

IAH International Association of Hydrogeologists

NEWSLETTER OF THE AUSTRALIAN NATIONAL CHAPTER

Vol. 4 No. 1

MARCH 1987

National Secretary: A C Deeney, 13 Schacht Court,
Myaree, WA 6154
Tel. (09) 222 3265

NATIONAL COMMITTEE ACTIVITIES AND ANNOUNCEMENTS

President's Message

May I extend, on behalf of the National Committee, a belated season's greetings to all our members and our best wishes for a prosperous and hydrogeologically rewarding 1987.

Any messages from the Committee will tend to have a slight Western Australian bias until the election of a new Committee in 1988 or 1989. The big hydrogeological news item in WA over the past few months has been the America's Cup, which we were hoping to rename the Australia's Cup. Hydrogeological? Well, water did play a very important role, even though it was sea water. And for those of us unlucky enough to bear the strain of lurching about in stationery boats in 25 knot winds and heavy seas, hoping to catch a distant glimpse of a 12 metre yacht, the sight of so much salt water at first hand made one think enviously of sitting on a drilling rig in the outback, as far away from the sea as possible.

The other major thrust in the West has been the continued upsurge in gold mining activity which is straining the resources of all hydrogeologists and drilling contractors. The number of gold mines requiring process water supplies and/or dewatering grows daily, with many very pleased to accept groundwater supplies with a salinity in excess of 200 000 mg/l, i.e. approximately six times saltier than the churning sea waters on the 12 metre course off Fremantle.

The subject of salt and salinisation forms the common thread in many of the State Committee reports, and this problem has to be one of the greatest threats facing Australia, both in terms of the loss of agricultural land and the degradation of our cities water supplies. As a

professional body, the understanding and control of salinisation looms as one of our greatest challenges. Rather than detail the desalinisation work being undertaken by the various States, in particular Victoria, it is suggested that later in the year we devote a whole Newsletter to this issue.

Following my letter to the Minister for Resources & Energy regarding the budget allocation for the Federal Water Resources Assistance Program, a letter of reply was received and is reproduced in this Newsletter. Although some recognition is made of salinity problems, with funding to the Murray Valley salinity and drainage program in NSW, VIC and SA, and salinity control in WA, the withdrawal of assistance for water resources assessment is considered to be a very short sighted measure, irrespective of the economically straitened circumstances which all Australians are facing.

On a brighter note, it has been a great pleasure to receive correspondence from fellow IAH Committees in Poland and the Netherlands, the first requested that we nominate a member to the IAH Commission on Mineral and Thermal Waters, the second forwarding a booklet which provides a most interesting and informative overview of water in the Netherlands. It was also interesting to note that Bob Leech, a friend and former colleague of many of our Western Australian members, was recently elected President of the Canadian Chapter of IAH.

Finally, the old hoary chestnut of water divining reared its rod again. Reluctantly, I was imposed upon to make a public reply giving an hydrogeologist's view of water divining, with the inevitable predictable response of letters, phone calls and long interminable visits in my office from professed diviners. From previous similar experiences I can advise that we are in a no win situation in the public's eye. No further correspondence will be

entered into on this matter unless it be from hydrogeologists.

In the next issue of the Newsletter we hope to present a review of salaries and conditions enjoyed (or not enjoyed, as the case may be) by hydrogeologists in Australia, and this will require input from State and Federal bodies, consultants, academics and industry. Also the beginning of a series of interviews with distinguished hydrogeologists, the first hopefully being with Eugene (Dris) O'Driscoll, who began his hydrogeological career over 50 years ago.

Finally, a Treasurer's report is included in this Newsletter, which reveals a lack of financial resources for producing, for example, the Newsletter. The Committee is proposing, although not unanimously, that sponsorship or discreet advertising be allowed in future Newsletters, to offset the cost of production. Any member with a strong opinion on this subject is invited to make his views known, and more importantly any individual or company wishing to advertise or sponsor should also come forward, preferably with cheque in hand. Cost of production of the Newsletter for printing, stationery and postage averages about \$200 per issue. The two issues of the Newsletter prepared by the Committee have turned out to be labours of love and in future we are considering the production of three shorter and one longer issue each year. This would also reduce production costs.

