

Capital Area Ground Water Conservation Commission

Watching out for A Treasured Earth Resource



*Dedicated to the conservation, orderly development and protection
of quality of ground water in the Capital Area*

Volume 34, Number 3

NEWSLETTER

January 2009

Commission & District News

Scheduled Meetings. – The Technical Committee will meet at 1:30 p.m. Tuesday, March 10, 2009 in the conference room of the U.S. Geological Survey at 3535 South Sherwood Forest Boulevard, Baton Rouge, Louisiana. The regular meeting of the Board of Commissioners will be held at 9:30 a.m., Tuesday, March 17, 2009 in the conference room of the U.S. Geological Survey. The Administrative Committee will meet at 8:30 a.m. in the Commission office, Suite 129, 3535 South Sherwood Forest Boulevard, one hour before the regular meeting.

December Meetings – Don Dial gave a presentation on the connector well project that was completed in 1999. The project consisted of constructing a well that was screened in the “800 and 1,500-foot” sands. The head difference between the two sands would allow free-flow from the upper to the lower sand. The head buildup in the “1,500-foot” sand was designed to counter the encroachment of salty water in the “1,500-foot” sand toward two public-supply wells on Government Street.

Flow tests were made on the completed connector well, and the free-flow was measured going into and coming out of the well. The flow average was about 475 gallons per minute. Flow will vary slightly depending on the pumping activity at Government Street. For example, when a pumping well is turned on, it creates a drawdown and increases the flow between the two sands. The well has operated continuously since 1999 without any interruption. A satellite hookup at the well site records real-time data that can be downloaded on computers at the office.

Jason Griffith, U. S. Geological Survey, gave a progress report on the Baton Rouge area modeling study. The progress and significant findings are summarized in the December 2008 progress report.

The Commission held its Administrative Committee meeting on December 9th. John Hashgen reported on the Administrative Committee. Copies of the Financial Conditions as of November 30, 2008 were distributed for review and comment. Bill Gaines, CPA, gave a presentation on the Commission’s financial statements for the fiscal year ended June 30, 2008. He reported a slight loss for the fiscal year which

was anticipated with the current U.S. Geological Survey modeling project. A pumping rate increase to \$4.00 per million gallons on April 1, 2008 should bring in about \$250,000 per year.

Jerry Klier presented the outgoing Chairman, John Steib with a plaque of appreciation for his services since 2002. He thanked the Commission and stated that he had been impressed with the Commission Board and staff.

Water Treatment

Acid mine drainage. – Runoff from mining areas has long been a problem because of the accumulation of metals in the acidic water. Historically, lime was used to remove metals from the water. However, that process created metal-laden sludge which had to be dealt with. Depending on the metals involved, some of the sludge may be classified as hazardous waste.

Reverse osmosis has not been effective in the mining industry because it requires costly maintenance and consumes a great deal of energy. Membranes need to be replaced regularly because of the buildup of calcium and sulfate.

A promising alternative is being used by one mining company according to an article in U.S. Water News (October 2008). Biologically generated hydrogen sulfide gas is used to remove metals from acid mine drainage. Metallic sulfides are collected and recycled back into the mining operation. In a year's time the operation reclaims about 740 million gallons. The water can either be re-used or released to the local watershed.

Perchlorate. – Perchlorate in treated drinking water may result from the use of sodium hypochlorite as a purifier. Studies by the Massachusetts Department of Environmental Protection reported in the AWWA Journal, November 2008, a buildup of perchlorate in sodium hypochlorite can occur while it is being stored. Therefore, perchlorate may be a concern for utilities that store sodium hypochlorite longer than short periods. Plotted data from several test samples all showed an increase in perchlorate with time. The report concludes that perchlorate levels should not be a concern for utilities that use sodium hypochlorite within a few weeks of its production.

Massachusetts is using the U. S. EPA guideline for 1 ug/L (microgram per liter) maximum for perchlorate concentration in treated water. In contrast, the Department of Defense contends that perchlorate up to 100 ug/L has no lasting effect on humans. Perchlorate is a byproduct of rocket fuel production.

