

IN THE MATTER OF APPLICATION NO. 13573 IN )  
NAME OF FRED R. HARRELL TO APPROPRIATE :  
UNDERGROUND WATER IN FISH LAKE VALLEY, :  
ESMERALDA COUNTY, NEVADA. )

RULING

Application No. 13573 was filed December 15, 1950 by Fred R. Harrell to appropriate 3.5 c.f.s. of underground water for the irrigation of 280 acres of land. The proposed point of diversion is located within the NE $\frac{1}{4}$  NW $\frac{1}{4}$  Section 10, T. 2 S., R. 35 E., M.D.M. and the land to be irrigated is described as the SW $\frac{1}{4}$  SE $\frac{1}{4}$  Section 3 and NE $\frac{1}{4}$  NW $\frac{1}{4}$ , NW $\frac{1}{4}$  NE $\frac{1}{4}$ , S $\frac{1}{2}$  NE $\frac{1}{4}$  and N $\frac{1}{2}$  SE $\frac{1}{4}$  Section 10, T. 2 S., R. 35 E.

The notice of this application was duly published in the Goldfield News, as prescribed by law, and on January 31, 1951, a protest was filed by E. L. Cord to the granting of a permit under said application. The basis of said protest is as follows:

"That the granting of the above referred to application would impair and tend to impair the value of existing water rights now owned by E. L. Cord, and would conflict with the existing rights of protestant, and would threaten to prove detrimental to the public interests. That the underground waters are insufficient to satisfy all of the existing water rights and the waters which applicant seeks to appropriate, and that there is in substance and effect no unappropriated waters in the proposed underground source of supply."

The matter of action on this application is now before this office.

BRIEF HISTORY OF APPLICATIONS TO APPROPRIATE UNDERGROUND WATER IN FISH LAKE VALLEY

From September 26, 1940 to July 17, 1950, some 106 applications to appropriate underground water in Fish Lake Valley were filed in this office. The amount of land proposed to be irrigated under these applications approximated 30,000 acres, and the amount of water proposed to be diverted ran in the magnitude of 300 cubic-feet per second, which would be equivalent to about 600 acre-feet or 193,900,000 gallons of water daily. On the basis of a duty of 5 acre-feet per acre, the 30,000 acres would need 150,000 acre-feet of water per season.

The greater portion of the land covered by these applications is government land and consequently most of the applicants also filed homestead and desert land applications with the Bureau of Land Management.

SUBSEQUENT STUDIES

We are well familiar with the occurrence of ground water in our many ground water basins scattered throughout the State. We

realize that the amount of ground water available for diversion is dependent upon the area of watershed of the valleys; on the amount of precipitation falling thereon; and on the geological structure of such watershed. The amount of water that can be pumped from any particular well depends on the characteristics of the water-bearing formations penetrated by the well.

In granting permits to appropriate underground water, the State Engineer must act in accordance with the laws pertaining to the appropriation of such water (Stats. 1939, Chap. 178, as amended), especially Section 10 thereof which provides in part:

"-----he shall determine if there is unappropriated water in the area affected and shall issue permits only if such determination is affirmative.-----"

Fortunately the State of Nevada has had, since 1945, a cooperative program with the United States Geological Survey, Ground-Water Division, for the purpose of determining the safe yield of ground water in the valleys throughout the State. Accordingly, we called upon the United States Geological Survey to make such a study of the ground water conditions in Fish Lake Valley, Esmeralda County, which was completed in the early part of this year. The results of this study has been published as Water Resources Bulletin No. 11, entitled "Preliminary Report on Ground-Water in Fish Lake Valley, Nevada and California," by T. E. Eakin.

Briefly, the report states that under present conditions 15,000 to 20,000 acre-feet of water per year can be withdrawn by wells in addition to the amount pumped in 1949.

The State Engineer, in acting on the applications to appropriate water, must necessarily limit the amount of diversions to 15,000 to 20,000 acre-feet of water annually.

Another factor deemed necessary to consider was the quality of land. Much of the land on which water was to be placed under the applications was visibly poor. The quality of the bottom lands could only be determined by a study conducted by soil experts. The Bureau of Land Management, in their studies to determine whether or not the parcels of land applied for were suitable for irrigation and crop production, had to, as one of their principal considerations, study the soil conditions.

Through a cooperative program with the University of Nevada, Agricultural Experiment Station, a reconnaissance land classification study was made. Howard G. Mason, Agricultural Economist of the Experiment Station, who conducted the survey, was accompanied by soil experts of the Bureau of Land Management. The results of this survey is set forth in the above mentioned Water Resources Bulletin No. 11. Mr. Mason found only 5,000 acres of Class I lands, outside of private ownership.

Water Resources Bulletin No. 11 is appended hereto and made a part of this ruling.

#### ACTION BY BUREAU OF LAND MANAGEMENT

On September 25, 1950 the Bureau of Land Management, through the Nevada Land and Survey Office, issued its decision on homestead and desert land applications filed in Fish Lake Valley. Their decision applied to 107 applications for land entry. Of this number 89 applications were rejected in their entirety. 18 applications were approved, covering some 2,960 acres of land. On a basis of a duty of 5 acre-feet per acre, this number of acres could utilize about 15,000 acre-feet of water which approaches the safe yield as determined by the United States Geological Survey.

#### STATEMENT OF POLICY

The development of ground water involves many costly expenses, such as the drilling of a good well, properly cased, and the installation of a deep well turbine pump and motive power. The lack of electricity in the valley will necessitate the installation of diesel or gasoline power units. The raw desert land must be cleared and leveled, ditches must be constructed and the property fenced. In addition, there are many other major expenses such as buildings, farm equipment, etc .

To make a success of such an enterprise, the prime natural requisites are good soil and a sufficient water supply. Without good soil the project is not likely to succeed in any event. The history of such undertakings, and there are many to draw conclusions from, is that with all factors favorable the undertaking is still a marginal one.

In acting on the many applications before us it will be our policy to grant permits to applicants who have been granted their land applications by the Bureau of Land Management, and to deny the applications to appropriate water on lands which have been rejected by the Bureau of Land Management.

#### EXISTING RIGHTS

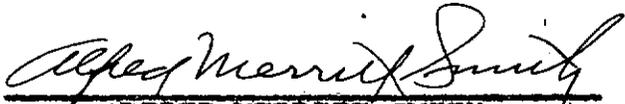
We are cognizant of the rights to appropriate ground water by Protestant E. L. Cord. Any additional permits granted will be subject to existing rights.

#### RULING

Under the ruling of the Bureau of Land Management dated September 25, 1950, Applicant Fred R. Harroll was granted Desert Land Entry No. 03157 covering 240 acres within the SW $\frac{1}{4}$  SE $\frac{1}{4}$  Section 3 and NE $\frac{1}{4}$  NW $\frac{1}{4}$ , NW $\frac{1}{4}$  NE $\frac{1}{4}$ , S $\frac{1}{2}$  NE $\frac{1}{4}$  and N $\frac{1}{2}$  SE $\frac{1}{4}$  Section 10, T. 2 S., R. 35 E.

Being of the opinion that there is unappropriated water in the area covered by Application No. 13573 and that the diversion thereof would not be detrimental to Protestant's interests, the protest of E. L. Cord is herewith overruled and a permit will be granted under Application No. 13573 in the amount of 3.5 c.f.s. with the understanding that the duty of water per acre of land irrigated is not to exceed 5 acre-feet yearly.

Respectfully submitted,

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ALFRED MERRITT SMITH  
State Engineer

March 30, 1951.