

## AGRICULTURAL CHEMICALS SUBCOMMITTEE MEETING RECORD

### TIME AND DATE:

10:00 AM, January 23, 2003

### LOCATION:

TCEQ, Park 35, Building F, Room 2210, Austin, Texas

### PURPOSE OF MEETING:

The FY03 Second Quarter Meeting of the Agricultural Chemicals Subcommittee of the Texas Groundwater Protection Committee.

### ATTENDEES:

#### AGENCIES

Texas Department of Agriculture [TDA]  
Texas Commission on Environmental Quality [TCEQ]  
Texas Water Development Board [TWDB]  
Texas Alliance of Groundwater Districts [TAGD]  
Texas Structural Pest Control Board [TSPCB]  
Texas State Soil & Water Conservation Board [TSSWCB]  
Texas Cooperative Extension [TCE]  
Texas Agricultural Experiment Station [TAES]

#### REPRESENTATIVES

|                 |                               |
|-----------------|-------------------------------|
| Steve Musick    | Chair, Member, TCEQ, Austin   |
| Ambrose Charles | Member, TDA, Austin           |
| Janie Hopkins   | Member, TWDB, Austin          |
| Barry Miller    | Member, TAGD, Gonzales        |
| Murray Walton   | Member, TSPCB, Austin         |
| Donna Long      | Member, TSSWCB, Temple        |
| Bruce Lesikar   | Member, TCE, College Station  |
| C. Allan Jones  | Member, TAES, College Station |

#### AGENCY STAFF

|                 |              |
|-----------------|--------------|
| Jeanette O'Hare | TDA, Austin  |
| Joe Peters      | TCEQ, Austin |
| Alan Cherepon   | TCEQ, Austin |
| Ann Ardis       | USGS, Austin |
| Abiy Berehe     | TCEQ, Austin |
| John Lich       | TCEQ, Austin |

## INTERESTED PARTIES

Ed Baker

Syngenta Crop Protection, Mineola

### MEETING SUMMARY:

#### I. Opening Remarks

The Chairman of the Agricultural Chemicals Subcommittee, Mr. Steve Musick (TCEQ), called the meeting to order. He then welcomed everyone to the meeting, and asked the subcommittee members to introduce themselves. All Subcommittee members were in attendance. Dr. Ambrose Charles represented TDA. TDA's previous representative, Mr. Donnie Dippel, has left the agency. After these preliminaries, Mr. Musick proceeded to the Task Force Reports.

#### II Task Force Reports

**Site Selection Task Force:** The Task Force Chair, Ms. Janie Hopkins (TWDB), provided a brief overview of the SSTF meeting held immediately after the DEITF on 1/17/03. An outline was provided by TCEQ on what monitoring and investigative activities were to be attempted this fiscal year, and who the likely responsible parties would be to conduct this work. Ms. Hopkins briefly summarized the TWDB cooperative monitoring in the Carrizo-Wilcox and Yegua-Jackson, Sparta-Laredo, and Queen City aquifers during the 2002 fiscal year. The TWDB will continue cooperative monitoring through 2003 as the top priority of the FY03 cooperative monitoring plan. Specific work will be in the Trinity and Edwards-Trinity aquifers, with about 350 more samples estimated for each of these aquifers. The High Plains Underground Water Conservation District #1 will also contribute an estimated 150 samples this year, and the North Plains Groundwater Conservation District should also contribute additional samples in the far northern reaches of the Panhandle. The various sampling should complete the ambient screening of most of the state aquifers for atrazine and metolachlor.