Perchlorate affects the thyroid gland's ability to take up iodine which is needed to make thyroid hormones. These are released into the bloodstream and regulate many body functions. A low hormone count, hypothyroidism, can result in a number of health problems.

Late breaking news on the web (January 12th) reports that EPA is seeking advice from the National Academy of Sciences (NAS) on the subject. In the meantime, EPA is issuing an interim health advisory of 15 micrograms per liter to assist state and local governments to address local contamination of perchlorate.

Water Levels in West Baton Rouge Parish

Pumpage from West Baton Rouge Parish 2007 totaled 6.9 million gallons per day from five aquifers. The pumpage by aquifer is shown below:

Sand	Pumpage in mgd
800-foot	1.179
1,000-foot	1.240
1,200-foot	1.270
1,500-foot	3.030
1,700-foot	.192
TOTAL	6.911

Water-level declines in West Baton Rouge Parish are indicated in the hydrographs of observation wells in figure 1.

“1,200-foot” sand. – Well WBR-5 in Port Allen shows a decline of about 2.5 feet per year since 1995.

“1,500-foot” sand. – Pumpage from this sand occurs in the area south of the Baton Rouge fault. Since 1996 the water level in well WBR-173 has declined about 1.5 feet per year.

“1,700-foot” sand. – This sand has very little pumpage in West Baton Rouge Parish but shows a slight decline due to pumpage in East Baton Rouge Parish. Well WBR-100B (River Road) show no downward trend since 2001 (figure1).

“800-foot” sand & “1,000-foot sand.

–These two sands are pumped north of Port Allen. The water level in well WBR-160 (graph not shown) has not declined, except seasonally since 1995. No hydrograph is available for the “1,000-foot” sand. However, a moderate decline of 1 foot/year occurs in the eastern part of East Baton Rouge Parish.

Vignettes

The water utility in Madison, Wisconsin is offering a rebate plan to convert to high-efficiency toilets. A \$100 per dwelling rebate is being offered to install the toilet. The utility's goal is to cut residential water use by 20% by the year 2020. A total of \$250,000 per year will be allotted to this project, which would provide 2,500 toilet replacements per year. The plan, which also includes a rate increase, will go to the City Council for review and approval. (GW Monitoring & Remediation, Fall 2008).



An auto plant in Ohio has constructed some rainwater detention ponds on its property to hold runoff for 24 hours. The largest is a 7-acre pond that holds 20 million gallons of water collected from roofs and parking lots. During warm weather, (April to October) the plant uses water from the pond to cool the plant. The water is pumped to the plant's cooling towers where it enters a closed-loop cooling system.

Prior to the construction of ponds the plant pumped ground water for its cooling needs. The plant reports an annual reduction of 40 million gallons of ground water. Not only does the plant conserve ground water but the pumping costs are cheaper when pumping the pond water.



Earth Renewable Technologies has launched the Earth Bottle, a biodegradable bottle that is made almost entirely from plants. The bottle was developed through a partnership between Gaia Herbs of Brevard, NC and Clemson University. Commercial use of the bottle began in November 2008 and is reported in

Waste & Recycling News to have a positive response from its customers.

The polymer bottles are petroleum free. A key ingredient is polylactic acid, or PLA, a plastic-like material made from corn. Commonly used plastics are PET and HDPE, both of which are petroleum based. Used

PLA bottles, when composted, return to their natural sources. The producers report they don't want to be a one-hit wonder, but are looking at applications in other areas such as auto parts, toys, medical field, construction, industry and cosmetics.

