

## GROUNDWATER RESEARCH SUBCOMMITTEE MEETING RECORD

### TIME AND DATE:

3:00 PM, September 28, 2004

### LOCATION:

Building 130, Room 1.102A, at the Bureau of Economic Geology, J. J. Pickle Research Campus, 10100 Burnet Road, Austin, Texas 78758-4445.

### PURPOSE OF MEETING:

Regular business meeting

### AGENCIES/ENTITIES REPRESENTED:

Bureau of Economic Geology [BEG]  
Texas Commission on Environmental Quality [TCEQ]  
Texas Department of Agriculture [TDA]  
Texas Water Development Board [TWDB]  
Texas Water Resources Institute [TWRI]  
United States Geological Survey [USGS]

### ATTENDEES:

Bridget Scanlon	BEG, Co-chair of the GW Research Subcommittee of the TGPC
Allan Jones	TWRI, Co-chair of the GW Research Subcommittee
Radu Boghici	TWDB
Alan Cherepon	TCEQ
Richard Eyster	TDA
Lynne Fahlquist	USGS
Bob Joseph	USGS
Joseph L. Peters	TCEQ
Greg Stanton	USGS
Jim Stefanov	USGS
Steve Walden	Steve Walden Consulting

### MEETING SUMMARY:

Dr. Scanlon gave a brief overview of discussions she and Dr. Jones had since the last meeting. They took the list of research topics prepared for a previous meeting, a aggregation of research topics discussed at previous meetings, and tried to categorize and prioritize them. They also listed potential funding sources and entities that could do the research. They were all categorized as either point source or nonpoint source. Then they were given subcategorization identifiers, which included pesticides, nitrates, arsenic, radio nuclides, perchlorate, and oil field contamination. Identified, also, was needed research in support of the GAM program. These included research on evapotranspiration, recharge, aquifer parameters, and adding water quality

modeling. Subsidence and groundwater/surface water interaction are also topics to consider.

Dr. Scanlon informed the group that during the present meeting it will be necessary to put together some research recommendations for legislative consideration.

Dr. Jones informed us that Frank Fuller of TCEQ was collecting these research recommendations from the subcommittees of the TGPC. These are one-page type descriptions of recommendations. Some of the other subcommittees are recommending things that aren't research, and so we might recommend a research project in an area where there is another recommendation to implement some program.

Bridget informed us that she and Dr. Jones had received a copy of all the recommendations that have been previously submitted. Dr. Jones then went through the list which is as follows.

- \* Expanded funding for groundwater sampling related to GAMs.
- \* Disposal of desalinization reject water in saline aquifers in depleted oil and gas reservoirs
- \* Groundwater quality education programs (This one is from TCE)
- \* Researching alternative water supplies for communities (This one is from TAES)
- \* Groundwater availability model funding [This would be funding for the actual development of the models as apposed to data collection] (This one is from TWDB)
- \* Development of recommendations for on-farm agricultural BMP initiatives through the creation of a water conservation plan program [This would be initiatives to implement BMPs that would protect groundwater.] (This one is from the TSSWCB)
- \* Recommendations for brush control that would increate groundwater yields (This one is from TSSWCB)

Next the discussion advanced to the study of tritium, helium, and radio nuclides in groundwater. The TWDB is doing some occasional tritium sampling in conjunction with their regular state wide ambient monitoring. The USGS has done some tritium, along with pesticides and nitrate.

The discussion then moved to the need of supporting the GAM effort by doing studies to provide better evapotranspiration, recharge, and aquifer parameter information. It was agreed that this type of information is always needed and is especially needed in some areas such as the High Plains, where present information is somewhat underdeveloped. It was decided to develop a recommendation for this effort under a suggested title of "Data Collection to Support GAM". Dr. Scanlon volunteered to write up the recommendation.

Dr. Jones suggested that we also do a recommendation for expanded funding for groundwater sampling. This would be the one discussed earlier involving tritium, helium and radio nuclides

The discussion turned toward nitrates in water and the need to better identify the problem and to distinguish between anthropogenic and natural nitrate. It is the most widespread ion in groundwater and is found in large concentrations in some groundwater. It seems that there have been a number of half-way attempts in the past to get a handle on the problem, but there hasn't

been much attention on it recently. It was decided that Ms. Fahlquist would draft this recommendation. It was suggested that the tritium, helium, and radio nuclide study be combined with the nitrate study.

At this point Dr. Jones introduced the topic of characterization of brackish and saline aquifers (including depleted oil and gas reservoirs). This is from a couple of points of view. (1.) What is the extent and quality of the water in some of these brackish and saline aquifers, from the standpoint of adding to the GAM effort. And (2.) Brackish and saline aquifer characterization from the standpoint of their appropriateness for the disposal of desalinization brine. Presumably, in the near future we will be modeling these just like the fresh water aquifers. There is considerable interest growing in desalinization. Spain already has 900 desalinization facilities of varying sizes and most of the water produced is used in high value agriculture.

Another study from the standpoint of policy is that we need to make sure that it is environmentally safe to dispose of brine in a particular aquifer and that it is easy enough to accomplish legally without going through the Class I permitting process. This one is already being written up by Dr. Jones and is in the editing stage.

The next discussion, introduced by Dr. Jones, concerned adding water quality to the GAM program. The GAM program has gone quite a way in aquifer characterization, but it's time to add the water quality aspect. Dr. Jones informed us that he already had a draft for this recommendation and that he would complete it by the next day.

Mr. Radu Boghici brought up the policy of developing a geologic component along with the recommendation for the characterization of brackish and saline aquifers. It would be useful to further develop the geologic knowledge of these aquifers. It was suggested by Ms. Fahlquist that this component could be titled "Three Dimensional Characterization of Aquifer's – Properties and Geophysics".

Mr. Stefanov suggested that, if all this log analysis work is to be accomplished, in characterizing the brackish and saline aquifers, then the extra effort should be made to digitize the logs and put them into a geospatial database. It was decided that Mr. Stefanov and another volunteer would draft this recommendation.

At this point there was some discussion on the control and the study of the invasive species, salt cedar. There has been considerable work in Texas recently, in studying the water use of salt, as well as actual spraying to eliminate salt cedar in certain riparian areas. Because of the relatedness of the research, it was decided that Dr. Scanlon would add a salt cedar study component (salt cedar evapotranspiration and effects on water balance) into the research recommendation "Data Collection to Support GAM".

The meeting ended at about 4:20 P.M.

**Information Item:** The decision was made at the TGPC meeting that the next meeting date for

the TGPC, the ACS, and the GWRS will be October 21, 2004. The GWRS meeting will take place at 9:00 AM, at the same location (given above).

**Action Items:**

Three research recommendations will be proposed as follows.

1. Data collection to support GAM [Dr. Bridget Scanlon]
2. Nitrate, tritium, helium, and radio nuclide study [Ms. Lynne Fahlquist]
3. Three-Dimensional Characterization of Brackish and Saline Aquifers – Properties and Geophysics [Jim Stefanov]

The following two research recommendations are already in progress by Dr. Allan Jones.

1. Brine and Saline Aquifer Policy
2. Extending GAM to Water Quality

Minutes prepared by Joseph L. Peters, October 20, 2004

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