Open-File Reports provide the public with ready access to preliminary results of geologic and hydrologic studies and most geohydrologic data.

Materials released to the open file must be of the same high technical quality as reports in the formal series and are subject to the same technical review and processing. If necessary, however, tables and illustrations may be lettered by hand, provided that they conform to Geological Survey editorial specifications and are reproducible.

Open-File Reports may be designed in book format, with or without oversized components, or in map format. Color is not permitted. Final copies may be printed by photo-offset or electrostatic process through the Government Printing Office (GPO) or may be produced inhouse on copying equipment. Book size is 8 1/2 X 11 inches. The image size of the Geological Survey's largest press is 42 X 56 inches and map reports should be designed with this size limitation in mind--the smaller the better. Maps may be folded into a paper jacket if desired. Details of format are given in Section 11.02.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 11.01.2

Subject: OPEN-FILE REPORTS--Definition and Categories

#### 11.01.2 Categories

The open file includes several categories of reports:

- A. Those intended for formal publication elsewhere but whose early release is in the public interest (open file pending publication).
- B. Those that consist mainly of basic data.
- C. Those that will soon be superseded, such as progress reports, preliminary reports, annual project summaries, and theses prepared by permanent Geological Survey employees.
- D. Material not originally intended for release by the Geological Survey, such as previously approved administrative reports, reports specially prepared for use in litigation by the U.S. Justice Department, and graduate school theses.

#### A. REPORTS RELEASED TO OPEN FILE PENDING FORMAL PUBLICATION

This category is intended for reports that require immediate release for interim use pending publication in a formal series. A request for this type of release should be reserved for reports requiring more than a few months for publication. In general, program abstracts and guidebook articles will be published rapidly enough to make interim release to the open file unnecessary. Many journals and organizations have firm policies against publication of articles if copies have previously been distributed.

If the need for open-file release in advance of publication is urgent, the memorandum of transmittal from the originating office to the Region must include a request for both interim release and subsequent publication, along with appropriate justification.

When the formal publication becomes available, the open-file version will be withdrawn from circulation and destroyed.



## B. DATA REPORTS

Data reports consist mainly of diagrams, tables, maps, and noninterpretive text that describe events and call attention to certain data without defining the cause-and-effect relations. The term "data" refers to direct measurements, standardized statistical and arithmetic analysis or measurements, and noninterpretive plots such as hydrographs and data-site maps. Any analysis used must conform to established procedures. Maps showing potentiometric surfaces, geologic or geohydrologic sections, distribution of geologic or hydrologic units, or the areal extent of a particular dissolved constituent are interpretive and must receive Director's approval at Headquarters (unless cited or reproduced from a Director-approved report).

The following guidelines are to be used to determine whether a report is interpretive (needing Director's approval at Headquarters) or noninterpretive (needing approval by a Regional Hydrologist for the Director.)

Surface Water

1. Measured and calculated values of hydrologic variables, including water-surface elevations, flow rates, storage volumes, and standard hydrologic characteristics such as drainage areas and channel sections, are noninterpretive data.
2. Values computed by routine statistical procedures are noninterpretive data, with certain exceptions. For example:
  - a. Values of discharge and statistical summaries of discharge that are published in annual State data reports are noninterpretive data.
  - b. Results from statistical analysis of daily or unit data files by selected computer programs, as follows:
    - o Computer program J407--Flood-frequency analysis based on Water Resources Council guidelines in their Bulletin 17A, which uses generally accepted assumptions and is considered noninterpretive.
    - o Computer program A969--Daily values statistics, except the log-Pearson analyses. The statistical parameters are noninterpretive, but the low-flow and flood-volume probability tables and curves that require assumptions about type of frequency distribution, independence of events, and adequacy of sample are interpretive. Reports containing probability statistics must be approved by the Director.
    - o Computer program W4422--Monthly and annual statistics are noninterpretive.

3. Reports documenting extreme hydrologic events of local interest and limited to presenting basic data only are noninterpretive data and require Regional Hydrologist's approval.
4. Summaries of drainage-basin characteristics, wherein the characteristics are defined by standard techniques, are noninterpretive.
5. Bridge-site reports that contain basic data on the physical setting of stream crossings and present estimates of conveyance capacities and magnitude and frequency of those events using well known and accepted techniques. Reports of this kind, because they are principally basic data reports, may be approved for release by a Regional Hydrologist. Bridge-site reports that are of high political interest, use uncommon or controversial technical approaches, are of potential national concern, or are to be used in litigation must be approved by the Director.