As a continuation of the Site Selection Task Force Report, Mr. Alan Cherepon (TCEQ) provided a handout summarizing the cooperative monitoring activities in the 2002 fiscal year, specifically related to immunoassay analytical results. The full presentation was made later in the meeting under a separate item below. TCEQ will try to fit in one sampling/investigative trip to the Panhandle region this fiscal year. This trip will need to accomplish several items on the monitoring plan. The detects in Dumas, Freshwater Supply system (Hereford), Wildorado PWS (Oldham Co.), Lubbock PWS system, Amarillo PWS system, and Pioneer Hi-Bred (Plainview) will all be attempted during this trip. Additionally, the PWS systems at Snyder and Roscoe will be sampled on the drive up to the Panhandle. Two other detects closer to Austin will likely be sampled as day trips from the Austin headquarters. Mr. Musick fielded several questions regarding the cooperative monitoring program. His first question was whether the Fresh Water Supply system was the same as the city of Hereford system. Mr. Cherepon answered that it was not. It appears to be in a small subdivision situated between the spill site and PWS well 19 in Hereford. The re-sampling of wells with previous

detects in the Panhandle region will either be performed by the Underground Water Conservation Districts, or the wells may not be re-sampled this year. Mr. Cherepon also said he doubted any of wells with older detects in the Interagency Pesticide Database would be re-sampled this year. Mr. Musick asked about total well sample estimates for the year. Ms. Hopkins said they expect to collect about 700 samples, but since they have lost one field employee, the total could be less. The TWDB is trying to transition their aquifer monitoring program to the point where the groundwater districts would be collecting most of the samples in the future.

**Education Task Force:** The Task Force Chair Dr. Bruce Lesikar (TCE), had several educational activities to report to the Subcommittee. The activities conducted by the TCE included four water quality meetings held in nine counties. The counties mostly covered the Panhandle and Central Texas regions. Presentations addressed wellhead protection, including the handling, mixing, and application of pesticides. Additionally, they conducted domestic water well sampling in five Panhandle counties, and Webb County. Their final educational activity was addressing water quantity issues to several groundwater districts.

**The BMP Task Force:** The Task Force Chair, Dr. Joe Peters (TCEQ), said there was nothing new to address. The contract between TCEQ and TCE is still being developed. It will address the development of BMP educational materials and educational activities for areas where pesticide groundwater contamination has been found.

**State Management Plan Task Force:** The Task Force Chair, Dr. Ambrose Charles (TDA), had nothing new to report.

**Data Evaluation and Interpretation Task Force (DEITF):** The Task Force Chair, Dr. Allan Jones (TAES), mentioned the task force met on 1/17/03 to review, discuss, and address the charges to the task force, with accompanying data/investigation reports for Plainview and Hereford, which will be presented and discussed as the next agenda item.

### **III. Business Items for Discussion and Possible Action**

- **Plainview and Hereford Data/Report Referrals to DEITF**

Mr. Cherepon (TCEQ) provided a handout and brief summary of the 1/17/03 DEITF meeting that addressed the charge and investigation reports referred to the DEITF for evaluation and interpretation. The items evaluated were the probable sources of atrazine detected in specific wells in the Plainview and Hereford PWS systems. The purpose is to provide enough information to allow the Subcommittee to decide whether to accept the DEITF's decision regarding the findings and interpretations outlined in these two reports and the recommendations of how to best address the contamination issues. Atrazine was initially discovered in both systems in 1999. Since then, several years of monitoring and investigation have been completed, with the reports and referrals to the DEITF being made at the previous ACS meeting in October.

The Plainview PWS system was addressed first. This system has one area of impact, primarily centered around Well 16. The first sample from this well analyzed by laboratory method was above the MCL for atrazine. Follow-up samples from the well have consistently tested relatively high for atrazine. Since the initial discovery of atrazine contamination, the well has been taken out of service. The atrazine concentrations have dropped to about 1 ppb by immunoassay analysis, and 0.17 ppb by lab analysis. During the investigation, wells in the vicinity of well 16 were also sampled. Several monitoring wells were discovered, related to a leaking underground storage tank at the adjacent Hale County Airport. All the monitoring wells at the airport tested positive for atrazine using immunoassay analysis. An isoconcentration map was developed for the site. The isoconcentration lines indicate that the highest concentrations for both atrazine and metolachlor are in the vicinity of the fuel pump island and the aerial applicator office. The data strongly indicates the airport as the source of contamination in PWS well 16. Atrazine detections were confirmed by lab analyses from three different labs (LCRA, Syngenta, and USGS).