New Members

The following new members are welcomed:

Mr V.C. Wilson (Senior Lecturer Curtin University of Technology) 7 Siska Close Willetton WA 6155	Mr H.B. Ventriss (Principal Engineer Water Authority of W.A.) 21 Colgrave Way Duncraig WA 6023
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Mr D.G. Bowyer
(Technical Assistant
Santos Ltd)
19 George Street
Clarence Park, SA 5034

Mr M. Bock
(Technical Assistant
D.I.T.R. - Geol.Surv. Vic)
32 Swayfield Road
Mount Waverley, VIC 3149

Mr S.J. Lawson
(Water Res. Comm. NSW)
87 Lilli Pilli Point Road
Lilli Pilli NSW 2229

Membership Subscriptions

The membership subscription for 1987 has been set at DM 55. In order to cover this and to provide for the cost of preparing the newsletter the National Committee resolved to set the 1987 Australian membership subscription rate at \$50, with a late fee of \$10 to be levied on subscriptions outstanding at 1.6.87.

Members are urged to pay their subscriptions promptly as the National Committee has to provide returns of financial members to the international organisation. Members who are not financial may not be included on mailing lists for publications.

The following member's subscriptions for 1986 have not been received:

Bowden, Britten, Dillon, Dyson, Foo, Gerges, Harris, Kalf, Kidd, Laing, McLaughlan, Pearson, Pratt, Prouse, Salama, Salas, Sibernaler, Tickell, Walker, Young.

Treasurer's Report

Income

Balance received from previous Committee	2447.00
25.7.86 (includes 73 subscriptions)	
Subscriptions	1380.00

Expenditure

Subscriptions to IAH:		
75 x 1986 (1.8.86)	2454.88	
2 x 1985	48.90	
8 x 1986 new members	256.73	
September newsletter:		
Postal registration	40.00	
Postage	35.15	
Printing	129.50	
	<hr/>	<hr/>
	2965.16	3827.00
Balance of account on 31.12.86		861.84

There is \$190 owed by members who paid fees of only \$30 after 1.7.86, making a total balance of \$1051.84. Out of this an amount of DM1210 (approx. \$1010) is owed to IAH, leaving an end of year surplus of about \$40.

Federal Water Resources Assistance Program (FWRAP) 1986-87

The reply to Paul Whincup's letter to the Minister is reproduced on pages 6-10.



SENATOR THE HON. GARETH EVANS O.C.

MINISTER FOR RESOURCES AND ENERGY
PARLIAMENT HOUSE
CANBERRA A.C.T. 2600

13 NOV 1986

Mr Paul Whincup
President
International Association
of Hydrogeologists
Australian National Chapter
273 Stirling Street
PERTH WA 6000

Dear Mr Whincup,

I refer to your letter of 3 October 1986 regarding the 1986/87 budget allocation for the Federal Water Resources Assistance Program (FWRAP).

Enclosed is an extract from the attachment to my Budget Press Statement. This provides a breakdown of the 1986/87 budget allocations to the States and the Northern Territory under FWRAP as you have requested.

I also note your disappointment at the Government's decision to withdraw assistance for water resources assessment. You will be aware, however, of the economic circumstances surrounding the framing of this year's Budget. The Treasurer, in the Budget speech, outlined the Government's absolute determination to achieve substantial spending cuts necessary for sound overall economic management and to improve the economic climate for lower interest rates and for private sector investment.

The decision on water resources assessment funding was one of many difficult decisions forced on the Government. All States and the Northern Territory were treated on the same basis.

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'Gareth Evans', written in a cursive style.