#### Quality of Water

1. Measured and calculated values such as chemical concentrations and loads, physical properties, sediment concentrations and loads, chemical characteristics of sediment and bottom material, bacterial populations, and abundance and diversity of aquatic organisms, are noninterpretive.
2. The modeling or simulation of hydrologic processes is highly subjective. Accordingly, reports that involve selection of models and their application to field conditions are considered interpretive and require approval by the Director.
3. Standard statistical parameters produced by computer analyses of data from Watstore files are noninterpretive. However, digital-model analyses or modifications to models are interpretive and require approval by the Director.

#### Ground Water

1. Measured water levels, calculated changes in water levels, pumpage, flow of springs, and similar data are noninterpretive. However, potentiometric maps, and calculated hydraulic characteristics such as transmissivity, hydraulic conductivity, and storage coefficient, are interpretive and must be approved by the Director, unless cited from a Director-approved report.
2. Records of wells and springs and unannotated geophysical and lithologic logs are noninterpretive.

3. Modeling or simulating hydrologic processes is highly subjective. Accordingly, reports that involve selection of models and their application to field conditions are considered interpretive and require approval by the Director.
4. Standard statistical parameters produced by computer analyses of data from Watstore files are noninterpretive. However, digital-model analyses or modifications to models are to be treated as interpretive data and require approval by the Director.
5. Hydrographs and reports on changes and status of ground-water levels that are descriptive and do not involve interpretation as to cause-and-effect relations are noninterpretive.

#### Text

Data reports generally include a brief text that supplements the data in tables or illustrations. The accompanying text should include purpose and scope; acknowledgments; description of the data (type, quantity, and format); description of the location system used for the data-collection sites shown in the tables or illustrations; and a list of references, if applicable. Proper credit must be shown for borrowed or adapted material. The text may also have sections describing how the data were collected and analyzed and how they can be used. A summary of the data (extremes, means, and other noninterpretive statistical information) may also be included. Tables generally constitute the largest part of data reports.

#### Illustrations

Illustrations in a data report may include either hand- or computer-drawn maps, sections, graphs, and diagrams. These should show data-collection sites and indicate the numerical values for the data collected. Maps may show, by line or pattern, the areal variation of geohydrologic data, such as annual or periodic changes in water level. Graphs and diagrams may show continuous records of point numerical values or plots of geohydrologic data. Illustrations may also include photographs, uninterpreted geophysical logs, lithologic and drillers' logs, and properly credited maps compiled from published or Open-File Reports.

The above examples should be considered representative, not exhaustive. If a report has illustrations that cannot be identified clearly as noninterpretive, the report must be approved by the Director. If a map series has been established for data presentation, but subsequent maps in the series contain interpretive as well as noninterpretive material, the maps then must be approved by the Director. Reports having unusual illustrations prepared by nonstandard methods also must be approved by the Director.

Inclusion of Published Interpretive Material

Data reports may contain interpretive material from Director-approved reports but must not contain new interpretive material without Director's approval.<sup>1</sup>

C. PROGRESS REPORTS, PRELIMINARY REPORTS,  
ANNUAL PROJECT SUMMARIES,  
AND THESES PREPARED BY PERMANENT GEOLOGICAL SURVEY EMPLOYEES

Reports in these categories are suitable candidates for the open file because they contain material that will soon be superseded.

Theses written by employees of the Geological Survey must be submitted for Director's approval for release to the open file (or other series) before they are submitted to a university. In special situations where time is not sufficient for normal review and approval by the Geological Survey, and the District Chief or Research Project Chief believes the report is technically sound, the author may provide the university with copies of the thesis and may defend the thesis with the clear understanding that the university must keep the thesis in a closed-file status until it is approved for release to the public by the Geological Survey. The author should discuss this stipulation with university officials before the thesis is submitted, and this stipulation must be stated in writing by the author when the thesis is submitted to the university. If the university is unwilling to accept this stipulation, the author must arrange for expeditious review and Director's approval through the Chief, Scientific Publications Program, before submitting the thesis to the university.

D. MATERIAL NOT ORIGINALLY INTENDED FOR RELEASE  
BY THE GEOLOGICAL SURVEY

Previously Approved Administrative Reports

Administrative reports are released only to Federal agencies with which the Geological Survey is doing work, for exclusive use within those agencies. These reports are not for public release or consultation in any form. (See Section 12.) Before these reports can be made available to the public, they must be approved by the Director for release to the open file. An administrative report resulting from work financed by another Federal agency must be accompanied by a letter of clearance from that agency before the Director will approve the report for open-file release.

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<sup>1</sup> An exception is the summary statement of hydrologic conditions in the annual State data reports. This statement may be approved by the Regional Hydrologist for the Director; however, it may also require Director's approval at Headquarters, depending on content. (See Water Resources Division Memorandum No. 81.111.)

