

TEXAS GROUNDWATER PROTECTION COMMITTEE

RECORD OF MEETING

Second Quarter Meeting, FY 95

Meeting Date: February 21, 1995

Place: Building C, Park 35 Meeting No.: 21 Room: 131E

Committee Members Affiliation

Mary Ambrose, Chair	TNRCC
Bill E. Couch	TAGD
Alan Dutton	BEG
Wayne Jordan	TAES
Wayne Kelley, Alternate	TDA
Phil Nordstrom, Vice Chair	TWDB

Guest Speakers

Susan Hovorka, Bureau of Economic Geology

Rebecca Lambert, U.S. Geological Survey, San Antonio

Agency Staff	Affiliation	Program
Jeffie Barbee	TNRCC	FO Div/Administration
Bob Blodgett	TNRCC	WU Div/Monitoring & Enf.
Donnie Dippel	TDA	
Bruce Lesikar	TAES	
Kitty Malus	TNRCC	WSM Div/Ground-Water Assessment
Anne Miller	TNRCC	PST Div/RP Remediation
Kelly Mills	TNRCC	WSM Div/Ground-Water Assessment
Steve Musick	TNRCC	WSM Div/Ground Water Assessment
Beade Northcut	TSSWCB	
Bart Sims	RRC	
Gary L. Smith	TDH	
Greg Tipple	TNRCC	PC Div/Technical Program Support
Annie Tyrone	TNRCC	WPA Div/Ground-Water Assessment
Steve Wiley	TNRCC	ET Div/Occupation. Certification

Interested Parties Affiliation

Tom Grimshaw	Bureau of Economic Geology
Hilary Hutchison	Brown McCarroll & Oaks Hartline
Kim Montgomery	Baker & Botts

Denise Rhodes
Lloyd Woosley

Consultant
U. S. Geological Society

ITEM I. Call to Order and Introductions

The Chairman called the FY 95, Second Quarter meeting of the Texas Groundwater Protection Committee to order at 2:00 pm in Room 131E, Building C, Park 35 Austin Campus, TNRCC. The Texas Department of Health and the Railroad Commission of Texas were not represented.

ITEM II. Subcommittee Reports

Agricultural Chemicals

The Chairman called on Steve Musick, TNRCC, Chairman of the Agricultural Chemicals Subcommittee to present the Subcommittee's Report. Mr. Musick reported that the Subcommittee met this morning, February 21, 1995, for its second quarter meeting. The Subcommittee heard a presentation by Dr. Don Goss with Blacklands Research Center of the Texas Agricultural Experiment Station on his work in developing a Soil-Pesticide Vulnerability Screening procedure. This screening procedure is under consideration by the Subcommittee for use in the State Management Plan process for determining ground-water vulnerability related to pesticide application. The Subcommittee approved its introductory educational brochure for submittal to this Committee for its consideration and for eventual publication by the TNRCC. The Subcommittee was also updated on the status of the major revisions of the Generic Texas State Management Plan for Agricultural Chemicals in Ground Water currently underway.

Data Management

The Chairman called on Bob Blodgett, TNRCC, Chairman of the Data Management Subcommittee. Mr. Blodgett submitted the Texas Ground-Water Data Dictionary (Handout 1) in its completed form for approval by the Committee. As presented, the only task remaining is to perform minor typesetting to some of the tables for appearance. The Data Dictionary represents the final product of a two year endeavor of the Subcommittee. Mr. Blodgett recommended the Committee publish the Data Dictionary and make it available through the Texas Natural Resource Information System (TNRIS), the TNRCC, and digitally through the internet. He also suggested the Committee make the availability of the Data Dictionary known through several ground-water publications.

Alan Dutton (BEG) moved that the Committee approve the draft as submitted with subsequent typesetting.

Phil Nordstrom (TWDB) seconded the motion. A vote was taken, and the Data Dictionary was accepted pending final typesetting.

