

**Geochemical Mapping of Western Europe
towards the Year 2000.**

REPORT No. 3

**Minutes from meeting in Athens, Greece
15.-18. October 1990**



Western European Geological Surveys.

NGU Report 91.202

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WESTERN EUROPEAN GEOLOGICAL SURVEYS

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Report No 3

**Minutes from meeting in Athens, Greece
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Appendix : Publication of Pilot
Project Results

Participants:

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A. Demetriades, Greece
J. Ebbing, The Netherlands
R. Hindel, Germany
R. Ottesen, Norway
J. Plant, United Kingdom
J. Ridgway, United Kingdom
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<p>The WEGS Working Group on Regional Geochemical Mapping held a meeting in Athens, Greece 15-18 October 1990. Plans for publication of Pilot Project results as well as comments made by the WEGS directors to the Project Proposal were discussed. It was decided to initiate a between site and within site variability project and to make a limited start of the Main Project in Benelux, Germany and Scandinavia.</p>			
Emneord	Fagrapport	Møtereferat	
Regional kartlegging			

1. IGME General Director Dr. V. Andronopoulos opened the meeting with a welcoming speech.

2. The following agenda was agreed:
 - Report of the Prague meeting (International Geochemical Exploration Symposium with workshops)
 - Report of the Vienna meeting (WEGS directors)
 - Plans for further work

3. Report of the Prague meeting.

The project proposal was presented at two different sessions:

- The workshop arranged by IGCP-project 259, and
- The plenary session

The main conclusions of the Prague meeting were:

- There is general support for the project proposal from IGCP-project 259.
- The field group of IGCP-project 259 favoured stream sediment as a sampling medium because it is commonly used world wide and a large amount of data is available. The group is not, however, not against overbank sediment as sampling medium.
- Other parts of the world showed great interest in the project proposal, e.g. Australia, Canada, Israel and especially the Eastern European Countries.
- It also became apparent that for some Western European countries (Portugal and Italy) the Working Group has not had contact with those institutions which perform geochemical mapping.

4. Report of the Vienna meeting.

The main conclusions of the Vienna meeting were:

- All concerned with the pilot project should be congratulated on their work and the way in which the results have been presented.
- Some of the directors felt that the cost of the project may have been underestimated.
- The directors considered that it may be difficult to obtain external funding.
- Some stated that overbank sediment is not present in their country (Switzerland).
- The need for sedimentological expertise was pointed out by several directors (Sweden, United Kingdom and Ireland).
- France favoured research projects on particular topics.

Any country that wishes to proceed further with the proposed project can do so. It was suggested that the Working Group might like to consider making a start in the Netherlands, Belgium and Luxembourg and that the progress of this more limited project should be reported to the WEGS directors at appropriate intervals.

5. Plans for further work.

The minutes of the Vienna meeting were discussed. The Working Group reached the following conclusions:

- The aim of the project remains: The preparation of a geochemical atlas of Western Europe.
- The pilot project results should be published in an international journal (IMM Transaction). Since the Vienna meeting new data have become available from the Harz mountains. A revised list of publications is attached.
- The scientific criticism raised in Vienna, must be taken seriously. The Working Group considers that all WEGS countries should be involved in a research project, an outline of which is given below:

A study must be carried out during 1991-92 with the aim of testing large scale variation (between countries) and small scale variation (within countries). In each country a minimum of two catchments basins should be included in the study. The two drainage basins should be selected in such a way that they either 1) represent areas of similar geology but having a different degree of anthropogenic influence and/or 2) represent areas of different geology but having a similar degree of anthropogenic influence. Sedimentologists from each of the participating countries should be involved when selecting the sample sites. The grain size fraction recommended in the original project proposal should be used (< 125 microns). Stream sediment should also be collected/recollected to ensure that the regional pattern is stable. A description of the research project proposal is attached.

The minus 125 micron fraction of the samples collected during the research project should be split into two halves, out of which one will be used in the research project and the other is reserved for possible use in the main project. In the research project a minimum of 20 samples of overbank sediment will be collected in each participating country. The Working Group proposes that all the samples from the research should be analysed in accordance with the plans of the Project Proposal, i.e. all determinations of a certain type should be performed in the same laboratory regardless of country of origin. At this stage emphasis should be placed on the determination of those elements which are of environmental interest. Sample preparation should also be done according to the directions given in the Project Proposal i.e. in each participating country.

The research project could start in the spring of 1991 and last for one year (see also the attached Research Project).