Because the results of most Geological Survey investigations funded by other Federal agencies should be released to the public, there should be a formal agreement with the Federal agency at the inception of the study that the Geological Survey may open file or publish the resulting report products.

Specially Prepared Reports for Use in  
Litigation by the U.S. Justice Department

The Geological Survey may be requested by the Department of Justice to prepare reports for use in civil action. All reports that will be used in litigation and that become part of the court record and available for public inspection must be approved for open-file release and announced to the public. A letter of clearance from the Justice Department must accompany the request for Director's approval for open file release. As in all cooperative programs, the mode of release of a report must be incorporated in the formal agreement between the Justice Department and the Geological Survey.

In some instances, the Justice Department may request that a report not be released for public inspection or may request distribution only to opposing counsel or other government agencies. In those instances, the report should be approved by the Director as an administrative report for release only to the Justice Department.

Graduate-School Theses

Theses written by graduate students supported fully or in part by the Water Resources Division thesis support program do not require Geological Survey approval at any level prior to submittal to the University. After the theses have been accepted by a university, they may be considered for release to the open-file, and require Director's approval for such release.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 11.02

Subject: OPEN-FILE REPORTS--Manuscript Preparation and Review

See "Publications Guide," Section 6, for information on manuscript preparation, and articles 2.03.3 and 2.03.4 regarding review.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 11.03.1

Subject: OPEN-FILE REPORTS--Approval

11.03.1 Obtaining Director's approval

Authority for releasing basic-data reports to the open file has been delegated to the Regional Hydrologists by the Director. All other reports must be approved by the Director's approving officer at Headquarters. (See Section 3, "Obtaining Approval to Publish or Release Reports," for additional information.)

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 11.03.2

Subject: OPEN-FILE REPORTS--Approval

#### 11.03.2 Assigning identification number

After a report has been approved by the Director (interpretive reports) or the Regional Hydrologist (data reports) for release to the open file, it is assigned an open-file identification number by the Publications Management Unit. This number consists of two parts: the first gives the last two digits of the calendar year in which the number is assigned, and the second is a sequential open-file number for that calendar year (for example, 86-703). The report is then returned to the originating office with a memorandum giving the open-file identification number and instructions for further processing. The identification number must appear on all subsequent copies of the report and should be used in all citations of the report thereafter.



## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 11.04.1

Subject: OPEN-FILE REPORTS--Preparing Copy for Duplication

#### 11.04.1 Book reports

Open-File Reports may have one of three formats: (a) books with or without oversized components, (b) maps, and (c) fact sheets. Either may be printed through Government Printing Office (GPO) or reproduced inhouse, as outlined in article 7.03.1, depending upon desired quality, quantity, and release date. Color is not permitted. All costs associated with preparation and duplication inhouse or through GPO will be borne by the originating offices.

#### PAPER AND TYPE STYLE

Prepare final copy of Open-File Reports on 8 1/2 X 11-inch bond paper. Do not use erasable, onionskin, or textured paper. For economy, use elite or 8 point type, single spaced, in one- or two-column format. Have final copy imprinted on both sides if possible.

#### IMAGE AREA AND MARGINS

Ideal image area, excluding page number, is 6 1/2 X 8 3/4 inches. Margins should be about 1 inch on the sides and top, 1 1/4 inches on the bottom. If a book is to be side-stapled, be sure that the inside margins (left side of odd numbered pages, right sided even numbered pages) are at least 1 inch wide. Page numbers are centered about 5/8 inch from the bottom. Copy should be assembled on a facing-page basis (even numbers on left) to obtain a balanced appearance. (See article 7.02.) For economy, illustrations and tables may be sketched and lettered by hand if necessary, but must be neat, legible, and reproducible.

#### PAGINATION

The title (page i), contents (page iii), and abstract (page 1) each begins on a new right-hand page. If the last preliminary page is odd-numbered, insert a sheet bearing the next (even) Roman numeral in nonreproducing blue so that the abstract (page 1) will begin on the right-hand side. The introduction may begin below the abstract on page 1 if space permits; otherwise it should begin on page 2 if the report is to be duplicated inhouse or on page 3 if reproduced through GPO. In reports printed through GPO, the introduction may be placed on page 2 if this will reduce the total number of pages (excluding covers) to a multiple of 4, which will avoid having three blank sheets at the end of the report.

## REPORT COMPONENTS

### Covers

#### Paper Stock

Reports printed, reproduced through GPO, or reproduced inhouse.--Light-colored or white cover stock may be used, but only one color of ink is permitted. Cover stock and ink color should harmonize and provide adequate contrast. Heavy cover stock is preferred.