GARETH EVANS

For 1986-87, \$69 million will be provided nationally for water resources purposes. In a period when there is a pressing need for expenditure restraint, this allocation representing a \$3.7 million increase over last year's expenditure, demonstrates the Government's commitment to maintain its effort in addressing Australia's more urgent water resources problems.

Of this amount, \$62.6 million will be available to the States and the Northern Territory for approved projects and activities, with most of the remainder being provided for water research activities and to meet the Commonwealth's obligations to the River Murray Commission.

Of particular interest is the allocation for salinity and drainage activity in the Murray-Darling Basin, the provision for the Country Towns Water Supply Improvement Program, and funding for water research activities.

COWSIP

Expenditure to improve the water supplies of small towns under the Country Towns Water Supply Improvement Program (COWSIP) has been more than doubled to \$4 million in 1986/87.

Murray Darling Basin

The Commonwealth is firmly committed to the mitigation of salinity, waterlogging and land degradation problems in the Murray-Darling Basin and has accordingly allocated \$9.9 million for works, investigations and research for this purpose. This includes \$6.5 million to New South Wales, Victoria and South Australia for works and investigations, \$2.236 million for the River Murray Commission's capital and administrative expenses, \$198 000 under the auspices of the recently established

Murray-Darling Basin Ministerial Council for a program of salinity interception investigations, and \$1 million for the Australian Water Research Advisory Council's Murray-Darling Basin Research Initiative - an upgraded and co-ordinated program of water and water related research in the Basin.

Assistance to States

Funds on offer to the States this year under the Commonwealth/State cost-sharing arrangements are:

	\$m
NEW SOUTH WALES	
Murray Valley Salinity and Drainage	2.577
Floodplain Management	2.735
Dungog (Chichester) Water Treatment Plant	5.250
COWSIP	1.196
Water Conservation and Efficiency	<u>0.105</u>
Total	11.863
VICTORIA	
Murray Valley Salinity and Drainage	3.000
Floodplain Management	1.845
COWSIP	0.876
State Water Plan	<u>0.664</u>
Total	6.385

\$m

QUEENSLAND

Burdekin Falls Dam	29.000
Bundaberg Irrigation Scheme	4.000
COWSIP	0.832
Floodplain Management	<u>0.040</u>
Total	33.872

WESTERN AUSTRALIA

Salinity Control	1.175
Floodplain Management	0.406
COWSIP	0.384
State Water Plan	<u>0.080</u>
Total	2.045

SOUTH AUSTRALIA

Adelaide and Northern Towns Water Filtration Program	6.000
Murray Valley Salinity and Drainage	0.932
Floodplain Management	0.488
COWSIP	0.388
Water Conservation and Efficiency	<u>0.043</u>
Total	7.851

TASMANIA

Floodplain Management	0.090
COWSIP	<u>0.232</u>
Total	0.322

\$m

NORTHERN TERRITORY

Floodplain Management	0.116
COWSIP	0.092
Water Management Plan	<u>0.070</u>
Total	0.278

IAH Commission on Mineral and Thermal Waters

Extract of letter from Jan Dowgiallo, Polish Academy of Sciences:

This is to inform you that the IAH Commission on Mineral and Thermal Waters decided at their last meeting, held in the Netherlands in June 1986, to focus their activity on the following problems:

1. Hydrogeothermics, occurrence, origin and resources of thermal waters in Europe and in other regions of the world.
2. Carbon dioxide, occurrence, origin and resources, prospects of new findings.

The introduction of these new items to our working programme by no means excludes the continuation of the previous activities of the Commission, namely:

- guidelines for protection of mineral and thermal waters,
- terms and definitions, and
- mapping of mineral and thermal waters.

We strongly feel that the cooperation of your countrymen could largely improve and stimulate our work. Therefore, I would be grateful if you would kindly suggest one or more Australian members of the IAH, interested and specialized in hydrogeochemistry and/or in hydrogeothermics who would like to cooperate with the Commission. After having got the name(s) with your recommendation and the agreement of the person(s) concerned we shall take the necessary steps to nominate the new member(s) of the Commission.

