

Agenda Item: 6.

Memorandum

To: Programs, Projects, and Operations Subcommittee
From: Brian L. Henkel, Groundwater Management Engineer
Date: May 03, 2013
Re: Update on the District Groundwater Quality Sampling Program:

The District has in place a groundwater quality sampling program as part of the Groundwater Management Plan through a joint funding agreement with the US Geological Survey (USGS). The program annually samples the groundwater of the four aquifer systems within the District, the Missouri River alluvium, the Platte and Elkhorn River alluvium, the Dakota Aquifer, and the Upland alluvial aquifer, on a rotating basis. The program includes sampling approximately 40 wells per year in addition to sampling dedicated monitor wells in areas of interest to the District. Sampling in 2012 focused on the Upland alluvial aquifer but also included a few select wells in the Missouri River alluvium to assess post flood aquifer conditions.

Additionally, last year's sampling included nitrate levels on domestic wells in the vicinity of the District's Springfield well nest. The nitrate levels within the well nest have been trending up and the domestic well sampling was intended to help determine the origin, extent, and the impacts to domestic wells of the trending nitrate levels. The sampling results did not conclusively determine the underlying factors contributing to the trending nitrate levels or the extent of impacts to domestic wells in the area.

District staff and the USGS plan to do additional, targeted domestic well sampling in the Springfield area. This targeted sampling would be funded by removing sampling for volatile organic compounds (VOCs) and explosive at the Venice nest from this years sampling plan. The current sampling program includes annual analysis of the samples from the Venice nest for VOCs and explosives and there have thus far been no detections of either of those constituents. The removal of VOC and explosive analysis would be part of an upcoming update to the sampling plan to reduce the frequency of sampling for those analytes at the Venice nest. The targeted sampling will be done to learn more about the extent of nitrate contamination of domestic wells and to attempt to determine more about the potential sources of the contamination.