#### Cover 1 (Outside Front Cover)

Cover 1 must display:

- A. The Department seal, near the lower right-hand corner of page.
- B. Report title (align flush left, doublespaced, all caps, with longest line on top, if possible. Subtitle (if any) should be subordinate to the main title in size and boldness.
- C. U.S. Geological Survey (all caps).
- D. Open-File Report XX-XXXX (upper and lowercase).
- E. Cooperative credit statement (if appropriate), as follows:

Prepared in cooperation with the

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS

Note the following guidelines:

- A. Title should contain the largest, boldest lettering (generally 14 to 18-point size), either in capitals or capitals with lowercase.
- B. U.S. Geological Survey should be in smaller type size than the title.
- C. Open-File Report XX-XXXX should be subordinate in boldness or size to the words "U.S. Geological Survey."

- D. Cooperating agency's name should be in the same size lettering as that of the Geological Survey.
- E. Department seal (1-inch diameter) may be ordered as wax-backed filmstrip from the Publications Management Unit or may be clipped from printed material if the image is sharp and was printed in black on a white background.

#### Cover 2 (Inside Front Cover)

Cover 2 of Open-File Reports will be blank unless an explanation of cover art is required, in which case the caption should be positioned near the lower left corner.

#### Cover 3 (Inside Back Cover)

Cover 3 either will be blank or will contain an envelope for folded plates.

#### Cover 4 (Outside Back Cover)

Cover 4 may be blank or may be a continuation of the front-cover design.

#### Spine (Backstrip)

If the report contains more than 96 sheets and is to be perfect (glue) bound by GPO, provide copy for the backstrip as described in article 10.04.1.

### Preliminary Pages and Text

#### Title Page

The title page may be done either by typewriter or word processor or in display lettering. The components should reflect the same respective rank shown on the cover. The main difference between the title page and the cover is that the title page includes the authors' names and the city, State, and year of publication. The title page does not include an illustration.

The title page must contain the following items:

- A. Department seal.
- B. Report title (all caps).
- C. Name(s) of author(s) (usually, first name followed by middle initial and last name). Include affiliations only if the report was coauthored by one or more members of another organization. Use capital and lowercase letters.

- D. U.S. Geological Survey (all caps).
- E. Open-File Report XX-XXXX (upper and lowercase).
- F. Cooperative credit statement (if appropriate, in the same format used for cover).
- G. City and State of originating office (spell out State name). Use capitals and lowercase, centered near bottom of page.
- H. Year in which report is duplicated. Center just below city and State.
- I. Page number (i). Do not type (i), but write it in nonreproducing blue at bottom center. This informs the person duplicating the report that the title page is to be on the right-hand page.

Remainder of Book

The remainder of the text and all illustrations should be prepared to the same specifications as those for Water-Resources Investigations Reports. (See Section 10.04, "Preparing Copy for Duplication.") Illustrations and tables, however, may be lettered by hand for economy as long as the result is neat, legible, and reproducible. The following pages give examples of the proper format for cover 1 and the title page of Open-File Reports.

STATISTICAL SUMMARIES OF WATER-QUALITY DATA  
FOR TWO COAL AREAS OF JACKSON COUNTY, COLORADO

U.S. GEOLOGICAL SURVEY

Open-File Report 82-121

Prepared in cooperation with  
JACKSON COUNTY and the  
U.S. BUREAU OF LAND MANAGEMENT



Typescript cover of Open-File Report to be  
printed through GPO or reproduced inhouse

STATISTICAL SUMMARIES OF WATER-QUALITY DATA  
FOR TWO COAL AREAS OF JACKSON COUNTY, COLORADO

By Gerhard Kuhn

U.S. GEOLOGICAL SURVEY

Open-File Report 82-121

Prepared in cooperation with  
JACKSON COUNTY and the  
U.S. BUREAU OF LAND MANAGEMENT



Lakewood, Colorado  
1982

Typescript title page of Open-File Report to be  
printed through GPO or reproduced inhouse

DEPARTMENT OF THE INTERIOR  
DONALD PAUL HODEL, Secretary  
U.S. GEOLOGICAL SURVEY  
Dallas L. Peck, Director

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For additional information  
write to:

Title of Chief of  
originating office  
U.S. Geological Survey  
(Show complete address)

Copies of this report can  
be purchased from:

U.S. Geological Survey  
Books and Open-File Reports Section  
Federal Center,  
Box 25425  
Denver, Colorado 80225

(Note: Do not show telephone numbers)

Typescript back of title page of Open-File Report



## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 11.04.2

Subject: OPEN-FILE REPORTS--Preparing Copy for Duplication

### 11.04.2 Map reports

Open-File Report maps have the same characteristics and format as maps in the WRIR series except that color is not permitted and the lettering may be typewritten or hand lettered and the lines hand drawn, provided the work is neat, legible, and reproducible.

