



Meeting Notes

Thursday, April 14, 2005

9:00 a.m. – 4:00 p.m.

Cornhusker Hotel, Lincoln, Nebraska

Attending: Daryl Andersen, Little Blue Natural Resources District (NRD); Deana Barger, Nebraska Department of Environmental Quality (NDEQ); Susie Berlowitz, Nebraska Department of Natural Resources (NDNR); Leah Bomberger, NDEQ; Pam Bonebright, NDNR; Steve Buller, NDNR; Neal Chandler, Chandler Well Service; William Christensen, Christensen Well & Irrigation, Inc.; Tom Christopherson, Nebraska Health & Human Services System, Regulation & Licensure (NHHSS R&L); Dave Dietze, Waverly Plumbing & Well Drilling Co.; Mike Dietze, Waverly Plumbing & Well Drilling Co.; Dick Ehrman, Nebraska Association of Resources Districts; Wendy Evans, NDNR; Lavern Fischer, Lavern's Plumbing & Well Repair; Ramona Fischer, Lavern's Plumbing & Well Repair; Ellen Hartman, NDEQ; Neil Hendricks, Badgley Well Service; Rachael Herpel, The Groundwater Foundation (TGF); Richard Holloway, Tri-Basin NRD; Troy Huffman, NHHSS R&L; Mervin Hurtig, Hurtig Well Service; Bill Johnson, J2WELL; Terry Jordan, ITT Inc.; John Keith, Lincoln Water System; Cindy Kreifels, TGF; David Lathrop, City of Seward; Wade Lewis, Holly Well Co.; Marty Link, NDEQ; Fred Marx, Marx Well Drilling, Inc.; David Miesbach, NDEQ; Jennifer Nelson, TGF; Lee Orton, Nebraska Well Drillers Association; Doug Passmore, Wm. D. Anderson Co. & Assoc.; Terry Philippi, NHHSS R&L; Wayne Pieper, Pieper Plumbing & Well; Robert Pugh, Layne-Western; David Rathje, City of Seward; Ronald Rider, Rider Driller, Inc.; Robert Royall, Royall Pump & Well Co., Inc.; Warren Sand, Fremont Dept. of Utilities; Ron Sanders, Hastings Utilities (HU); Richard Sanne, Nebraska Department of Agriculture; Clint Schafer, TGF; EJ Schumaker, Lincoln-Lancaster County Health Department; Dave Sizer, NHHSS R&L; Christine Southwick, NDNR; Marty Stange, HU; Greg Steele, USGS Water Survey Center; Jennifer Sundberg, Public Health Solutions, Inc.; Paula Thoma-Kirk, Water Systems Council; Ron Vavra, D&V Enterprises Ltd.; Rodney Verhoeff, Lower Platte River Corridor Alliance; Mitch Watson, Watson Well Drilling; Carrie Wiese, TGF; Dennis Wierzbicki, Grundfos.

This Nebraska Wellhead Protection Network (NE WHPN) meeting was held in conjunction with the Nebraska wellcare® Workshop co-sponsored by the Water Systems Council, Nebraska Well Drillers Association, and The Groundwater Foundation.

I. Welcome

Lee Orton, Executive Director of the Nebraska Well Drillers Association, welcomed attendees to the workshop and challenged people in the water well industry to spread the news about the value of groundwater and to be professionals who really care about groundwater resources. Cindy Kreifels, Executive Director of The Groundwater Foundation (TGF) welcomed attendees and spoke about how Nebraskans are familiar with both the privilege and responsibility of managing groundwater resources. Paula Thomas-Kirk, Program Manager with the Water Systems Council (WSC), welcomed attendees and explained that the WSC was started in 1932 by the manufacturers and distributors of water well components. Today the WSC is funded in part by the U.S. Environmental Protection Agency; consequently, information and feedback provided in attendees' evaluations are extremely valuable, as it is used in reports to USEPA.

II. Groundwater Resources in Nebraska

Greg Steele, Groundwater Specialist with the U.S. Geological Survey Water Science Center, spoke about the history of groundwater development in Nebraska. Although wells have been utilized early on, large numbers of wells were not registered until 1956-1957 (e.g. 12,226 in 1957). Between 1975 and 1977 approximately 16,000 wells were registered. Steele also described characteristics of the High Plains and Ogallala Aquifers.

III. State Perspective on Private Wells in Nebraska – Agency Roles & Responsibilities

Tom Christopherson from the Nebraska Health & Human Services System, Department of Regulation & Licensure spoke about regulations and standards regarding the proper siting and construction of wells. Christopherson showed examples of improperly sited and maintained wells and provided information on how these violations negatively impacted the quality of water from the well. He also provided information on how to properly decommission a well.

Pam Bonebright, Groundwater Supervisor with the Nebraska Department of Natural Resources (NDNR), spoke about how groundwater information is managed in Nebraska. Bonebright pointed out that NRDs are the regulatory authority for groundwater, but NDNR manages the data regarding groundwater. Currently both paper and digital well registration is available. NDNR requires township, range, section, and subsection, footage, GPS, or a marked map to determine well location. Each entry is reviewed by NDNR staff and entered into the database. Bonebright walked attendees through the Nebraska OnLine Registration and demonstrated how well information can be retrieved from the database. She also demonstrated the sites various mapping tools.

