

GEOLOGY 300
ENVIRONMENTAL GEOLOGY
TERM PROJECT - SPRING, 2007

Length of Project: 10-12 pages of typewritten text (single-space, *or* double-space equivalent), plus illustrations.

Titles of Papers Due With Approval: Thursday, February 1st.

Pre-submission Interview: Week of March 26. Prior to this week, make an appointment with me for a 15-minute meeting. Bring with you to this meeting all of your resource materials. Be prepared to discuss your project, progress, citation techniques, etc. Satisfactory completion of this interview by this deadline is worth 10% of the project.

Completed Papers Due: Classtime, April 24th (20-30% penalty for late papers)

Topic Selection and Approval: Select a specific topic or study problem that is of particular interest to you and one in which you can obtain sufficient reference materials. The topic must center on geology and land use.

Your paper must include significant content based on your personal research efforts: site visits; interviews; models; photographs; map or air photo interpretations, etc. Creativity is encouraged. Literature should be reviewed only to support your own personal research.

Prior to February 1st, complete the attached form. Visit with me to review your proposal and complete the pre-approval of your topic. Either prior to or during the week of March 19-23, make a 15-minute appointment with me to discuss your progress.

Topic Examples:

- *"Engineering Factors Associated With the Pierre Shale in Barnes County, North Dakota."*
- *"A Worksheet on the Greater Miami Metropolitan Region, Florida."*
- *"Geologic Considerations of Cemetery Placement in Eastern North Dakota."*
- *"A Field Guide to the Environmental Geology of North Fargo."*
- *"Use of Quicklime in Soil Stabilization: An Example of Their Application in Moorhead, Minnesota."*
- *"Rotational Soil Failures of the Fargo Region: Engineering Considerations."*
- *"Shoreline Erosion of Sweetbriar Lake, Morton County, North Dakota."*

Citation and Reference System: All statements presented in this report that are not derived from your own research are to be properly referenced; this includes citations within the text itself. This paper is to be a synthesis IN YOUR OWN WORDS of your subject material; where direct quotes are made, quotation marks must be used. You are encouraged to utilize a diverse series of source materials, including maps, state and federal reports, journals and books. A "References Cited" section that lists those materials that you actually used and cited is to be given at the end. CITATION PROCEDURES AND THE "REFERENCES CITED" SECTION ARE TO FOLLOW EXACTLY THE FORMAT USED BY THE GEOLOGICAL SOCIETY OF AMERICA (for examples, see papers in any recent Geol. Soc. Amer. Bulletin).

Grading: Your paper will be graded on its professionalism, originality, content, presentation, neatness, grammar, spelling, and adherence to the format described above.

Class Presentation: You will give a 15-20 minute presentation to class, preparing in advance (for web mounting) a one-page summary of what you concluded from your study. You will be evaluated based on the following criteria:

- Was the entry into the subject orderly and coherent?
- Were the major points developed adequately, and were the main questions identified clearly?
- Was a clear distinction made between previous work and work done for this project?
- Was the work done for this project relevant and did it bring something new to the question?
- Were the conclusions sound and well related to the question?
- Were you effective in the use of audio-visual aids, blackboard, etc.

Where To Get Started: The NDSU Library has a good collection of books, journals, and reference materials that can be utilized for this project. The books are generally located in the 2nd floor stacks, in Sections "QE", "GB 400-700", and "TA 700-730." The Library also maintains an excellent collection of topographic maps. During this week, plan on spending some hours over there reviewing materials. Here's an annotated summary of some sources that I find continuously useful for geology and land use:

"Abstracts of North American Geology". Main Floor Reference Section. (REF ABST QE71.A2x).

"Bibliography and Index of Geology". Main Floor Reference Section. (REF ABST QE1.G36).

"U.S. Geol. Surv. Bulletin". Government Documents Section, 2nd Floor. (DOC I19 3:).