- 1991-92 Effort should be put upon finding criteria distinguishing pristine from polluted overbank sediment samples (e.g. palynology, age determinations and contents of carbon, coal or loess).
- Meanwhile the geochemical mapping programme can start in the Benelux and other countries that wish to participate.
- Following the completion of the research project and detailed planning of the field programme the Working Group will recalculate the budget.
- The director of the Geological Survey of Norway will write a letter to his fellow directors in all WEGS countries informing them about the project plans. The letter will request the nomination of a contact person at each institution (ideally the chief geochemist). In addition all WEGS countries should be invited to participate in the following work:
 - publication of the pilot project results
 - the new research project
 - the detailed planning of the field work.

6. Funding

- A new organization, the European Environmental Agency, has been established. R. Hindel will seek information on this agency with respect to its location and the possibilities of external funding for the project and report to B. Bølviken by the end of 1990.
- A sub-group of the Working Group with representatives from Germany, Norway and UK is responsible for identifying sources of external funding. They will report to the Working Group before the next meeting.

7. Other subjects

Several other suggestions expressed by the WEGS directors at their meeting in Vienna (Sep. 1990) were discussed and taken into consideration.

8. Excursions

Two excursions were arranged during the meeting:

- One trip was made to the Lavrion Mining area to see the environmental problems caused by the mining activities from ancient times (1000 BC) to present time.

- Another trip was made to the Sperchios river estuary and immediate hinterland for an overview of the erosional and sedimentological processes in Greece and the European Mediterranean region in general.

9. Future activities.

The minutes of this meeting will be distributed to all WEGS countries. The Working Group would welcome comments on the revised project plans. A meeting of the Working Group with attendance of the contact persons of each Geological Survey will be arranged in Haarlem, the Netherlands in the spring of 1991. If necessary the Working Group will arrange a meeting late 1991 (Hannover, Germany) in order to:

- present a progress report on the publication of the Pilot Project results
- discuss results of the new research project
- plan further activities.

It is, therefore, recommended that the members of the Working Group, and the contact persons of the other WEGS countries budget for two meetings in 1991, each of 2-3 days duration.

Geochemical Mapping of Western Europe
towards the Year 2000

REPORTS

For the purposes of registration, storage and retrieval the reports are also numbered in the Open File Report Series of the Geological Survey of Norway, (NGU).

- No 1. Demetriades, A., Ottesen, R.T. and Locutura, J. (eds.), 1990: Geochemical Mapping of Western Europe towards the Year 2000. Pilot Project Report. NGU Report 90-105, 9 pages and 10 appendices.
- No 2. Bølviken, B., Demetriades, A., Hindel, R., Locutura, J., O'Connor, P., Ottesen, R.T., Plant, J., Ridgway, J., Salminen, R., Salpeteur, I., Schermann, O. and Volden, T. (eds.), 1990: Geochemical Mapping of Western Europe towards the year 2000. Project Proposal. NGU Report 90-106, 12 pages and 9 appendices.
- No. 3. Bølviken, B., Demetriades, A., Ebbing, J., Hindel, R., Ottesen, R.T., Plant, J., Ridgway, J., Salminen, R. and Stavrakis, P., 1991: Minutes from meeting in Athens, Greece 15.-18. October 1990 with an appendix by Demetriades, A.: Publication of Pilot Project Results. NGU Report 91-202.
- No. 4. Demetriades, A., 1991: Minutes from Project meeting in Heerlen, The Netherlands 27-28 May 1991, with 2 Appendices. 1) Ridgway, J. and Plant, J.: Within and between site variability in the composition of overbank sediment. Project Proposal. 2) Ebbing, J. and Swennen, R.: Excursion to the Geul River Valley, Belgium and The Netherlands. NGU Report 91-203.
- No. 5. Bølviken, B and Ottesen, R.T., 1991: Activities and Plans 1991-92. NGU Report 91-204.
- No. 6. Bogen, J., Hasholt, B., Jacobsen, O. and Ottesen, R.T., 1991: On the occurrence of overbank sediment in Denmark. NGU Report 91-205.
- No. 7. Bølviken, B., 1991: Annual Report 1990 - 91. NGU Report 91-206.

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**Working Group
on**

REGIONAL GEOCHEMICAL MAPPING

Report No 3

Appendix

Demetriades, A.:

PUBLICATION OF PILOT PROJECT RESULTS

PUBLICATION OF PILOT PROJECT RESULTS

The members of the Working Group that met in Athens (15-18.10.1990) reaffirmed their intention of publishing the results of the Pilot Project in an international geoscientific journal. A. Demetriades (IGME, Greece) will undertake the editing of all papers, and will also approach the institution of Mining and Metallurgy (IMM) and discuss the publication of all the papers in a special issue. The reasons for suggesting the transactions (Section B - Applied Earth Science) of the IMM are: (a) the journal is European, (b) it has a good editorial staff, (c) colour geochemical maps can be published, and (d) the journal reaches a wide international geological/mining community.

