April 1, 2002

Mr. Jerry D. Olds, State Engineer
Utah Department of Natural Resources
Division of Water Rights
P.O. Box 146300
1594 West North Temple, Suite 220
Salt Lake City Utah 84114-6300

Re: *Tooele Valley Ground-Water Management Plan*

Dear Mr. Olds:

This letter is in response to the public meeting held on Wednesday, November 28, 2001, in Tooele, Utah, regarding the proposed Tooele Valley Ground-water Management Plan. We are submitting our comments today pursuant to the Division of Water Right's (the "Division") extension of time granted by letter dated February 11, 2002, addressed to Leucadia Financial Corporation. In addition to our review of the materials and information provided at the public meeting, we have studied Cooperative Investigation Report No. 42 entitled "Ground-Water Conditions in Utah," authored by C.B. Burden *et al.* Specifically, we reviewed the section in that report on the Tooele Valley written by T. A. Kenney. We also have reviewed the Water-Resources Investigations Reports WRI97-4005 and WRI 99-4014 dealing with the recharge and discharge areas in the Tooele Valley as well as the MODFLOW computer modeling, which describes the hydrology of the ground-water flow system within the Tooele Valley. We understand that the State Engineer is examining this information with the intent of re-evaluating the current ground-water management plan for the Tooele Valley. This re-evaluation is based upon the assumption that the water resources are receiving increased demand due to population growth in the valley.

We appreciate the opportunity to participate in this process and offer the following brief comments for your consideration while you conduct your review.

In the Division's previous briefing paper (dated April 17, 2000), the Division, your staff noted four issues of concern: (1) the safe yield of the aquifer system; (2) the areal distribution of ground-water withdrawals; (3) the amount of "paper" water rights in relation to the amount of "wet" water available for use and the amount of water actually being diverted; and (4) the impact of additional diversions on springs and flowing wells. We wish to focus on the third issue, the relationship between "paper" water rights, "wet" water rights, and the water actually being diverted. In that regard, we have the following observations.

1. The population of the Tooele Valley is expected to increase from its current 32,000 persons (2000 estimate) to 73,000 persons by the year 2030. This estimate is based on population projections provided by the Governor's Office of Planning and Budget.

2. The current perfected water rights for agricultural/irrigation use in the Tooele Valley is 36,100 acre-feet. This figure is provided in the Division's materials presented at the November 28, 2001 public meeting.

3. The Division estimates the actual consumptive underground water use as follows:

YEAR 2000

Estimated Irrigation Consumption (based upon 7,000 acres of actual irrigation)	**21,000 AF**
Domestic and Public Underground water use	**4,200 AF**
Industrial/Commercial underground water use	**800 AF**
Estimated Total Underground Consumption	**26,000 AF**

4. Utilizing the population projections and the current groundwater consumption data, the expected consumption in the year 2030 is 28,780 acre-feet. We calculated this expected consumption volume as follows:

YEAR 2030

Estimated Irrigation Consumption (based upon 5,600 acres of irrigation) (20% decrease from the year 2000, caused, in part, by the conversion of irrigation rights into domestic and municipal rights as well as the development of currently irrigated acreage)	**16,800 AF**
Domestic and Public Underground water use (based upon the expected population of 73,000)*	**9,580 AF**
Industrial/Commercial underground water use (based upon a 300% increase)	**2,400 AF**
Estimated Total Underground Consumption	**28,780 AF**

* The Domestic and Public Underground water use in 2030 was calculated as follows:

@ Yr. 2000 Population per AF = $\frac{\text{Population (2000)} \quad 32{,}000}{\text{Use (2000)} \quad 4{,}200 \text{ AF}}$ = 7.62 people/AF consumed

@ Yr. 2030 Population Consumption = $\frac{\text{Population (2030)} \quad 73{,}000}{\text{Use (2030)} \quad 7.62 \text{ people/AF}}$ = 9,581.25 AF consumed

The following conclusions can be drawn from these observations and the information contained in the water reports and provided at the public meeting.

1. Continued population growth in Tooele Valley does not necessarily mean that there will be a significant impact on the volume of water used in the valley. The calculated actual increase is approximately 2,780 acre-feet, about a 10% increase over thirty years.

2. During the next thirty years, the cities can absorb the majority of the population growth under the existing Apaper@ water rights, i.e., the cities already hold enough water rights to service the expected growth. Moreover, additional pumping by the cities to meet this growth will not exceed the safe yield for the identified sub-basins.

3. Growth outside the cities will need water, but that water will come from the conversion of existing irrigation water rights into domestic and municipal rights.

4. As time goes on, the impact from growth will be offset by transferring agricultural water uses for residential uses.

5. Beyond thirty years, growth likely will increasingly come at the expense of irrigated lands, water will be transferred from the irrigated lands to residential use, maintaining the Abalance@ currently observed.

6. Because of the trade-off between irrigation water rights and residential growth, water usage in the valley is not expected to increase dramatically for the next thirty years.

7. During the next thirty years, converting irrigations rights into residential use based on historic uses will have the effect of bringing so-called Apaper@ rights into accord with Awet@ rights, which will decrease the threat of over-appropriation.

Based on the foregoing, we recommend that the Division should continue to study and monitor the actual use of the water resource in the Tooele Valley; a drastic shift in water management policy seems unwarranted. So long as the Tooele Valley remains closed to new appropriations, the overall ground-water budget (e.g., actual discharge vs. recharge) will likely remain relatively steady and the actual discharge will remain significantly below the proposed Asafe yield@ levels. To conduct further study, a series of monitoring wells should be identified and/or drilled to use in connection with an instantaneous monitoring program that can use artesian pressure to measure the impact of actual water use on the confined aquifer. Data obtained from this program could be used to determine, on a real-time-basis, whether the aquifer

is being diminished or otherwise adversely affected. Continued monitoring needs to be carried out on contamination underground plumes such as the Carr Fork International Smelter area and the Army Depot. From the above information, a base line of data can be achieved for future policy decisions.

While growth in the Tooele Valley is a significant concern, we are also concerned that the possible encroachment of brackish water from the Great Salt Lake into the drinking water aquifer may result in the permanent destruction of portions of the aquifer. Therefore, we also recommend that the relationship between the ground-water drinking water sources and the Great Salt Lake should be established based on sound scientific principles and meaningful field data. The monitoring wells could also be used for this purpose.

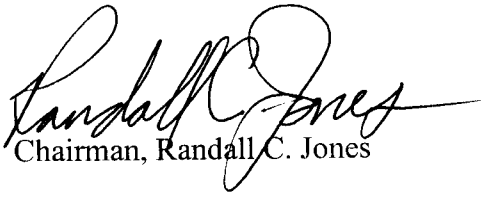
Again, we appreciate the opportunity to participate in the State Engineer=s process of re-evaluating the ground-water management plan for the Tooele Valley. Please notify us if there are any future public meetings or if we can be of any further assistance.

Sincerely,

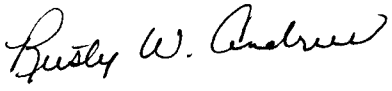
STANSBURY PARK IMPROVEMENT DISTRICT

By: 
Chairman, Thomas F. Parker

STANSBURY PARK SERVICE AGENCY

By: 
Chairman, Randall C. Jones

STANSBURY PARK RECREATIONAL AREA

By: 
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LAKEPOINT IMPROVEMENT DISTRICT

By: Keith B. Ivey

LEUCADIA FINANCIAL CORPORATION

By: James N. Ward, Vice President
Professional Engineer