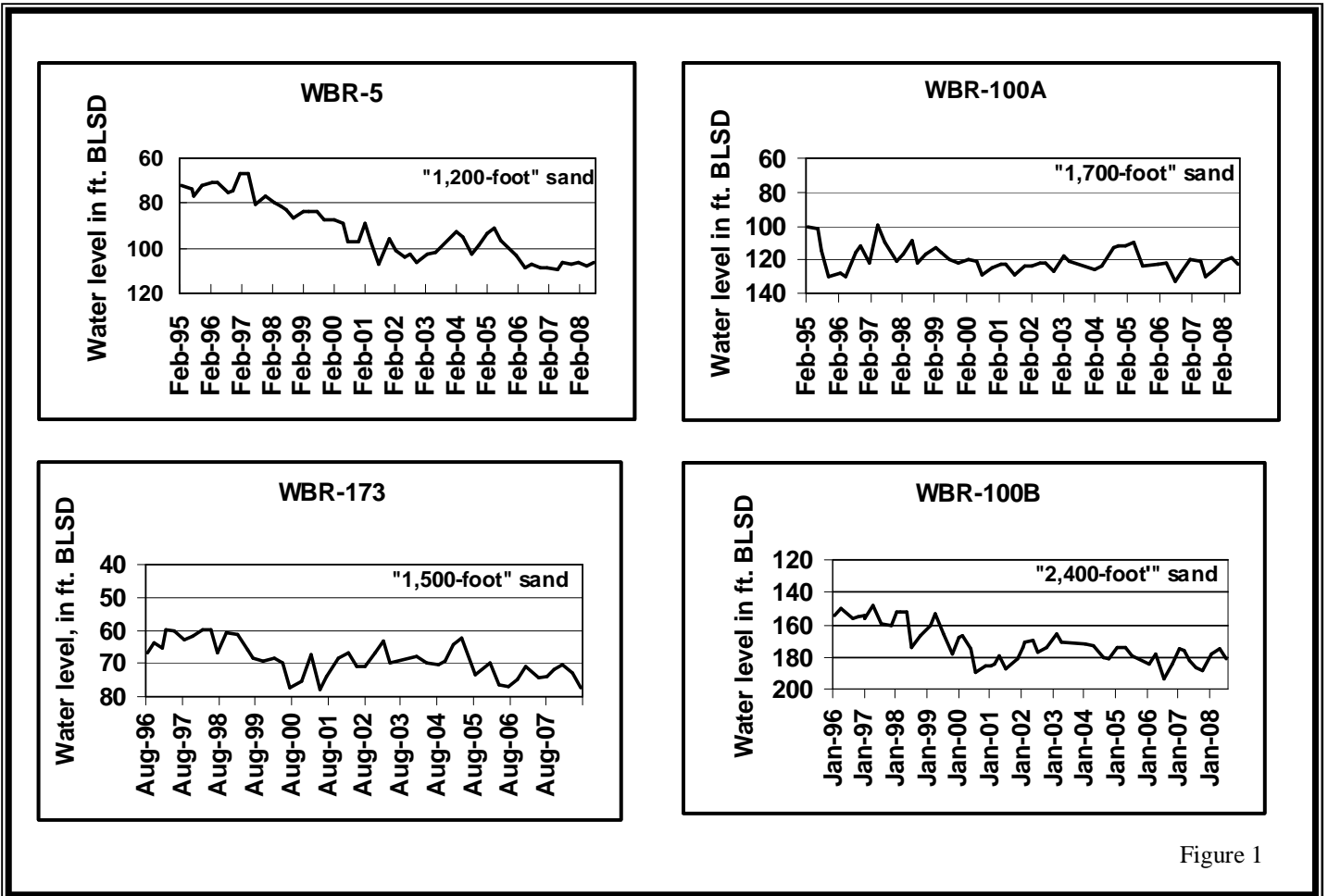


Figure 1



yes, it counts!
Water Wasted is Water Lost

Harry Truman, from Missouri, was a different kind of President. He probably made as many important decisions regarding our nation's history as any of the other Presidents. However, a measure of his greatness may rest on what he did after he left the White House.

When he retired from office in 1952, his income was U.S. Army pension reported to have been \$13,507.72 a year. Congress, noting that he was paying for his stamps and personally licking them, granted him an 'allowance' and, later, a retroactive pension of \$25,000 per year.

After President Eisenhower was inaugurated, Harry and Bess drove home to Independence, Missouri by themselves. There was no Secret Service following them.

When offered corporate positions at large salaries, he declined, stating, "You don't want me. You want the office of the President and that doesn't belong to me. It belongs to the American people and it's not for sale."