ITEM III. Presentations-Status of Edwards Aquifer Research Projects

Susan Hovorka, Bureau of Economic Geology, presented the Bureau's findings from the one year study, Regional Distribution of Permeability in the Edwards Aquifer. The study was conducted for the Edwards Underground Water District, and included the area between the Kyle drainage divide in Hays County to the east, the fresh water/saline water interface to the south, and the Brackettville divide in Kinney County to the west. The purpose of the study was to compile and integrate data quantifying the permeability of the Edwards aquifer. Data components were compiled from: the transmissivity distribution from over 1,000 aquifer tests; matrix permeability from geophysical logs; and formation structure and aquifer thickness from over 1,000 wells.

Based on specific capacity aquifer tests, the transmissivity distribution showed the highest permeability in the deep, confined part of the aquifer, under San Antonio, near the fresh water/saline water interface. Transmissivity generally decreased to the north and to the west. Similar trends were observed for the matrix permeability, being higher under San Antonio and decreasing to the north and west. The confined portion of the aquifer has a much higher hydraulic conductivity than the unconfined portion of the aquifer. It appears conduit development may be due to, or influenced by, fresh water/saline water mixing near the bad water line in the confined aquifer, indicating a strong geochemical control for dissolution.

The vertical distribution of permeability was observed along zones of dolomitization. Zones of dolomite were observed to be of significance importance in conduit development. In addition, significant lateral variation in stratigraphic control of matrix permeability are related to the facies, the amount of dolomite, dolomite dissolution.

Seven outcrops were studied to aid in the interpretation of the relations between fractures, matrix, and conduit development. The outcrops showed the importance of structure where solution zones increased parallel to faulting. It also showed the stratigraphic control of increased transmissivity preferential to, and along, dolomitic beds. Lastly, it indicated that matrix only accounts for a very small percentage of the total hydraulic conductivity.

Large faults are recognized to act as barriers in the aquifer. However, fault parallel fracture systems have a significant influence on the development of karst. The fault systems are not a single, long fault, but are a series of en-echelon faults. As one fault dies out, the next fault picks up, forming relay ramps for permeability. The relay ramps are divided by offset faults.

The findings of the study were: recognition that faults can act as barriers to flow; recognition of the importance of fracture zones and relay ramps, which increase transmissivity in the aquifer and allow connection across faults; the relationship between specific capacity and transmissivity for the aquifer, which reflects both matrix and fracture contributions; and the recognition that permeability is vertically stratified, with higher permeability in dolomitic intervals in both matrix and total permeability. Permeability data (total and matrix) and structure/thickness data was compiled in a digital format for the Edwards Underground Water District.

Rebecca Lambert, U.S. Geological Survey, gave a presentation discussing various projects which have been/are being carried out within the Edwards aquifer.

The USGS studies fall into two categories; cooperative programs and federal programs.

Cooperative programs include hydrologic investigations performed prior to 1970; Phase I programs for data compilation conducted from 1970 to 1976, Phase II programs for data analysis and conceptual model development from 1976 to 1982, Phase III programs for 2D flow and storage models from 1982 to 1986, and Phase IV programs for tectonic history from 1986 to 1994.

Current studies include: Freshwater Zone Research, including quantifying flow paths and mapping of surficial stratigraphic units; Saline Water Zone Research, including data collection, development of a conceptual understanding of the saline water zone, and calibration and verification of the HSTM model. Ongoing projects include the evaluation of best management practices in Seco Creek, the Medina Lake Study, and the data collection program of collecting streamflow data for recharge and discharge.

A wish list for future projects, not funded to date, includes; continuation of 3D mapping in the recharge zone, calibration and verification of the 3D model, further analysis/modeling of the fresh/saline water interface, verification of the Knippa Gap and the effects on regional ground-water flow, characterization and evaluation of the effects of urbanization on recharge to ground-water quantity and quality, development of aquifer capability (vulnerability) maps, and development of real-time estimates of recharge to the aquifer.

Phil Nordstrom asked how the South Central NAWQA fit in. Ms. Lambert said additional data needed to be collected and a better database needed to be developed.

ITEM IV. Information Exchange for Ground-Water Related Activities

Implementation of TNRCC Risk Reduction Rules

The Chair called on Greg Tipple, TNRCC, Pollution Cleanup Division, to discuss the Risk Reduction Rules. The Committee's Ground-Water Classification System has been incorporated into rules of the industrial solid waste program of the Industrial and Hazardous Waste Division and the Pollution Cleanup Division of the TNRCC for closures and remediations of hazardous and non-hazardous waste sites and areas of contamination (Handout 2).