#### ITEMS OF IDENTIFICATION

Required items of identification for Open-File Report maps (listed below) are generally the same as for Water-Resources Investigations Report maps; their placement and lettering specifications are outlined in article 10.04.2.

- |                                                                                                        |                                                                           |
|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 1. Department identification                                                                           | 4. Title                                                                  |
| 2. Cooperative credit statement<br>(if applicable)                                                     | 5. Authors' names (generally<br>first name, middle initial,<br>last name) |
| 3. Series identification (Open-<br>File Report XX-XXXX) and<br>sheet number, if more than<br>one sheet | 6. Year of publication                                                    |
|                                                                                                        | 7. Base credit                                                            |
|                                                                                                        | 8. Mapping credit (if reproduced<br>from previous study)                  |

In addition, the city and State in which the originating office is located and ordering information will be placed at the lower right corner below the mapping credit note. (See article 10.04.2.)

#### MAP JACKET

Map reports of one or more sheets may be folded and inserted in a jacket of approximately 9 X 11 1/2 inches. The layout and color of the jacket should differ from that used in formal Geological Survey's Hydrologic Atlas map series to avoid confusion. An index map may be shown if desired. If the report is printed through GPO, camera-ready copy of the map jacket must be included. If the report is to be duplicated locally on diazo or similar equipment, the jackets may be labeled inhouse by typewriter or printed separately through GPO. Folding and inserting may be obtained at extra cost.

If a jacket is used, the following items of identification are required. Suggested placement of each item is shown in the following example, although the arrangement may be altered if necessary. Lettering size and boldness should reflect the rank described for covers of Open-File Report books.



- A. Department of the Interior (line 1), U.S. Geological Survey (line 2), all caps, centered, and single spaced.
- B. Title (all caps, centered). Subtitle (if any) should be subordinate to the main title in size and boldness.
- C. Authorship (first name, middle initial, last name). Include affiliations only if report was coauthored by one or more members of another organization. Use capital and lowercase letters.
- D. U.S. Geological Survey (all caps, centered).
- E. Report series and number. Show "OPEN-FILE REPORT XX-XXXX" (one line, all caps, centered).
- F. City and State of originating office (spell out State name). Use capital and lowercase letters, centered.
- G. Year of publication (centered)
- H. Cooperative credit statement (if applicable). Cooperating agency's name should be the same size as that of the Geological Survey. The credit statement should use the following format:

Prepared in cooperation with the  
U.S. BUREAU OF . . .

DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY

POTENTIOMETRIC SURFACE OF THE  
FLORIDAN AQUIFER, SOUTHWEST FLORIDA  
WATER MANAGEMENT DISTRICT,  
SEPTEMBER 1980

By Dann K. Yobbi, William M. Woodham, and George R. Schiner

U.S. GEOLOGICAL SURVEY  
OPEN-FILE REPORT 80-1280



Tallahassee, Florida  
1980

Prepared in cooperation with the  
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Typescript map jacket of Open-File Report  
(Display lettering and location map may also  
be used; Department seal is optional.)

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 11.05

Subject: OPEN-FILE REPORTS--Duplication and Binding

Specific instructions for duplicating and binding Open-File Reports are given in Section 7.03.

The maximum number of copies of an Open-File Report that may be reproduced for distribution is 300 unless special written permission is granted by the Publications Management Unit beforehand. The primary considerations in determining the number to reproduce are (1) projected demand within the Geological Survey and by cooperating agencies, (2) total cost of duplication, and (3) storage space needed. The originating office must determine the number of copies needed, including those for recipients listed in Section 11.07. A supply of about 20 copies should be kept for loans and future requests. Keep in mind that distribution to the public is through the Open-File Services Section. (See Section 10.07.)

Subject: OPEN-FILE REPORTS--Preparing Reproducible Copy for Open-File Services Section

When copies of Open-File Reports are received from GPO, one complete, reproducible copy will be prepared for transmittal to OFSS.

All copy reproduced by OFSS must be clearly legible. Any materials received by OFSS that are not of reproducible quality will be returned to the originating office for acceptable replacements.

Some reports contain components that must be replaced with suitable copy before transmittal to OFSS. Among these components are:

- A. Cover 1.-- If printed copy has an ink color other than black or red, or if cover stock is other than white, insert a standard typescript cover.
- B. Pages containing errors.--An errata sheet should not be included. Instead, all errors in text and plates must be neatly corrected.
- C. Oversize illustrations.--All oversize illustrations must be submitted on scale-stable film positives.

