GAM run 04-12

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REQUESTOR:

Darren Schick, Canadian River Municipal Water Authority

DESCRIPTION OF REQUEST:

Mr. Schick requested Geographic Information System (ESRI ArcGIS) shapefiles of horizontal hydraulic conductivity (Kh) contours from the Ogallala Aquifer Groundwater Availability Model (GAM).

METHODS:

- Horizontal hydraulic conductivity data were extracted from the northern and southern portions of the Ogallala aquifer GAM.
- Point shapefiles were created of grid cell centroids attributed with Kh values in feet/day.
- ArcGIS Spatial Analyst was used to interpolate raster surfaces from the point data using the Inverse Distance Weight method.
- Contours were created from the raster surfaces and saved as polyline shapefiles.

PARAMETERS AND ASSUMPTIONS:

These horizontal hydraulic conductivity contours reflect Kh parameters used in the northern and southern portions of the Ogallala aquifer GAM. For additional information please refer to Blandford et al. (2003), Dutton (2004), and Dutton et al. (2003). Comparison against source data was not performed for this analysis.

RESULTS:

The hydraulic conductivity GIS shapefiles have not been included in this report. If you would like copies, please contact Scott Hamlin at (512) 475-2132 or scott.hamlin@twdb.state.tx.us .

REFERENCES:

Blandford, T. N., D. J. Blazer, K. C. Calhoun, A. R. Dutton, T. Naing, R. C. Reedy, and B. R. Scanlon, 2003, Groundwater availability of the southern Ogallala aquifer in

Texas and New Mexico: numerical simulations through 2050: Texas Water Development Board, 160 p.

Dutton, A. R., 2004, Adjustment of Parameters to Improve the Calibration of the Og-n Model of the Ogallala Aquifer, Panhandle Water Planning Area: The University of Texas at Austin, Bureau of Economic Geology, report prepared for Freese and Nichols, Inc. and Panhandle Water Planning Group, Panhandle Regional Planning Commission, 9 p.

Dutton, A. R., R. C. Reedy, R. C., and R. E. Mace, 2001, Saturated thickness in the Ogallala aquifer in the Panhandle Water Planning Area–simulation of 2000 through 2050 withdrawal projections: The University of Texas at Austin, Bureau of Economic Geology, final report prepared for Panhandle Water Planning Group, Panhandle Regional Planning Commission, under contract no. UTA01-462, 61 p. plus appendices.