The rules, known informally as the Risk Reduction Rules, were promulgated in Title 30 Texas Administrative Code Chapter 335, Subchapters A and S, with an effective date of June 28, 1993. These rules specify three risk reduction standards or levels of cleanup for contaminated media including ground water. Standard 1 calls for cleanup to background conditions regardless of the ground-water classification. Standards 2 and 3 allow for consideration of the potential use of ground water as a human drinking water resource based on Total Dissolved Solids (TDS) concentration. Cleanup levels are initially based on human health criteria or promulgated drinking water standards for ground water with a background TDS concentration less than 10,000 milligrams per liter, consistent with the classification.

Other considerations specified in the rules can adjust these levels, taking into account ecological

impacts or ingestion rates reflecting residential or industrial exposure. For example, the point of exposure where ground water would be pumped from a well, is set at the waste unit for Standard 2 but can be varied for Standard 3. Standard 2 utilizes a multiplier of 100 times the drinking water standard to set a maximum level, subject to other limitations. Standard 3 utilizes an alternate concentration limit determined by site specific considerations.

In both Standards 2 and 3, phase separated liquids such as gasoline must be removed or decontaminated to the extent practicable and effects of contaminant migration to surface water or other drinkable ground-water resources must be evaluated. If the salinity of the ground water exceeds the TDS threshold, cleanup levels are based on criteria other than human health protection.

Comprehensive State Ground-Water Protection Program (CSGWPP)

Steve Musick indicated that there has been renewed interest at EPA, both at the national level and at Region VI level, in encouraging states to develop comprehensive state ground-water plans. Recently the Ground-Water Stakeholder's Conference was held in Washington, DC, in December 1994. Five regions submitted and four have been approved. EPA has promised that if these Core Program Assessments are developed and steps are taken towards developing the fully integrated program, EPA will then negotiate and provide flexibility in some of the EPA programs. No state has actually gone that far yet. However, there is a lot of interest from EPA in regional conferences, for us to be thinking about a wish list. There might come a time when our program is presented to EPA for approval and negotiations begun for a wish list for EPA flexibility in state programs. There is no real guidance on this but taking them at their word it seems a wide open field is being offered.

At Region VI, there is also renewed interest in CSGWPP as a direct result of renewed interest in Washington. Within the last six months everyone seems to have become fired up about it.

Our core program has been reviewed, comments have been prepared and it is going through their gristmill and should be on the way to us soon.

These issues will need to be brought before the Committee certainly at the next meeting. It should be worthwhile to look into this; both to address any comments EPA might have on our Core Program Assessment and also, being prepared to come up with our wish list of things we would like EPA to do for us in return for our commitment to a comprehensive program.

The states so far that have approved Core Program Assessments are: Alabama, Wisconsin, and New Hampshire.

Bill Couch stated that he would be interested a list of the federal programs potentially delegated to the state.

Steve indicated that at this time there are no guidelines as to what that means. Underground Injection Control; a large portion of RCRA; Drinking Water Program, and Municipal Solid Waste have been delegated.

The Chair requested that upon receipt of the letter on our Core Program, Mr. Musick send it to the Committee along with a copy of the Core Program Assessment.

Water Well Pump Installers Program

The Chair called on Steve Wiley, TNRCC, to discuss the pump installers program. Mr. Wiley indicated that the pump installer rules are moving right along and should be published for the first time in the Texas Register in March 1995. The next meeting of the Water Well Drillers Advisory Group will be March 30, 1995 and Mary Ambrose is on the agenda for that meeting.

State FIFRA Regulators (SFIREG) Meeting Update

The Chair distributed Handout 3, Executive Summary from The Strategy for Improving Water-Quality Monitoring in the United States, and led a discussion on EPA's comments received during the State FIFRA Workgroup. The majority of the comments were on the pre-draft State Management Plan rule in three major areas: the insufficiency of the 21 month time-frame, the required publication in the Federal Register for public comment, and the removal of flexibility from the preamble. At the current time, it is unknown if the State Management Plan (SMP) will be affected by the unfunded mandate issue and the moratorium on rules being addressed in Washington. Restricted Use Rules due to ground-water criteria and second un proposed rule and designation of about 24 compounds, including four in the SMP was discussed. The final Criteria Rule and the proposed Designation Rule should be out in late spring. Amber registration was approved by EPA with strong product stewardship rather than an SMP and retrospective study of regional ground-water sampling.