Send the reproducible report materials, a transmittal memorandum, one completed OFSS accession card (form 9-1982-B), and the transmittal form memorandum, which should include a list of repositories, to the Open-File Services Section. (See article 9.02.2 for specific instructions for submitting Open-File Reports to OFSS.) The transmittal memorandum to OFSS should indicate the number of microfiche copies needed for office, which must be purchased. Refer to article 8.01.1, "Required distribution from originating office to determine the number needed for Public Inquiries Offices.)

Once the initial demand for the report has subsided, OFSS will consult the originating office as to the disposition of reproducibles. This material will be discarded by OFSS or returned to the originating office; OFSS will retain only the microfilm copy for future requests.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 11.07

Subject: OPEN-FILE REPORTS--Distribution and Announcement of Availability

After duplication of an Open-File Report, the originating office will provide copies to Geological Survey depositories as indicated in article 8.01.1. Among the depositories is OFSS, which receives a reproducible copy for sales to the general public. A simplified distribution list for Open-File Reports is given on the following page.

To fulfill the Geological Survey's obligation to make results of its investigations available to all on equal terms, Open-File Reports must not be distributed (not even to cooperating agencies) until a Director-approved news release announcing the report's content and availability has been issued locally. (See article 3.02.4.) If a local news release is not issued, distribution of the report must await an announcement of availability in the monthly pamphlet "New publications of the "U.S. Geological Survey," which occurs at least 3 months after receipt of the reproducible report copy by OFSS.

Only after the report has been properly announced may copies be provided to cooperating agencies and other local, State, and Federal units of government, including public and college libraries.<sup>1</sup>

The public, which includes consultants and industry, may inspect file copies at depositories, borrow copies from the originating office, or purchase copies from OFSS.

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<sup>1</sup> Many of these libraries are listed by State in: U.S. Government Printing Office, 1976, Government depository libraries; the present law governing designated depository libraries: Washington, D.C., U.S. Government Printing Office report, 43 p.

Recipient	Number of copies	
	Interim open file pending publication	All other types
<u>Upon Receipt of Duplicated Copies</u>		
Open-File Services Section <sup>1</sup> .....	1	reproducible copy
Publications Management Unit <sup>2</sup> .....	4	4
Geological Survey Libraries <sup>4</sup> .....	1 each	2 each
Public Inquiries Offices <sup>5</sup> .....	1 each	1 each
Interior Department Natural Resources Library..	0	3
Interior Department Division of Printing and Publications <sup>6</sup> .....	0	(footnote 3)
Authors.....	as needed	as needed
Survey offices and staff.....	as needed	as needed
Loan and archive.....	20	20
<u>After Formal Announcement</u>		
Cooperating agencies.....	as needed	as needed
Other local, State, Federal government units <sup>7</sup> ..	as needed	as needed

<sup>1</sup> Send directly to Open-File Services Section. Include one completed accession card (form 9-1982-B) and a copy of the OFSS transmittal memorandum listing the depositories. The card should be preaddressed for return to the Publications Management Unit, Mail Stop 435 (with prices of paper and microfiche copies). The Publications Management Unit will record the prices and return the card to the originating office.

<sup>2</sup> Include copy of approval memorandum (footnote 1).

<sup>3</sup> One copy required for book report. Send to Room 1307, Interior Building, Washington, D.C. 20240.

<sup>4</sup> Reston, Virginia; Lakewood, Colorado; and Menlo Park, California.

<sup>5</sup> Optional but recommended; one copy to each appropriate PIO.

<sup>6</sup> For GPO. Send to Division of Printing and Publication, Department of the Interior, Room 1307, Interior Building, Washington, D.C. 20240.

<sup>7</sup> Includes public and college libraries.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 11.08

Subject: OPEN-FILE REPORTS--Citation as a Reference

Examples of correct bibliographic citations for book and map Open-File Reports are as follows:

Parker, N. L., 1982, Water resources of Cold Spring Valley,  
Washoe County, Nevada: U.S. Geological Survey Open-File  
Report 81-XXXX, 79 p.

Gatelatch, O. P., 1982, Ground-water quality in Moonlight Ranch  
Valley, Lyon County, Nevada: U.S. Geological Survey  
Open-File Report 82-XXXX, map (2 sheets).

Note that the date preceding the report title is the year of publication, which may differ from the year indicated by the first two digits of the report-identification number.

# WATER RESOURCES DIVISION PUBLICATIONS GUIDE

## SECTION 12

### Page

#### ADMINISTRATIVE REPORTS

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## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 12.01

Subject: ADMINISTRATIVE REPORTS--Definition and Categories

#### DEFINITION

Administrative reports are reports prepared by the U.S. Geological Survey for exclusive use by and within another Federal agency. These reports are the property of the other Federal agency and not of the Geological Survey.