Interviews of individuals with knowledge of past pesticide application activities in the area included two individuals who recalled an alleged atrazine-related spill at the Hale County Airport. This is to have occurred around 1975, at the aerial applicator area, on the north side of the airport. Aerial applicator operations existed during this time and up into the early 1980s, including several transient applicators which used the airport facility for short periods of time. One applicator said there was a mixing pad where the existing above-ground storage tank area is located. The area drains to an adjacent drainage ditch that funnels runoff to the vicinity of PWS well 16. This pad is where applicators would mix, load, and wash out equipment.

There was one question from Mr. Baker (Syngenta) about atrazine half-life, and whether atrazine from a spill in 1975 would still be detectable, and how the atrazine would have migrated into the water table. Atrazine degradation in groundwater is not well understood. At Plainview the atrazine most likely migrated from the surface to the water table by traveling down the well casing of an older well, or it was possibly brought down to the water table when the monitoring wells were installed. Since the hydrocarbons from the leaking tank migrated to the water table, it must be assumed that the pesticides would have migrated from surface to the water table, at the airport, and most likely by percolating down through the soils and formations.

Recommendations include the annual monitoring of wells 16, 17, the POE, and the airport monitoring wells (if possible). Since the pesticide plume at the airport has co-mingled with the hydrocarbon fuel related to the former leaking underground storage tank, the site has been passed on to TCEQ's Corrective Action Section.

Questions followed. Mr. Musick asked what sampling efforts have been employed to locate non-point sources related to agricultural application in the area. Mr. Cherepon said that the TCEQ PDWS monitors all POEs in the system, with the one by the airport having the only confirmed detect of atrazine for groundwater. All nearby wells have been identified and sampled (PWS wells 17 and 18, two cemetery wells, and the 14 monitoring wells at the airport). Only the airport wells have detected any appreciable amount of atrazine. Mr. Musick asked if there was any significant

agricultural production nearby. Mr. Cherepon said there wasn't, only some cropland further to the west, which appears to be used for hay, cotton, or wheat. The nearest well to the agricultural activity (PWS well 18) has had no detects. The next question was whether a literature search on atrazine half-life has turned up anything. The answer was that not much was available on groundwater conditions, but quite a bit on surface water. Another question arose as to whether dilution or actual half-life was being addressed. Mr. Baker commented that he was uneasy about an earlier comment made about the half-life of atrazine in groundwater possibly being decades long, as it is typically referred to as months in length. Mr. Cherepon said that earlier conversation was actually addressing dilution/concentration rather than half-life, in reference to atrazine detections 20 to 30 years after a known or suspected release. Ann Ardis (USGS) commented that when addressing the half-life for atrazine one must also be cognizant of the resultant degradates, which can also be present for long periods of time and be just as potentially harmful as the parent compound. Mr. Cherepon commented that degradates are present, but they appear to have a half-life of more than six months. Someone commented that just because atrazine is detectable 10 or 20 years after a spill or activity doesn't mean the half-life is that long, but rather, that this is more likely an indication of initial high concentration and unfavorable conditions. Ms. O'Hare (TDA) noted that EPA's draft assessment indicates a half-life of about 2 years for atrazine. There is a wide range of half-life for atrazine in the subsurface, based on conditions. Ms. Ardis asked if there was any possibility for conducting age-dating analysis on the samples. The answer was that with the expense of such analyses, and considering the limited budget, it is doubtful that this analysis would be performed.

Mr. Musick asked about the mention of propazine detections in the meeting summary of the DEITF final report and recommendations. Mr. Cherepon said that propazine was only detected in the final round of samples collected in July. The samples were sent to two labs. A USGS lab was to analyze for degradates and other triazines that might interfere with immunoassay analysis for atrazine. The LCRA lab conducted standard EPA Method 525 analysis for pesticides in drinking water. These labs used two different methods, with LCRA not analyzing for propazine or degradates. Mr. Cherepon said we haven't sampled the airport wells before by the method employed by the USGS lab. One other chemical was also detected; pentachlorophenol at 174 ppb, in MW 13. This was the first detection of PCP, and will require re-sampling for confirmation.

