

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

REPORT No. 7

Annual Report 1990 - 91



Western European Geological Surveys.

NGU Report 91.206
1. July 1991



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WESTERN EUROPEAN GEOLOGICAL SURVEYS (WEGS)

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Rapport nr.	91.206	ISSN 0800-3416	Åpen/Offentlig til
Tittel: Geochemical Mapping of Western Europe towards the Year 2000. Annual Report 1990 - 1991			
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Fylke:		Kommune:	
Kartbladnavn (M. 1:250 000)		Kartbladnr. og -navn (M. 1:50 000)	
Forekomstens navn og koordinater:		Sidetall: 6	Pris: NOK 25,-
		Kartbilag:	
Feltarbeid utført:	Rapportdato: June 25, 1991	Prosjektnr.: 63.2483.01	Seksjonssjef: <i>Byorn Bølviken</i>
Sammendrag: Two project meetings have been arranged in the period September 1990 - June 1991 with participation up to 10 countries. Plans for publication of the results of the Pilot Project have been worked out. Detail plans have been worked out for a Research Project on the within and between site variability in the composition of overbank sediment; at this stage 9 countries are participating. An initial phase of the Main Project has been started in the Benelux and adjoining areas of Germany as well as in the Harz Mountains of Germany. Such work will also start in Finland and Norway during 1991. So far the research shows that samples of preindustrial overbank sediment can normally be found even in drainage basins heavily polluted by old mining. At some locations, however, the stratigraphy of the overbank sediments may be complicated and the selection of suitable sample sites laborious.			
Emneord	Geokjemi	Elveavsetning	
Årsmelding	Regional kartlegging		

ANNUAL REPORT 1990 - 1991

At the WEGS meeting in Vienna, 17-22 September 1990, the Working Group on Regional Geochemical Mapping presented a Pilot Project Report [Report No 1] and a Project Proposal for "Geochemical Mapping of Western Europe Towards the Year 2000" [Report No 2].

The following points were made by the directors during the discussion after the presentation:

- undisturbed overbank sediments do not occur in all countries;
- sedimentological expertise is needed at each sample site;
- the practical benefits that might flow from the project should be demonstrated;
- funding is a main problem.

The directors concluded that

- the time is not yet ripe for a project involving the whole of Europe;
- any country that wishes to proceed further can do so, and the Working Group should consider making a start in the Benelux countries;
- the progress of the project should be reported to WEGS at appropriate intervals.

At a meeting in Athens, 15-18 October 1990, the Working Group discussed further plans for the project in view of the directors' comments, and it was concluded [Report 3] that

- more detailed plans for publishing the results of the Pilot Project should be worked out;
- a Research Project for a study of the within and between site variability in the composition of overbank sediment should be initiated;
- sampling in the Main Project should start in 1991 in the Benelux and adjoining parts of Germany as well as in other countries that want to participate.

A letter informing about these decisions together with an inquiry about plans for participation was distributed to the WEGS in February 1991. In response to this letter all the WEGS have appointed a contact person. Some countries also want to take part in the actual work, see Table 1.

TABLE 1. Responses from WEGS to inquiries about participation in the project "Geochemical Mapping of Western Europe towards the Year 2000".

	Countries wanting to participate
Project meetings	12 (Austria, Belgium, Denmark, Finland, Germany, Greece, Italy ¹ , The Netherlands, Norway, Spain, Sweden (?), United Kingdom)
Main Project Initial Phase	6 (Belgium, Finland, Germany, Greece, The Netherlands, Norway)
Variability Research Project	9 (Austria, Belgium, Denmark, Finland, Germany, Greece, The Netherlands, Norway, U.K.. In addition Italy, Spain and Sweden may join later.)

¹ Italy is represented by the Centre of Geochemistry of Rome (CNR), P.le Aldo Moro, 5, 00185 Roma

A project meeting was arranged in Heerlen, The Netherlands 27-28 May 1991, with participation from 10 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Italy, The Netherlands, Norway, U.K.)

The main results presented at this meeting and the conclusions reached are given below:

- scientific results of the Pilot Project and the continued activities in 1990/91 should be published as a Special Volume of the Journal of Geochemical Exploration. Summary papers should be presented in environmental journals. Information about the project should also be given at symposia;
- detailed procedures of the Variability Research Project have been worked out. Costs of chemical analysis will have to be shared among the participating institutions, since the analyses must be done at the same laboratory;
- a study in the Harz Mountains indicates that pristine overbank sediment can be found in heavily polluted rivers, but more work is needed in order to define the exact sampling scheme;

- the Benelux-Germany Project shows that overbank sediment exists in the area, but some sites are extensively polluted by earlier mining activities. Selection of suitable sample sites is possible, but may be laborious at some locations;
- during a project excursion it was shown that overbank sediment exists in Denmark and can be sampled;
- final instructions for the Main Project will be worked out after completion of the Benelux-Germany and Variability Research Project;
- an informal inquiry to EEC about the possibilities for EEC funding will be made by the Belgian representative and reported to the Working Group leader, possibly allowing for a more formal approach later;
- an informal meeting will be held in Uppsala, Sweden, September 1991, and a formal Working Group meeting at Keyworth, U.K., April 1992.

In conclusion the following remarks are made to the directors' comments at the Vienna meeting in 1990:

- The current work indicates that overbank sediments do exist also in countries where doubt has earlier been expressed about their occurrence.
- The Working Group agrees that sedimentological expertise is needed in the project. Cooperation between the project and local experts on sedimentology is now established in 7 countries (Belgium, Denmark, Germany, The Netherlands, Norway, Sweden, U.K.).
- The aims of the project remains [Report No 2, page 5] to a) map the natural distribution of chemical elements in Western Europe and b) provide data on the present state of pollution in order to c) prepare information for environmental and economic research planning. However, a certain degree of chance is involved, since details of the geochemical distribution patterns cannot be outlined beforehand. The Working Group, therefore, would like to return to a more thorough discussion of practical benefits and possibilities for funding at the 1992 WEGS Directors' meeting, when more results from the Research Project and the initial Phases of the Main Project will be available.

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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).

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- 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 Stavakis, 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.
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- 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.