During initial discussions of studies to be done for other Federal agencies, the designation of report products as administrative reports should be avoided if at all possible because such studies are funded by the public, and the results, therefore, should be available to the public. Every effort should be made to open file or publish the reports or release them to the open file, if not at the completion of the studies, then at a later date if confidentiality no longer needs to be maintained.

#### CATEGORIES

The general categories of administrative reports are:

- A. Preliminary reports needing immediate release to another Federal agency.
- B. Reports containing information that another Federal agency believes should be kept confidential.
- C. Reports prepared for the U.S. Department of Justice for use in civil suits, whereby the Department of Justice requests either that the reports not be released for public inspection or that distribution be made only to opposing counsel or other government agencies.
- D. Reports of flood-insurance studies prepared for the U.S. Department of Housing and Urban Development, Federal Insurance Administration.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 12.02

Subject: ADMINISTRATIVE REPORTS--Manuscript Preparation and Review

#### PREPARATION

Administrative reports must be of the same technical and editorial quality as reports prepared for any other Geological Survey series. Preparation of illustrations needs to be guided by the fact that duplication of the report will be done either within the originating Water Resources Division office or within the other Federal agency. Therefore, the use of color on illustrations will depend on the duplication facilities available. The use of hand-lettered illustrations, pencil-colored illustrations, and hand-lettered tables may be acceptable with the concurrence of the other Federal agency.

#### REVIEW

Administrative reports must be reviewed using the same criteria regarding technical accuracy, editorial and verification adequacy, and policy as for any other Geological Survey interpretive report. This includes at least two technical-colleague reviews, with one review outside the originating District or Research Project office. Only the Geological Survey or the Federal agency for which the report was written may review the report.

WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 12.03

Subject: ADMINISTRATIVE REPORTS--Approval

APPROVAL FOR ADMINISTRATIVE RELEASE ONLY

Except for flood-insurance studies, administrative reports must be approved by the Director or his designated representatives for release only to the Federal agency for which the work was done. For flood-insurance studies prepared for the U.S. Department of Housing and Urban Development, Federal Insurance Administration, approval authority for administrative release has been delegated to the Regional Hydrologists by the Director and Chief Hydrologist.

Materials to be submitted for reports requiring Director's approval (which are processed through the Regional Hydrologist) are:

1. Two copies of complete report--text, tables, and illustrations.
2. All technical colleague reviewers' comments and the author's responses thereto.
3. Three copies of the report abstract.
4. Transmittal memorandum from the District or Research Project Chief to the Regional Hydrologist.
5. Completed manuscript routing sheet.

Materials to be submitted for reports requiring only Regional Hydrologist's approval are:

1. One copy of complete report--text, tables, and illustrations.
2. All technical colleague reviewers' comments and the author's responses thereto.
3. Transmittal memorandum from the District or Research Project Chief to the Regional Hydrologist.
4. Completed manuscript routing sheet.

SUBSEQUENT APPROVAL FOR PUBLICATION  
OR OPEN-FILE RELEASE

All administrative reports that subsequently are released to the open file or published (with the concurrence of the other Federal agency for which the administrative report was prepared) must be approved by the Director. There are no exceptions.

Materials to be submitted to Region for processing for Director's approval include:

1. Two copies of complete report--text, tables, and illustrations.
2. Copy of manuscript routing sheet showing previous approval by Director or Regional Hydrologist for administrative release only.
3. Copy of memorandum from the other Federal agency granting permission to release or publish the report (original memorandum should be retained by originating District or Research Project office).
4. Three copies of draft WRSIC abstract.
5. Two copies of a draft news release.
6. Four copies of the note for the monthly periodical, "New Publications of the U.S. Geological Survey."
7. Transmittal memorandum from the District or Research Project Chief to the Regional Hydrologist.
8. Completed manuscript routing sheet.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 12.04

Subject: ADMINISTRATIVE REPORTS--Preparing Copy for Duplication

Camera-ready copy of administrative reports should be similar in design to Open-File Reports (see article 11.04.1), and should be typed on 8 1/2 X 11-inch white bond paper.

#### COVER

The following items of identification, and only these, must be shown on the front cover (see example at end of article):

- A. Department of the Interior (line 1), U.S. Geological Survey (line 2), all capital letters, centered, and single spaced.
- B. Report title (use capital letters; double space; align flush left, with longest line on top if possible).
- C. Administrative Report (lowercase with capitals).
- D. Cooperative-credit statement (capitalize other Federal or State agency's name).

