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State of Utah

DEPARTMENT OF NATURAL RESOURCES
Division of Water Rights

ROBERT L. MORGAN JERRY D. OLDS
Executive Director *State Engineer/Division Director*

November 2, 2004

Dear Water Users:

The purpose of this letter is to keep you apprised of events subsequent to the public meeting held in Eagle Mountain, Utah on July 21, 2004 regarding ground water in Cedar Valley.

Personnel of the Utah Geological Survey (UGS) and this Division presented data at that meeting. Jim Riley, Regional Engineer, reviewed the State Engineer's current policy and past research on the valley. Hugh Hurlow of the UGS outlined the major findings of his report. The report may be viewed on the Internet through the Division's website located at <http://waterrights.utah.gov> or purchased at the UGS Bookstore.

The presentations can be summarized as follows: 1) Most recharge comes from Oquirrh Mountains on the northwest corner of the valley and moves across the valley in an east-southeasterly direction toward Cedar Pass, Lake Mountain, and the Mosida Hills; 2) the quality decreases along the flow path; 3) recharge is estimated to be about 25,000 acre-feet per year (afy), with discharge on the east side of the valley estimated to be between 10,000 and 20,000 afy; 4) ground-water leaves the valley through fractures, solution channels, and bedding plane flow in Lake Mountain, through bedrock in the Cedar Pass area, and through the Mosida Hills area; and 5) the maximum depth of the alluvial aquifer is about 2,000 feet.

Two comment letters have been received. Both are posted on the Division's website. The first, from Corey C. Walker of Epic Engineering, City Engineer for Eagle Mountain City, concludes "that (1) significant quantities of groundwater are stored in the bedrock aquifers, and (2) the bedrock aquifers are not in direct hydrological communication with the overlying alluvial aquifers." He recommends certain one-time, semi-annual, and annual measurements be taken after new wells are equipped and connected to water systems.

The second letter, from William G. Loughlin of Kleinfelder, Inc., concludes "that although the information presented by both Hurlow (2004) and Epic Engineering (2004) contribute to the understanding of groundwater conditions in the area, neither present new quantitative estimates of groundwater outflow from Cedar Valley nor do they contradict the findings of Feltis (1967)."

The State Engineer has reviewed the two comment letters and does not agree with the assertion of no direct hydrological connection between bedrock and alluvial aquifers. The State Engineer believes existing data indicates a connection, although the extent of that connection remains to be determined.

Considering the information contained in the presentation and comment letters, the State Engineer will take the following actions: (over)

Page 2
September 19, 2007
Subject:

- 1) As stated at the meeting, this Division has contracted with UGS to produce a digital ground-water flow model for the valley. This Division, and others, will use the model, in conjunction with a similar model being developed for northern Utah Valley, to test various water development scenarios and assist in making decisions on water right applications;
- 2) We will allow an additional 1,500 afy of water to be transferred into the valley, with a preference being given to public water supply entities. This will bring the total amount of water to 15,000 afy. Until that level is achieved, or the ground-water model is completed, all other filings will be held without action;
- 3) To acquire more data on the valley's hydrology, we will require all wells potentially diverting 20 afy or more to install totalizing meters and report the annual diversion and semi-annual (March 1 and October 31) static water levels to this Division. The drillers of new wells will be required to supply cutting samples, taken at 10-foot intervals to the UGS for logging. Owners of all new public supply wells will be required to perform aquifer tests on those wells and report the data and results to this Division;
- 4) Currently, the annual ground-water withdrawals in Cedar Valley are about 4,500 afy. The perfected and approved water rights have a combined potential withdrawal of 13,500 afy. This significant difference is of concern and the Division will undertake an investigation to determine why this difference exists and how it might be resolved.

On November 15, 1996, the State Engineer issued his Cedar Valley Ground-Water Policy, which provides guidelines to water right holders concerning water development. These guidelines will be updated to reflect the aforementioned actions.

I thank you for your cooperation on this subject and look forward to working with you in the future.

Sincerely,

Jerry D. Olds, P.E.
State Engineer

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