

March 19, 2003

Dolores Dominguez  
Grant County  
P.O. Box 898  
Silver City, NM 88062

**CERTIFIED MAIL**  
**RETURN RECEIPT**  
**REQUESTED**

Reference: Canyon Country Estates Subdivision

Dear Ms. Dominguez:

The Office of the State Engineer has re-reviewed the preliminary plat subdivision proposal for the referenced subdivision pursuant to the Grant County Subdivision Regulations and provisions of the New Mexico Subdivision Act. It is the opinion of this office that the subdivider's water supply proposal does not comply with the county's subdivision regulations.

The Canyon Country Estates Subdivision (CCE) proposal is a request to develop a 280-acre lot into a 46-lot residential subdivision. The lot is located near Silver City, in Sections 1 and 12 of T18S, R14W, N.M.P.M.. This proposal was reviewed pursuant to the Grant County Land Subdivision Regulations, and the New Mexico Subdivision Act on October 4, 2001, on June 10, 2002, and on January 10. A positive opinion was withheld every time. The developer proposes that water will be supplied to this development via individual 72-12-1 domestic wells.

The developer has submitted a technical memorandum in response to the latest negative opinion issued by this office on January 11, 2003. The report includes a recalculation of effects due to water use in the subdivision. While the author re-calculated the drawdowns expected due to 0.3 acre-feet per year per lot of pumping, the developer has restricted water use to 0.6 acre-feet per year per lot. This restriction is mentioned on page 18 of the geohydrologic report by Balleau. The restrictive covenants limiting Kentucky Bluegrass irrigable area to 2700 square feet are consistent with a water budget of 0.6 acre-feet per year per lot. This inconsistency is significant, and should be corrected.

Of primary concern to this office was the poor performance of CCE Well#1 and CCE Well#4. These wells, drilled into fractured granite units, are considered "infeasible" and "poor for domestic use" by the U.S. Department of the Interior (Groundwater Manual, 1977, 1988).

The time drawdown data and graphical analysis for the Canyon Country Estates (CCE) Well#1 pump test indicated that this well is not adequate for domestic production. The subsequent test of

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this well

by Balleau Groundwater yielded a similar conclusion. The water-bearing unit drilled into (fractured granite), cannot be considered a good source of water. Furthermore, any long-term predictions based on this well may not be accurately predicted, due to the de-watering that could occur in the fractures. The results found in well # 4 do not negate the problems found in well #1. The hydrologist did not provide an explanation for the failure of the aquifer at this site.

The geology encountered at the northern well sites should have been fully assessed . The hydrologist should have performed an evaluation of wells in the CCE Well #1 area. He would have found a history of numerous low producers (less than 2gpm), as well as re-drillings (as wells went dry?). Subsequent cross-sectional mapping, and modeling (using conservative values in addition to adding historical declines and well inefficiencies), would show that several wells in the North CCE area would run dry in the next 40 years.

The developer proposes to refrain from selling any lot until he has drilled and tested a well on the site. Wells will be tested for eight hours, and analyzed by a geohydrologist. Should the county commission decide to allow this variance, this office recommends that tests be conducted for no less than 24 hours, and be verified by an independent geohydrologist. In addition, the above-mentioned problems should be rectified.

It is my conclusion that the subdivider has still not demonstrated that sufficient water is available to meet the requirements of his development in accordance with the Grant County Land Development Regulations. The **negative** opinion to this effect will not be changed. If you have any questions regarding this opinion, please feel free to call me at (505) 827-6790.

Sincerely,

Patrick J. Romero  
Water Resource Engineer

Cc: Brian C. Wilson, P.E., Water Use and Conservation Bureau