1994 Joint Groundwater Monitoring and Contamination Report

The Chair called on Kelly Mills, TNRCC to discuss the Committee's 1994 Joint Report. Mr. Mills reported that the deadline for materials submittal was January 31, and to date, not all of the program descriptions and tables had been received. He then gave a tentative schedule for the production and publication of the report. The milestone date to have the final product to the TNRCC Printshop for publication was reported as April 10.

Mr. Mills asked the Committee for volunteers to proof the report. There were no volunteers from the Committee. He asked for suggestions on improving the process of coordination and data collection for the report materials. None were offered.

Committee's Legislative Report

The Chair called on Mr. Mills to discuss the distribution of the Committee's report Activities of the Texas Groundwater Protection Committee, Report to the 74th Legislature. The report was published in December 1994 (TNRCC Report SFR-14). Mr. Mills reported that the report was sent to Governor Bush, Lt. Governor Bullock, Speaker Laney, and the Legislative Library on January 6th. In addition, eleven copies of the report were forwarded on January 6th to Senator Bill Sims, Chairman of the Senate Natural Resources Committee, for distribution to the

Committee. Nine copies of the report were forwarded on February 1st to Representative David Counts, Chairman of the House Natural Resources Committee, for distribution to the Committee. The report was sent in a mailout to the Committee members, agency staff, interested parties, and the members of the Texas Alliance of Groundwater Districts on February 9th.

The Chair asked Mr. Mills to discuss the TNRCC's report Underground Water Conservation Districts, Report to the 74th Legislature. The report was published in January 1995 (TNRCC Report SFR-13). It is a legislatively mandated biennial report discussing the activities of groundwater conservation district, with the main emphasis on the activities of districts created during the previous legislative session. The report also discussed annexations to existing districts, cooperative efforts between existing districts and the TNRCC, petitions for district creation to the TNRCC, activities occurring within underground water management areas, and activities occurring in designated critical areas. Mr. Mills provided a copy of the report for each member of the Committee.

Committee's Educational Brochure

The Chair called on Mr. Musick to discuss distribution of the Committee's Educational Brochure. The brochure has been distributed to the Agriculture Chemicals Subcommittee members; the Texas Groundwater Protection Committee Members (with additional copies to TDA); TNRCC Public Outreach; TNRCC Publications and Library; TNRCC Office of the Ombudsman; EPA Region VI; and will be available at the '95 TNRCC Environmental Trade Fair. Mr. Musick encouraged the members to make the brochure available during presentations and when sponsoring information booths. He also asked the members to share the brochure with their public information people.

ITEM V. Business

Discussion

Committee Public Education Outreach Efforts - Abandoned Water Wells

The Chair provided Handout 4, Plugging Abandoned Water Wells, which gave an overview of the Kansas Farm Bureau's public education program. A discussion was led by the Chair for the development of an educational initiative for state agencies to focus on the plugging and/or capping of abandoned water wells. The proposed program could be developed with the Kansas program serving as a guide. In addition, the Chair has requested additional information on the Kansas program from the Kansas Farm Bureau.

The Chair, Phil Nordstrom (TWDB), and Steve Wiley (TNRCC Water Well Drillers Team) discussed the possibility of arranging an actual well plugging demonstration for the Committee.

Bill Couch (TAGD) stated that the High Plains Underground Water Conservation District No. 1 has produced a well plugging video, which could also be available to the Committee.

Alan Dutton (BEG) said that in Ellis County, about nine abandoned wells per square mile were

inventoried by the Bureau in conjunction with its Superconducting Super Collider Study.

The discussion of this item is to be continued at the next meeting of the Committee. The Chair is scheduled to speak on the subject at the next meeting of the Water Well Drillers Advisory Council.