Note: Nominations for this position should be forwarded to the National Secretary.

Communication from the Dutch National Committee, IAH

In the Netherlands quite a number of institutes, departments, agencies, universities and other organizations are active in the field of hydrology and water management research. Therefore, co-ordination of research activities is essential. To that goal the TNO Committee on Hydrological Research was installed in 1946. On the occasion of its fortieth anniversary in 1986 this Committee has published a booklet which provides an overview of water related information characteristic for the Dutch situation.

Herewith we have the pleasure in sending you a copy of this interesting booklet on behalf of the Dutch members of the International Association of Hydrogeologists.

Note: This publication is available on loan from the National Secretary.

Water Divining

Letters to the Editor in the West Australian Newspaper:

1. If, as you reported on January 5, the Australian Society of Sceptics does not believe that people can divine water, they are not sceptical, they are just plain silly.

Do they think our forefathers wandered around digging wells at random on their farms?

The awareness of water divining is so common among people who spent their lives in the country that one can only wonder why the ASS describes the art as "paranormal".

The first rule of the scientific method is supposed to be observation, and simple observation would show that even moderately good water diviners never dig dry wells.

I have no idea what "tests" ASS uses, but they must be faulty. The simple test of digging a well by hand in a hot summer would soon teach the value of using a diviner instead of digging at random.

HUGH RYAN

Westview Street, Scarborough

2. Hugh Ryan firmly supported the cause of water divining (Letters, Jan 17).

The members of our association, which represents hydrogeologists throughout Australia and most countries of the world, come into contact with water diviners frequently.

There is no doubt that a rod or twig or whatever device used by the diviner reacts to some unknown force, possibly located beneath

the earth's surface. There is also no doubt that when people have explored beneath the surface at divined sites, water is often found.

Does this conclusively mean that the diviner has located water by some mystic power? We think not. In many areas there is more water underground that you can poke a stick at.

Water moves in underground streams only under exceptional and specific geological conditions. In the Perth metropolitan area there is a vast underground lake of water stored in the interstices between the sand grains, moving very slowly toward the ocean or river.

We mean no disrespect to water diviners, who often perform an invaluable service - particularly in areas where the occurrence of water is related to vegetation, topography drainage and soil type. A "successful" diviner in these areas would normally take account of all these factors as would a hydrogeologist.

However all tests, including those undertaken by the Australian Society of Sceptics in NSW in July 1980 and by the ABC in Perth in September 1980, supported by the wide spread experience of our members, lead to the conclusion that underground water is not the trigger which activates the diviner's rod.

PAUL WHINCUP
Australian President,
International Association
of Hydrogeologists Stirling
Street, Perth

BRANCH NEWS

Western Australia

The new committee is as follows:

President	Roger Passmore
Vice President	Richard Martin
Secretary	Marcus Chandler
Meetings	
Secretary	Bob McGowan

Besides our normal technical meetings, a mid-year social event has been planned for members and partners in June, together with a technical seminar in April/May and a field trip.

The proposed technical seminar will take place over four afternoons. The aim of the seminar is to provide an opportunity to discuss various hydrogeological problems faced within the office or field. The topics proposed are listed below and any further suggestions would be gratefully received.

- Computer Modelling
- Pumping Test Analysis
- Pumping Test Procedures
- Monitoring of Pollution Plumes and Groundwater Sampling
- Style of Reporting
- Role of Drilling Supervisor
- Practical Considerations of the Drilling Contract

It is proposed that the afternoon meeting will be divided into 2 sessions, each dealing with one topic and chaired by a specialist from the public or private sector. The success of these seminars depends largely on the support

of the membership and we are keen to hear your comments and suggestions.

Victoria

Minutes of the tenth meeting of the Victorian Branch IAH, held in the Fritz Loewe Lecture Theatre, Department of Geology, School of Earth Sciences, University of Melbourne, 6.30 pm, Tuesday 21 October, 1986.