The following are tentative titles of the papers that are intended for publication (the name of the author responsible for writing the paper is underlined, and the approximate number of pages of the final paper is given in square brackets. This will be finalized, however, after we know the total number of pages that the IMM is prepared to have in a special issue of the transactions, an attempt will be made for a special issue of 200 pages).

1. Regional Geochemical Mapping in Western Europe (10 pages) B. Bølviken (Norway). A. Demetriades (Greece) and R.T. Ottesen (Norway).
2. The Occurrence of Overbank Sediment Deposits in Western Europe and their Use in Low Sampling Density Regional Geochemical Mapping (10 pages). R.T. Ottesen (Norway) and J. Bogen (Norway).
3. Vertical Distribution of Elements in Overbank Sediment Profiles of Western Europe and Greenland (20 pages).
 1. Austria - O. Scherman
 2. Germany - R. Hindel
 3. Greece - A. Demetriades
 4. Greenland - A. Steenfelt
 5. Ireland - J.C. Croko
 6. Norway - T. Volden
 7. Spain - J. Locutura
 8. United Kingdom - M. Macklin and J. Ridgway
4. Reproducibility of Sampling and Analysis of Overbank and Active Stream Sediment (15 pages).
 1. Greece - A. Demetriades
 2. Norway - T. Volden
 3. Spain - J. Locutura

5. Distribution of Elements in Different Grain Size Fractions of Overbank and Stream Sediment (15 pages).
 1. Austria - O. Scherman
 2. Greece - A. Demetriades
 3. Spain - J. Locutura

6. Use of Different Analytical Methods and their Effectiveness in Regional Geochemical Reconnaissance (15 pages).
 1. Greece - A. Demetriades, R. Hindel and R.T. Ottesen
 2. Norway - T. Volden, and R.T. Ottesen
 3. Spain - J. Locutura and R.T. Ottesen

7. A Comparison of Overbank and Stream Sediment in Low Sampling Density Geochemical Surveys (20 pages).
 1. Greece - A. Demetriades and R. Salminen
 2. Germany - R. Hindel
 3. Norway - R.T. Ottesen
 4. Spain - J. Locutura

8. A Comparison of Widely Spaced Regional Geochemical Sampling with Conventional Stream Sediment Surveys (20 pages).
 1. Greece - A. Demetriades and R. Salminen
 2. Germany - R. Hindel (Harz Mts study)
 3. Norway - R.T. Ottesen

9. An Inventory of Western European Geological Surveys Regional Geochemical Mapping Programmes (10 pages).
 J. Plant (U.K.) and J. Ridgway (U.K.)

WRITING OF PAPERS

Papers 1, 2 and 9 will be written by the authors stated whereas papers 3 to 8 will be written according to the following scheme:

- (a) Common "Synopsis" (to be drafted by A. Demetriades)
- (b) Common "Introduction" (to be drafted by A. Demetriades)

- (c) Contributions of each country written by individuals indicated, and
- (d) Common "Conclusions" (to be drafted by A. Demetriades)

The contributors of the different papers (3 to 8) will be invited to comment on the "Synopsis", "Introduction" and "Conclusions".

DEADLINES

We all know the significance of publishing the Pilot Project results, so every attempt should be made to observe the agreed deadlines. The aim is to publish the papers in the May 1992 issue of the IMM Transactions (Section B - Applied earth science).

1. January 1. 1991 Contents of individual contributions must be sent to A. Demetriades. Guidelines for all authors will be distributed.
2. February 1. 1991 Introduction to papers 3 to 8 will be sent to all contributors by A. Demetriades.
3. May 1. 1991 Submissions of first draft of complete paper from all authors must be sent to A. Demetriades.
 - Comments by A. Demetriades. Correction and redrafting of papers by authors.
4. August 1. 1991 Submission of final draft.
 - Manuscripts will then be sent to our own external references.
5. October 1. 1991 Manuscripts returned by external references.
 - Revision of papers by authors.
6. December 1. 1991 Submission of revised papers to A. Demetriades.
7. January 1, 1992 Papers sent to IMM.

The colleagues that are proposed to act as our own external referees are: Ashlyn Armmour-Brown, Arthur Darnley, Gerry J.S. Govett, Jane Plant (except paper 9) and Arthur Y. Smith. Other names may be added if the Working Group considers this necessary.