The Hereford report was covered next. The Hereford PWS system has atrazine impacting three areas. The first is a former aerial applicator airfield and hangar, with the well nearest the hangar having the highest atrazine concentrations of any well in the PWS system. The second is a area, where there was a known former atrazine spill, along Tierra Blanca Creek. The spill occurred in 1985, and all wells adjacent to and down stream from the spill have confirmed atrazine detects. The concentrations are not very high, and the spill is the most likely source of contamination. The third area is upstream (west) of the spill, near well 19 and the creek. The source for the third area is a little more difficult to interpret and identify.

The first two areas were assessed to be point sources, while the third area is yet undecided. All detects are below the MCL, so the DEITF decided to accept the reports as presented, with the following changes. (1) Add the well capture zone maps and interpretations. (2) Provide a more detailed discussion on the PSOCs for the well 19 area. (3) Recommend annual monitoring of the

wells and POEs with higher atrazine detects.

A time for questions followed. Mr. Miller asked whether we knew where the excavated atrazine contaminated soils were disposed, following the remediation of the atrazine spill. Mr. Cherepon said that he didn't have that information, as no file actually exists on this site. The spill has clearly happened, as three separate sources have provided information about it. Mr. Musick asked how we eliminated upstream agricultural use of atrazine. Samples were collected from all PWS wells in the area near well 19, with many of these wells being upstream of well 19. These wells either tested very low or non-detect for atrazine. The only other activity in the area is a sugar plant, who's plant manager, when interviewed by TCEQ staff, reported no atrazine use. There is also a meat packing plant and yard nearby, with a series of settling lagoons leading down to the creek to remove solids prior to discharge of waste water into the creek. The other PWS wells in the area should have detected atrazine from these PSOCs if they had been the source. Mr. Musick asked about agricultural use of atrazine in the area of the former applicator airport. There are three PWS wells in the area. Concentrations are much higher in the well nearest the former applicator hangar. Also, two or three wells were sampled to the NE of this area. None of these domestic wells had any detection of atrazine.

Mr. Musick asked if there was enough evidence to determine this is a point source condition at the former airport? Dr. Jones commented there is not as much data for this airport as the one in Plainview, and it would require more extensive and expensive work to come to a more positive conclusion. The well nearest the former aerial applicator site has consistently had the highest atrazine detects. Mr. Musick asked if there were any other comments, questions, or recommendations. He noted these two sites don't appear to be that similar to Friona, and would likely have different recommendations. Dr. Lesikar said we should use the findings in educational programs for users as a demonstration of what can and does happen when pesticides are not handled properly. These are good concrete reasons why they should have back-flow preventors, and handle pesticides according to labels. They also indicate we may not have a standard half-life situation. Dr. Jones added we should continue with annual monitoring. Unless we can locate other nearby wells to better delineate plume and source, we wouldn't gain much by additional work. Mr. Cherepon's work indicates he's located wells appropriately. Mr. Baker added that Dr. Lesikar's comments seem correct. Manufacturers are requiring that bulk pesticide facilities be diked. These incidents appear to have happened 10 or more years ago, and we are probably getting the results of some of the problems of the past. Dr. Jones said that less atrazine is being used today, as crop patterns are changing in the area, and this should lead to less of a problem today than in the past. Mr. Musick asked Mr. Baker if all manufacturers are requiring diking of bulk pesticide facilities. He replied, this is not really required, but Syngenta has warehousing programs to store pesticides nearer to the use points, and these need to be diked before they will deliver pesticides to them. He also thinks most manufacturers are also going in this direction. Dr. Lesikar noted that these investigations allow their use as case studies in future education programs, not to show what could happen as a hypothetical case, but what actually does happen. These examples should have a greater impact on applicators to get them to change their practices. Dr. Charles added they are an argument for awareness when pesticide applicators are being inspected.