"U.S. Geol. Surv. Circular". (A great source for subject materials!). Government Documents Section, 2nd Floor. (DOC I19 4/2:).

"U.S. Geol. Surv. Earthquake Information Bulletin", Government Documents Section, 2nd Floor (DOC C/4.54).

"U.S. Geol. Surv. Prof. Paper." Government Documents Section, 2nd Floor. (DOC I19 16:).

"U.S. Geol Surv. Water Resources Investig." Government Documents Section, 2nd Floor. (DOC I19 42/4:).

"U.S. Interior Department Environmental Impact Statements." Government Documents Section, 2nd Floor. (DOC I1 98:).

"U.S. Soil Conservation Service Soil Surveys." Government Documents Section, 2nd Floor. (DOC A57.38:).

"U.S. Housing and Urban Development Office Flood Insurance Maps."

"U.S. Housing and Urban Development Office Flood Insurance Study." (Lots of potentially-good information here, but it'll take some time to do the searching - visit these sections, and you'll see why!!!).

(DOC HH 10.9: 2nd floor, Government Documents Section).

(DOC FEM 1.209: both on 2nd floor and on microfiche in basement).

Examples:

West Fargo, ND (microfiche, DOC 1.209:380024)

Johnstown, PA (microfiche, DOC 1.209:420231)

Cass Co., ND (paper, DOC 1.209:380257)

GSA REFERENCE AND CITATION FORMAT

As stated, your paper *must* follow this format. If in doubt about these procedures, see me - or see any publication of the Geological Society of America (Geological Society of America Bulletin, Geology, etc.).

PAPER: ONE AUTHOR:

Kehew, A.E., 1983, Geology and geotechnical conditions of the Minot area, North Dakota: North Dakota Geological Survey Report of Investigations 73, 35 p. + 5 pl.

PAPER: MULTIPLE AUTHORS:

Helley, E.J., LaJoie, K.R., Spangle, W.E., and Blair, M.L., 1979, Flatland deposits of the San Francisco Bay region, California - their geology and engineering properties, and their importance to comprehensive planning: U.S. Geological Survey Professional Paper 943, 88 p.

PAPER: MULTIPLE AUTHORS AND IN PROFESSIONAL JOURNAL:

Yerkes, R.F., Ellsworth, W.L., and Tinsley, J.C., 1983, Triggered reverse faults and earthquakes due to crustal unloading, northwest Transverse Ranges, California: *Geology*, v.11, p.287-291.

PAPER: AUTHOR NOT GIVEN:

Anonymous, 1982, Goals and tasks of the landslide part of a ground-failure hazards reduction program: U.S. Geological Survey Circular 880, 48 p.

PAPER: IN EDITED VOLUME:

Bell, G.L., 1968, Engineering geology of Interstate Highway 94 underpass at Northern Pacific Railway, Fargo, North Dakota, in Kiersch, G.A., ed., Engineering case histories 6-10: Geological Society of America, p. 49-53.

BOOK:

Legget, R.F. and Karrow, P.F., 1983, Handbook of geology in civil engineering: New York, McGraw-Hill Book Co., 1340 p.

EXAMPLE OF USAGE IN TEXT:

"The same principles outlined by Anonymous (1982) and Legget and Karrow (1983) are applied in three studies in North Dakota (Bell, 1968; Kehew, 1983; Schwert, pers. comm., 1995). In addition, Helley and others (1979) have presented data on the area surrounding south San Francisco Bay to which similar procedures may be applied."

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Complete one copy of the form below. See me prior to Thursday, February 1st, to review your topic.

(Fill in your name and project title, only).

STUDENT NAME: _____

PROJECT
TITLE: _____

APPROVED: _____ DATE: _____

D.P. Schwert

(Instructor's copy: Do not complete).

STUDENT NAME: _____

PROJECT
TITLE: _____

APPROVED: _____ DATE: _____

D.P. Schwert