From.....
"Groundwater Studies: Henry's Fork, Teton River Area, Fremont and Madison Counties, Idaho"
Geology & Groudnwater: Gordon Haskett; Basin Hydrology: Alan Jensen; Agricultural Land: David Gangwer
US Dept. of the Interior; Bureau of Reclamation, Pacific Northwest Region, Boise, Idaho Department of Water Resources

Alluvium, consisting of mixtures of silt, sand and gravel fills an eroded valley in basalt. Rhyolitic tuff such as exposed on **Rexburg Bench** and at Teton damsite underlie the basalt. A continous regional gw system is semiconfined within the basalt section. This is shown graphically on the Section. A well drilled and cased through the sediments would encounter water in the basalt under sufficient artesian pressure to rise to the level shown.

Local semi-perched bodies of water are contained in the alluvium. The mound occurring on Egin Bench as shown on the Section has no direct connection with the subwater on the east side of the Henrys Fork. Partial hydraulic separation fo the perched water bodies from the basalt aquifer appears to be affected by a thin layer of fine sediment and ash deposited on the basalt surface. Man's control of the perched water, th esub, is evident form long-term hydrographs showing the consistent sublevel attained each irrigation season regardless of the distance the sub must be raised each spring or the influence of climatic trends.
The depth of the subwater during the irrigation season is extremely critical. By the start of the growing season the water table must be almost up to the root zone. The irrigator can then, by adding water across his field, locally raise the sub to the crop root system when needed. For row-crop fields on Egin Bench, farmers have found that water supplied in check ditches spaced about 90 feet apart are adequate.
Should the area sub be lower than normal, for whatever reason, then a farmer may not have the water supply or be physically able to locally raise the sub to a usable level. If the subwater is low, it makes little difference whether it is only a few feet too low or 10 feet.

From...
"Upper Snake River Basin Study", IDWR, Boise, Idaho, Jan 1997

REXBURG BENCH (page F-2)
Surface water and ground water in the RB are NOT hydraulically connected, as is evident by Moody Creek (the principal drainage) being perched above the regional water table. As a result, the model created for this area will only simulate changes in underflow leaving the basin from groundwater withdrawal. The method that will be used is identical to what was previously described, except that there will be no surface water component included in the model.
Well driller's reports will provide the primary source of info on the aquifer characteristics. A field visit to the area will provide info on percentages of each gw irrigated crop. Due to the relatively large amount of gw development currently in the

basin, the time and cost to perform the proposed study are estimated to be four man-months and $24,000, respectively.