Mr. Musick asked if there were any further comments. There were none. He next asked for formal adoption of the reports and recommendations. Mr. Musick asked Mr. Cherepon to make the changes and additions discussed, to add the recommendations, highlighting possible BMPs, and to prepare as a summary report, if this is agreeable to Dr. Jones. It was, and Mr. Baker said to add diking of pads and work areas under the BMPs. Mr. Musick said to also check and see if there were any other BMPs that would be appropriate. The instructions were to revise the reports, write up a shorter summary report with recommendations, and to distribute them to the subcommittee members when done.

- **Summary and Presentation of FY02 Cooperative Monitoring Activities**

Mr. Cherepon (TCEQ) provided a slide handout, summary report, and presentation of groundwater monitoring accomplishments relative to the ACS FY02 Cooperative Monitoring activities. Items addressed in the presentation were as follows:

- ▶ An overview of pesticide monitoring of groundwater including the types of monitoring in the PMP program, and the active ambient groundwater monitoring programs in Texas
- ▶ Aquifers sampled and well locations of wells sampled (Carrizo-Wilcox/Queen City-Sparta/Yegua-Jackson and early FY02 aquifers - West Texas/Hill Country/Seymour-Blaine/Woodbine-Nacatoch, and the northern High Plains aquifers)
- ▶ The previous 2 years monitoring totaled 1041 well samples, FY02 had 541 well samples for an average of over 500 well samples per year for atrazine and metolachlor by immunoassay analyses
- ▶ The cooperative monitoring of the Carrizo-Wilcox, etc., resulted in 541 well samples and 72 QA/QC samples in an 86 county area. There were 14 atrazine detects between 0.05 and 0.7 ppb, and 14 metolachlor detects, all but 2 at < 0.3 ppb.
- ▶ Most detects were in high use areas but not vulnerable areas. The fell within a zone primarily between central Texas and the Louisiana border. Four detects were in the northern Panhandle.

Dr. Jones asked whether most wells are irrigation wells or PWS wells. Ms. Hopkins said over half are irrigation wells. Out of the 22 cooperative program detects over 0.3 ppb in the Panhandle, about 6 to 10 of these were PWS wells. Mr. Musick asked if there is any NAWQA data from USGS for this area. Ms. Ardis said there was, but Mr. Cherepon added that this was a report on cooperative efforts, not all groundwater sampling data from all sources. There were no further questions or comments.

#### **IV. Public Comments**

There were no public comments made at this meeting.

#### **V. Announcements**

Mr. Musick asked Mr. Walton how the TSPCB's sampling of Austin springs was going. He said they didn't have any detects that were appreciable.

Mr. Miller said there were lots of new groundwater districts, and as soon as they get better established, they would likely provide more cooperation in sampling. However, with the budgetary issues facing this Legislative session, they will have to see how the budget plays out.

Ms. Long announced the Brush Control Manual is now available through the TSSWCB website, where anyone wanting one can order it at the site. Another manual is also available, the CNNP Technical Guide.

Dr. Lesikar said the TCE had several groundwater meetings going on at present and on into next week. One such meeting addresses the details of being an elected official, and will be held at the Texas Ground Water Association conference in Corpus Christi from 1/29-31/03. The others will take place in April/May, and address groundwater management.

Mr. Walton said that EPA has an open-comments period on endangered species and how this affects what products can be used. This occurred in a recent Federal Register.

The decision was made by the Texas Groundwater Protection Committee during their 01/23/03 meeting that the FY03 third quarter meeting of the Texas Groundwater Protection Committee will be on April 10, 2003, at 1:00 PM, in the TCEQ Bldg. F Conference Room 2210. The Agricultural Chemicals Subcommittee will tentatively take place on the same day at 10AM, in room 3202A, Third Floor, Building F.

## **VI. Adjournment**

Recorded and transcribed by Alan Cherepon.

### **Attachments**

DEITF meeting summary on Plainview & Hereford Investigation & Referral Reports  
FY03 Proposed Monitoring Plan  
FY02 Cooperative Monitoring Summary and presentation handout of slides

## **ATTACHMENTS**