1. Mr A. Lane opened the meeting and welcomed members and the guest speaker to the tenth meeting. Twenty-eight members were present. Apologies were received from F. Law, G. Walker and C. Lawrence.

2. Minutes of the ninth meeting were confirmed as written.

3. There were no matters arising from the previous minutes.

4. Mr R. Lakey reported on the National Committee. The national newsletter had been recently received. Mr Lakey informed members of a national Education Subcommittee which is soon to be established and sought support from the Victorian Branch. A draft letter regarding membership of the committee will be forwarded soon.

5. Mr Lane reported on a talk by Geoff Pettifer at an informal meeting of the Association of Exploration Geophysicists. Highlights of the talk were the applications of the refraction /reflection techniques to location of bedrock in northern Victoria and the Barwon Downs basin.

6. Elections were held for the position of secretary of the Victorian Branch IAH. The present secretary, Ms Clark has resigned. Mr Lakey nominated Mr P Carney for the

position. The nomination was seconded by Mr L. Murphy. Mr Carney was voted in unopposed.

7. Mr Lakey introduced the guest speaker, Dr A. Arad who gave an interesting talk on the hydrogeology and hydrochemistry of Israel and presented the results of his recent work done as part of the DITR Salinity Investigation on the hydrogeology and hydrochemistry of the Campaspe River Valley.

8. Mr Lane said he was eager for the Victorian Branch members to have more opportunity to listen to visiting speakers and researchers and could arrange informal meetings as necessary.

Correspondence to IAH Victorian Branch can be directed to Mr P. Carney c/- Dept. Industry, Technology and Resources, Mezzanine Floor, 140 Bourke Street, Melbourne.

The next meeting will be held in late January, date to be arranged.

South Australia

Abstracts from a joint meeting between G.S.A. (Engineering Geology Specialist Group), Hydrological Society of S.A. and IAH held at the Aust. Mineral Foundation on 18 September 1986, attended by 60 persons.

Speaker: M.J. Sheard, Groundwater & Engineering Branch, SADME.

Topic: "Adelaide's problem soils revisited"

Earlier versions of Adelaide's Soil Maps included only shallow soil profiles to depths of about 1.5m. Designing the foundations for structures on the Adelaide Plains requires information to much greater depths. Consequently

a joint project involving C.S.I.R.O. Soils Division, Adelaide and S. Aust Department of Mines & Energy - Groundwater and Engineering Branch, began in February 1980 to collect and analyse this information. Continuous soil cores to depths of 10m have been taken from 170 Bench Mark or Type sites. Detailed logging using Geological, Pedological and Engineering methods, coupled with Engineering, Chemical and Mineralogical laboratory tests have been applied to samples from each core. Site selection and sample intervals were chosen to provide a framework upon which more detailed future site specific investigations or extensions (north or south) could be based. This information has been collated into composite (graphic-descriptive-properties) log sheets, one for each site, these will be published with maps, cross-sections and a text as a SADME Bulletin in late 1987. It will provide an aid to pre-development costing and investigations by Councils, Architects, Engineers and Geologists.

Panel: Comprising, Bryan Harris, L. Gladigau, E. Conningham and R. Newman, EWS.

Topic: The Woolpunda Groundwater Interception Scheme.

Salinity has long been recognised as a major water resources management problem along the River Murray. Increases in salinity associated with seepage of saline groundwater into the river have been identified for many years, particularly along the stretch of river extending between Lock 2 (Waikerie) and Lock 3 (Overland Corner).

The purpose of the Wollpunda Scheme is to intercept this saline groundwater seepage by constructing a line of pumping wells on both sides of the river between Waikerie and Overland Corner. The groundwater intercepted by the wells will be disposed by evaporation in a nearby basin.

The project is being investigated by the Engineering and Water Supply Department with assistance from the Department of Mines and Energy.

The presentation focused on the hydrogeological studies and investigations of potential evaporation basin sites.

