Statement by Clifford H. Jex to the Senate Irrigation and Reclamation Subcommittee of the Interior and Insular Affairs Committee in Hearing on Colorado River Storage Project.

My name is Clifford H. Jex. I am engineer for the Western Colorado Water Association representing water interests of Western Colorado in the drainage basin of the Colorado River.

Water is the key natural resource of the entire Colorado River Basin. With water the basin can develop; without water the development ends. We of Western Colorado are firmly convinced that the ultimate development of our area is dependant on the soundness of the management of the future use of this great resource.

For the greatest and most economical use of the water of this Basin, water must be stored near its source of supply in the numerous mountain valleys of the Basin. This storage must be in such quantities that it will be available for use throughout the area for irrigation and other purposes. This type of development will permit a use and reuse of the same water.

The Curancanti Reservoir will accomplish this purpose. This reservoir will provide water for irrigation use, for municipal and industrial use and for the generation of power. The reservoir will also provide a means of flood control for the lower Gunnison River Valley and the area in the vicinity of Grand Junction, Colorado. Western Colorado is very much in favor of the construction of the projects as outlined by Senator Johnson in his statement to this Committee.

Western Colorado is also mindful of the fact that in order to increase the consumptive use of water in the Upper Colorado River Basin, holdover reservoir storage for release downstream will be necessary to satisfy other users of Colorado River water. This is a double obligation of us in the Upper Basin.
The water supply of the Colorado River for use within the State of Colorado is critically short. The time of full utilization of this important resource is now in sight and each new demand must be critically analyzed in terms of its importance to the State and also the Nation.

We of the Western Colorado are faced with the very difficult problem. Although an average of about 11,000,000 acre-feet a year or over 70% of the yield of the Colorado River at Lee Ferry originates on the western slope of the Continental Divide in Colorado, it is now evident that as a result of international treaties and inter-state compacts, the State of Colorado will never be permitted the use of more than an average of 2,800,000 acre-feet annually. 1/ Of this amount, there is now in use or committed in round figures 1,800,000 acre-feet, leaving a balance for future use of only 1,000,000 acre feet. 2/

The Denver sponsored Blue River diversion if built will in effect place a new use commitment on the Colorado supply of an additional 447,000 acre-feet. 3/ This is approximately one-half the remaining water available for use by the State. This diversion of water, as promoted by the City and County of Denver under the guise of municipal use, is in reality 85 per cent for direct irrigation use in the South Platte River valley of Eastern Colorado.


2/ See water supply analysis attached.

3/ The official statement of the City and County of Denver on file with the House Interior and Insular Affairs Committee, par. 5. 7.
Testimony of Denver officials in present pending litigation shows that the City now holds command of sufficient water, if adequately developed, for a population of 777,000 people. In light of this present supply an additional amount of 75,000 acre feet would adequately provide for a total population for the Denver System of at least 1,000,000 people. A population of 1,000,000 is not likely to be reached by Denver prior to the year 2000.

Western Colorado is relatively young. Settlement of the basin started about 1880. In the short period of years from 1880 to the present time, two-thirds of the available water supply is now in use or committed. In the last 15 year period the irrigation in the natural basin has expanded 19 per cent. This expansion was accomplished by individual farmers and ranchers of the basin. This type of expansion is very desirable and will no doubt continue as long as the supply of water remains available in the natural basin.

Studies of new potential irrigation projects have been conducted by the Bureau of Reclamation on both sides of the continental divide for use of Colorado River water in Colorado. The results of these studies as now reported show that the water supply will be the limit of development and that only a part of the projects as now studied can ever be constructed.

The figures as developed on the cost of water use on the two slopes of the continental divide in Colorado show that the present day total irrigation subsidy requirement for the use of Colorado River water in the South Platte River basin of Eastern Colorado is $1520, and in the Arkansas River basin, also in Eastern Colorado, it is $1730 per acre for new land irrigated or new land equivalent. This subsidy cost is two to three times the subsidy cost of placing the same water to use in the natural basin of the Colorado River. In light of these studies it would appear not only unwise but a direct waste of Federal money to approve projects for the diversion of water for irrigation use out
of the natural basin with costs two to three times that required for the use of the same water within the basin.