IV. Issues and Innovations in Groundwater in Nebraska

David Miesbach, Groundwater Unit Supervisor for the Water Quality Assessment Division of the Nebraska Department of Environmental Quality, spoke about properly decommissioning groundwater wells in Nebraska. Miesbach provided information about the number of wells in Nebraska and outlined the reasons for properly decommissioning a well, most notably that abandoned wells can be hazardous (e.g. small children or animals falling down a well) and a direct conduit for contamination to the aquifer. He concluded by describing current levels of nitrate and atrazine contamination and detailing cost-share programs to properly decommission abandoned wells.

Marty Stange, Environmental Engineer for Hastings Utilities (HU), spoke about their program to manage well information for the wellhead protection and institutional control areas in Hastings. Stange provided information about each element of Hastings' wellhead protection program.

1. Delineating the Wellhead Protection Area - Hastings' wellhead protection area was identified in 1997. Regarding water quality in this area - HU was especially concerned when mapping showed that runoff from a 150,000 head feed lot drained into the wellhead protection area. Regarding water quantity in this area – factoring in increases in irrigation and municipal use, HU expects to see a fifteen foot drawdown in the wellhead protection area; however, this decline is expected to stay stable due to inflow from the Platte River.
2. Conducting an Inventory of Potential Contaminant Sources – HU has mapped land use, facility locations, farms, county subdivisions and surface water flow and conducts periodic testing for nitrates. All this information will be set up on a GIS database and made available to the public. Tests showed that the feed lot described earlier was contributing nitrates to the area.
3. Conducting a Vulnerability Assessment – Sampling for nitrates, VOCs and SOCs are done on all new wells and at least once for all existing wells. Septic tanks, old farmsteads, and industrial sites are associated with most groundwater contamination. Mapping of contamination is done annually to help forecast plume migration and potential receptors of contaminated groundwater. Stange showed Hastings' VOC and SOC groundwater contamination plumes (caused by munitions manufacturing during World War II) and described the system for well permitting within the Institutional Control Area.
4. Providing Information to the Public – Stange described HU's public education activities. HU just started providing cost share as incentives to homeowners to properly decommission abandoned wells and septic tanks.

Stange concluded by describing methods being explored to beneficially use contaminated groundwater and aid in the clean up of the aquifer.

Jennifer Nelson, Groundwater Guardian Director for TGF, described how the Groundwater Guardian program may be used to organize and maintain groundwater and private well education and protection activities over the long term. Of particular note - since the program debuted in 1994, over 400 Groundwater Guardian Community and Affiliate teams have been organized in 43 states (all but Alaska, Connecticut, Delaware, Maine, Mississippi, South Dakota, and Vermont).

V. Private Wells, Pollution Prevention, and Education

Rachael Herpel, Community Programs Director for TGF, described how the next two speakers both collaborated with University of Nebraska Cooperative Extension experts to develop and deliver their education programs.

E.J. Schumaker, Environmental Public Health Educator with the Lincoln/Lancaster County Health Department, spoke about the “Safe Water through Pollution Prevention Today” program, which trains high school students (i.e. Future Farmers of America) to hold “Test Your Well” night events. At these events, homeowners bring in private well samples that are tested by the students. Test results are noted in writing and given to the person who brought in the sample, along with other appropriate written materials, such as information about nitrates or proper well maintenance. If the nitrate level exceeds the maximum contaminant level (10 ppm), a technical advisor (e.g. local health department staff person, HHSS staff, NRD water resource specialist, etc.) gives the results to the homeowner, along with handouts that present information about the potential health effects and options for dealing with high nitrate levels. Because of the margin of error of the testing equipment used, technical advisors recommend that all samples above 5 ppm be tested by a certified laboratory for accuracy.

Rodney Verhoeff, Coordinator of the Lower Platte River Corridor Alliance, spoke about the Water Wellness program made available to residents in the Lower Platte River Corridor in the spring and summer of 2004. The Lower Platte River Corridor is especially vulnerable to private well contamination by septic systems. Seminars were held to present information on natural systems, risk assessment, point and nonpoint source contamination, best management practices, and treatment options.

VI. Creating a Well Census – A Database of Information on Well Locations, Depths, Water Quality, and More

Robert Royall, Technical Consultant to the WSC and owner of Royall Pump and Well Company, spoke about the Well Census Software Demonstration Project. As part of this project, TGF will distribute, demonstrate, and review “Aquiport,” software designed by Royall. Aquiport may be used to compile and keep track of well data across a variety of jurisdictions (i.e. multi-county, multi-state, etc), and may potentially be used to create a national database of private drinking water wells.

TGF has been asked to distribute up to 18 copies of the software for review. TGF will then provide the WSC with feedback on the feasibility of using the software and conducting a well census. This software is being distributed and the training provided in Nebraska for free. Georgia and Virginia are also participating in the Well Census Demonstration Project. Invited project participants include Nebraska well drillers, Nebraska’s natural resources districts, Nebraska’s local health departments, U.S. Geological Survey, University of Nebraska Conservation and Survey Division, and other interested parties.

VII. Water Systems Council's wellcare® Program and wellcare® Hotline

Paula Thomas-Kirk spoke about the wellcare® program (www.watersystemscouncil.org) and hotline (888-395-1033). Attendees were urged to use these resources as they educate their customers and the general public about their drinking water wells.