Discussion and Possible Action

Creation/Formalization of Nonpoint Source Subcommittee

The Chair called on Margaret Hart, TNRCC. Ms. Hart discussed five reasons for forming a formal nonpoint source (NPS) subcommittee which included: NPS management, NPS assessment, NPS effectiveness, NPS grant cycle, and the reauthorization of the Clean Water Act. Ms. Hart stressed that EPA wants improved interagency coordination, cooperation, and participation with regard to the State NPS Assessment Report and the State NPS Management Plan. Ms. Hart proposed the group be charged with coordinating and communicating on ground-water NPS issues in the State. She proposed the duties of the group might include updating the reports and holding an annual workshop/meeting to discuss progress on NPS in Texas, with the designated lead being responsible for planning an annual workshop where the assessment, management, and planning would be worked out for the next year.

Beade Northcut (TSSWCB), Bill Couch (TAGD), and Phil Nordstrom (TWDB), expressed an interest in having a NPS subcommittee. Ms. Hart commented that all of the Committee members agencies have NPS interests. The Chair asked the Committee if it wanted to form a NPS Subcommittee. Phil Nordstrom moved to form a NPS Subcommittee. Alan Dutton (BEG) seconded the motion. A vote was taken, and the motion passed, forming the Ground-Water Nonpoint Source Subcommittee.

Education Brochure for the Texas State Management Plan for Agricultural Chemicals in Ground Water

The Chair called on Steve Musick to discuss the SMP Educational Brochure. Mr. Musick presented a final copy of the brochure (Handout 6) to the Committee members for approval. The Chair noted the intended audience of the brochure was growers, producers, and the general public. Dr. Wayne Jordan (TAES) moved to approve the brochure and initiate publication efforts. Phil Nordstrom seconded the motion. A vote was taken, and the motion passed to accept the brochure and initiate publication efforts.

ITEM VI. Announcements

Steve Musick announced the EPA Small Scale Ground-Water Monitoring Workshop to be held March 16 and 17 in Arlington, Virginia, immediately following the SFIREG meeting.

Mr. Musick announced the Semi-Annual Winter Meeting of the Ground-Water Protection Council in Washington D.C.

Mr. Musick announced the U.S. EPA Watershed Success Conference in Region VI. This will be held in New Orleans, April 18 - 20 at the Le Meridien. The conference goal is to highlight the watershed protection approach to meeting water quality goals, especially the identification of all priority problems in the watershed and forging partnerships with all parties who have a stake or interest in implementing solutions. It should provide participants with new knowledge of the full range of methods and tools available for a coordinated multiple organization approach to problems with special emphasis on the analysis and solutions that are already bringing success to ongoing watershed projects in Region VI. The conference is designed to encourage watershed management, address significant problems in watersheds and to show how the resources and expertise of multiple agencies can be used to protect and restore water quality.

Concurrent Session Topics are:

- Integrating Federal and State Watershed Activities
- The TMDL Process
- Federal, State, and Local Coordination
- Using the Watershed Approach in the Nonpoint Source Program
- Basin Planning for NPDES Permitting
- Tribal Water Quality Planning
- Addressing Ground Water in the Watershed Approach
- Enforcement as a Watershed Catalyst
- The Stormwater Program and Watershed Protection
- International/Interstate Watershed Issues
- Wetlands Issues and Watershed Protection
- The Clean Lakes Program - Watershed Success Stories.

Mr. Musick announced the TNRCC's Environmental Trade Fair '95, scheduled for May 10 - 12, at the Austin Convention Center, Caesar Chavez & Trinity. For more information call:

Diane Burnitt, TNRCC, 512/239-6322
Richard Craig, TNRCC, 512/239-6328
Leroy Killough, TNRCC, 512/239-2202

Phil Nordstrom announced three new publications of the TWDB:

Ground-Water Data System Data Dictionary, Revised August 1991 (TWDB Users Manual UM-50);
A Field Manual of Ground-Water Sampling, Revised May 1991 (TWDB Users Manual UM-51);
and Ground-Water Resources of Bone Springs, Victoria Peak Aquifer in the Delvalle Area of Texas, (TWDB Report 344)

ITEM VII. Public Comment

There was no public comment.

ITEM VIII. Adjourn

There being no other business or discussion, the Chair adjourned the meeting at 4:27 p.m.

Compiled by Steve Musick, Ground-Water Assessment Section, TNRCC