Northern Territory

A Northern Territory branch was formed in November 1986

John Milne	President
Jon Hall	Secretary/Treasurer
Hayat Qureshi	
Danuta Karp	
Don Pidsley	

With the transfer of John Milne to Thailand, Jon Hall will be acting in his place.

New South Wales

Members are forming a NSW branch. We look forward to receiving your news items for inclusion in future newsletters.

NEWS OF MEMBERS

Alan Deeney, National Secretary, congratulations on the birth of his second son, Iain, on 7 February and to Philip Commander on the birth of his third daughter, Alice, on 8 February.

John Milne, has formed a private consulting firm based in Darwin, his first two year assignment being with the Thai-Australia Village Water Supply Project.

Bill Williamson, Past President, recently returned from a holiday in New Zealand, where he and his wife walked the Milford Track (55 km in 3 days), and is obviously still fit and active.

REPORTS

Australian Water Resources Council Groundwater Committee (AWRC-GC)

The Committee, comprising representatives from a government organisation in each state, met in Mt. Gambier on 26/27 November 1986 and subsequently visited irrigation areas along the SA/VIC border. Points of discussion are summarised below.

Australian Drilling Industry Training Committee (ADITC)

GC viewed an eight minute professionally made video showing the benefit of ADITC driller training courses. ADITC also hopes to run future courses for geologists. It is expected that ADITC, which is presently funded by State Governments, will have to become self financing.

Australian Water Research Advisory Council (AWRAC)

The committee expressed concern about the lack of groundwater expertise on the council and will ask AWRC Standing Committee to make representations.

AWRAC has set up a groundwater advisory committee chaired by Peter Cook of BMR. Currently, its main concern is the Murray-Darling river basin.

Groundwater School 1987

This is to be held at the Australian Mineral Foundation in Adelaide on 23rd August - 5th September.

Workshop on Groundwater Allocation

A workshop on groundwater allocation is to be held in Sydney in October 1987. Participants will be invited and limited to three or four from each state.

Hydrogeological Maps

Guidelines for the preparation of hydrogeological maps produced by the working group were tabled and discussed. Members of GC are each to provide comments to the Chairman prior to finalisation of the document.

Murray-Darling Basin

The Ministerial Council has endorsed a proposal that the joint Commonwealth-State Steering Committee of the Murray Basin Hydrogeological Project consider the preparation of an hydrogeological map. The project has made considerable progress towards a basin-wide analysis of the geology and the preparation of hydrogeological data bases, and it is felt that hydrogeological maps could be very useful in clarifying the dynamic relationship between groundwater and salinity of land and streams, and also in communicating this to the public.

Conference

A proposal is being prepared for consideration by Standing Committee for an international conference with the theme 'Groundwater in large sedimentary basins' to be held in Perth in 1989.

The next meeting of GC is scheduled for October 1987.

CONFERENCES, SYMPOSIA AND MEETINGS

6-9 July 1987 Groundwater Recharge Symposium, Perth.

Contact: Dr M.L. Sharma, CSIRO Division of
Groundwater Research Wembley WA 6014

ANNOUNCEMENTS

National Inventory of Groundwater Contamination Incidents

The A.W.R.C. Groundwater Committee is compiling a national inventory of groundwater contamination incidents as a first step towards examining the seriousness of this problem in Australia. The inventory is intended to form a basis for the identification and review of national needs for aquifer protection measures, technological studies of aquifer rehabilitation, and groundwater quality monitoring networks.

The Committee would appreciate it if groundwater contamination incidents could be brought to its attention. The inventory is being compiled by means of a questionnaire, which is available from Gerry Jacobson, Bureau of Mineral Resources, Box 378, Canberra, 2601 (Tel: 062-499452). Responses to the questionnaire will be kept confidential if requested.

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INTERNATIONAL ASSOCIATION OF HYDROGEOLOGISTS

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DEENEY, MR A

13 SCHACHT COURT
MYAREE

WA 6154 AUSTRALIA