The upper Colorado River basin is now nationally recognized as the source of the nation's future supply of synthetic liquid fuels and as the principal source of domestic uranium. Both of these minerals are of vital importance to the future security of this nation. In the semi-desert climate of the Colorado River basin the development of these resources cannot be accomplished without water, and the unused supply is diminishing each year as new additional water uses develop. Hasty action on the diversion plan of the City and County of Denver would tie up for all time at least one-half of the available water supply of the future and place in jeopardy the nation's future supply of both liquid fuel from shale and uranium.

At a meeting on September 24, 1953 held in Glenwood Springs of Western Colorado, eight of the major oil companies of the nation presented a joint report on the probable requirements for oil production from shale in the Colorado River basin. The companies estimated that production would be started by the year 1960 and by the year 1975 an annual production of 2,000,000 barrels of oil per day could be expected. The one assumption underlying the estimates of the oil production was that water for its development would be retained in the area of the oil shale deposits.

We are unable to present information at this time on the uranium industry of Western Colorado as the same is restricted for reasons of national security. We can, however, say that the mining and milling of uranium deposits is rapidly expanding day by day requiring additional quantities of water.

#  #  #  #  #  #
1. **Total Supply for Consumptive Use in Colorado**

Total supply as given on Page 10 of Hill Report  
3,100,000 Ac. Ft.

2. **Present In-Basin Consumptive Use**

(a) Irrig. depletions as given in Hill Report page 16  
1,035,000 Ac. Ft.

(b) Other depletions as given in Hill Report page 17  
37,000 Ac. Ft.

(c) Additional Irrig. depletions not included in Hill Report  
116,000 Ac. Ft.

Sub-Total  
1,188,000 Ac. Ft.  
1,188,000 Ac. Ft.

3. **Present Trans-Mountain Diversion Use**

Depletions by operating projects as given page 17, Hill Report  
377,000 Ac. Ft.

Sub-Total  
377,000 Ac. Ft.  
377,000 Ac. Ft.

4. **Committed Uses**

(a) Expansion of existing trans-mountain Diversion Projects as given on page 18 of Hill Report  
100,000 Ac. Ft.

(b) Expansion of existing in-basin projects and use by authorized projects as given on page 18 of Hill Report  
97,000 Ac. Ft.

(c) Depletion by the Frying Pan-Arkansas Project as given on Page 53 of Hill Report  
72,000 Ac. Ft.

(d) Treaty with the Republic of Mexico  
259,000 Ac. Ft.

Sub-Total  
528,000 Ac. Ft.  
528,000 Ac. Ft.

Balance  
1,007,000 Ac. Ft.
(Continuation of Analysis prepared by Clifford H. Jex - March 4, 1954.)

5. **Industrial In-Basin Use**

(a) Estimate for Oil Shale and associated industrial use

(b) Estimate for other in-basin industrial use

<table>
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<th>Sub-Total</th>
<th>Balance</th>
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<td>300,000 Ac. Ft.</td>
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<tr>
<td>100,000 Ac. Ft.</td>
<td>400,000 Ac. Ft.</td>
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<tr>
<td>447,000 Ac. Ft.</td>
<td>607,000 Ac. Ft.</td>
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6. **Demands of Denver Diversion Project**

Depletion of Denver Diversion project as presented in Official Denver statement in Washington on January 24, 1954

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<tr>
<td>160,000 Ac. Ft.</td>
<td>447,000 Ac. Ft.</td>
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On the basis of the above analysis the 160,000 Ac. Ft. would be the limit of the future Western Colorado agricultural development. This is about equal to the agricultural expansion that has taken place during the past 15 years.