#### TITLE PAGE

Type in same style as cover with the following exceptions (see example):

- A. Below the report title insert "By (first name, middle initial, last name)" in lowercase with capitals.
- B. Near bottom center, insert city and State in which originating Water Resources Division office is located, in lowercase with capitals; spell out the State name. Below that add the year in which final copies are to be produced (do not include month).

BACK OF TITLE PAGE

Include the following items:

1. Near the top of the page:

DEPARTMENT OF THE INTERIOR  
DONALD PAUL HODEL, Secretary  
U.S. GEOLOGICAL SURVEY  
Dallas L. Peck, Director

2. In the center of the page: ADMINISTRATIVE REPORT

REMAINDER OF REPORT

Use same format as for Open-File Reports. For economy, use elite type, single spaced, in one-column (6 1/2-inch line width) format.

DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY

HYDROLOGY AND GEOLOGY OF THE JAMECO AQUIFER AT JOHN F. KENNEDY  
INTERNATIONAL AIRPORT, QUEENS COUNTY, NEW YORK

Administrative Report

Prepared for the  
U.S. DEPARTMENT OF ENERGY

DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY

HYDROLOGY AND GEOLOGY OF THE JAMECO AQUIFER AT JOHN F. KENNEDY  
INTERNATIONAL AIRPORT, QUEENS COUNTY, NEW YORK

By Julian Soren

Administrative Report

Prepared for the  
U.S. DEPARTMENT OF ENERGY

Syosset, New York  
1979

Typescript cover of administrative report

Typescript title page of administrative report

DEPARTMENT OF THE INTERIOR  
DONALD PAUL HODEL, Secretary  
U.S. GEOLOGICAL SURVEY  
Dallas L. Peck, Director

ADMINISTRATIVE REPORT

Typescript back of title page  
of administrative report



## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 12.05

Subject: ADMINISTRATIVE REPORTS--Duplication, Binding, and Reimbursement

#### DUPLICATION

All administrative reports must be duplicated either within the originating Water Resources Division office or within the cooperating Federal agency to avoid possible public disclosure of material in the reports. The text and page-size tables and illustrations should be duplicated on 8 1/2 X 11-inch paper and may be imprinted on one or both sides of the paper. Final copies of larger-than-page-size tables and illustrations may be made on a diazo copier or equivalent machine.

#### BINDING

Every effort should be made to have the reports neatly bound. Numerous types of bindings are available for use. As a minimum, the reports should be stapled in the upper left corner.

#### REIMBURSEMENT

Costs associated with the preparation of administrative reports are not reimbursed by the Water Resources Division. All costs for typing, cartography, duplication, binding, and distribution are the responsibility of the originating office.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

Article 12.06

Subject: ADMINISTRATIVE REPORTS--Distribution and Announcement of Availability

### DISTRIBUTION

Distribution of administrative reports should be made only as follows:

- A. Provide the number of copies specified in the working agreement to the other Federal agency for which the work was done.
- B. Provide one copy to the Publications Management Unit, Water Resources Division, 435 National Center, Reston, Virginia 22092.
- C. Retain only the number of copies needed for internal use in the originating Water Resources Division office. Do not place copies either in the office library or in the "New Publications" rack.

Do not provide copies to any U.S. Geological Survey library, to the U.S. Department of the Interior library, or to any other Federal, State, or local cooperating agency. Requests for copies made under the Freedom of Information Act should be referred directly to the other Federal agency for which the report was prepared.

### ANNOUNCEMENT OF AVAILABILITY

The availability of administrative reports must not be announced to the public, as these reports are not intended for public release, inspection, or consultation in any form. The reports will not be announced in the monthly periodical, "New Publications of the U.S. Geological Survey," and the originating Water Resources Division offices must not issue news releases announcing availability of the reports.

## WATER RESOURCES DIVISION PUBLICATIONS GUIDE

### Article 12.07

Subject: ADMINISTRATIVE REPORTS--Citation as a Reference

Except as indicated in paragraph two, administrative reports may be cited as a reference only in another administrative report prepared for the same Federal agency. (A new agency that takes over the functions of an old agency would be considered the same agency.) Elsewhere, information paraphrased or quoted from an administrative report should be cited only as written communication from the author (and only if the publication of such information will not jeopardize the Federal agency for which the administrative report was prepared).

Flood-insurance studies, after release by the U.S. Department of Housing and Urban Development, Federal Insurance Administration, may be considered published reports and may then be used as references. Similarly, if an administrative report is later resubmitted for publication or release to the open file (with the concurrence of the Federal agency for which the report was prepared), and is approved by the Director, it may be cited as a reference in the series for which it was approved. Finally, if the other Federal agency publishes the report in any form, the published report may be cited.

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