

Orr Affidavit

Exhibit 77

RECEIVED

OCT 19 2009

DEPARTMENT OF
WATER RESOURCES

Letter from Norman H. Moore, Assistant
Regional Director, U.S. Bureau of Reclamation,
to Dr. Robert R. Lee, Director,
Idaho Water Resource Board
(Oct. 27, 1967)

Fourth Orr Affidavit
Exhibit 17:

**Letter from letter from Norman H.
Moore, Assistant Regional Director,
United States Bureau of Reclamation, to
Dr. Robert E. Lee, Director, Idaho Water
Resource Board (Oct. 27, 1967)**



UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

REGIONAL OFFICE, REGION I
BOX 8008
BOISE, IDAHO 83707

IN REPLY
REFER TO: 700

RECEIVED

OCT 19 1967

IDAHO WATER RESOURCE BOARD

OCT 27 1967

Dr. Robert R. Lee, Director
Idaho Water Resource Board
Statehouse
Boise, Idaho 83707

	INI.	DATE
☒ DIRECTOR	RRL	10/30
☐ CHAIRMAN		
☐ BOARD		
☒ PLANNING	Ed	10/30
☐ ENGINEERING		
☐ ECONOMICS		
☒ HYDROLOGY	AR	10/30
☐ LAND CLASS.		
☐ REPORTS		
☐ DEVELOPMENT		
☐ FILE		

Dear Dr. Lee:

At the meeting of the Idaho Water Resource Board, Thursday, October 19, 1967, Mr. F. M. Warnick responded to the questions set out in your letter of October 6, 1967. Additional questions from members of the Board were answered by Regional Director Nelson and Mr. Warnick. To complete your record, we are setting forth in this letter our answers to the questions in your October 6, 1967 letter.

Question 1. Review the quantity and location of the total estimated potentially irrigable lands in the Upper Snake River Basin.

Although no accurate information is available on the potentially irrigable land in the Upper Snake River Basin, reconnaissance studies of the Bureau have identified about 2,300,000 acres in addition to the 2,400,000 acres now irrigated. Large blocks of potentially irrigable land are located west of the Snake River from St. Anthony to American Falls Dam (250,000 acres). These lands lie adjacent to presently irrigated lands. South of the Snake River along Raft River, Goose Creek, and westward to Salmon Falls Creek are equally large blocks of potentially irrigable lands (225,000 acres). Along the many tributaries of the Snake River are smaller acreages that would respond to irrigation. Upwards of 1,000,000 acres of the presently irrigated area needs supplemental water. Areas experiencing frequent and substantial shortages are located along tributary streams where storage is lacking. Less severe shortages are experienced by some irrigated lands of the Snake Plain receiving water directly from the Snake River.

Questions 2 and 5. Areas that could be served by increased storage at Lynn Crandall Reservoir or American Falls Reservoir. The water supply situation with and without American Falls Dam enlargement.

MSS 6 Box 160 Folder 19



NOTICE: THIS MATERIAL MAY BE
PROTECTED BY COPYRIGHT LAW
(TITLE 17 U.S. CODE)

Reproduced from the manuscript collections
at Boise State University Library

MSS 6 Box 160 Folder 19

Reproduced from the manuscript collections
at Boise State University Library

Uncontrolled and unused surface flows of the Snake River passing Milner Dam average 1,250,000 acre-feet annually, including Idaho Power Company primary and secondary rights passing the dam, although there were eight consecutive years in the 1930's when no water would be available for new uses. This quantity of water, if fully controlled and utilized, would supply only a fraction of the future needs in the basin. It therefore appears that major land and water resource development will only be possible with coordinated and complementary use of the unused surface and ground water supply. New storage space is needed for control and use of wet year surface flows and ground water pumping is required to meet the dry year deficiencies.

The attached chart shows more clearly the flows that pass Milner Dam, exclusive of Power Company water, that is uncommitted. If other developments are undertaken and placed in operation, such as Lynn Crandall Reservoir and Snake Plain Recharge, then uncommitted flows passing Milner Dam would average about 232,000 acre-feet. This is the water that may be stored in an enlarged American Falls Reservoir.

Question 3. What are the advantages and disadvantages of ground water recharge and ground water exchange?

The ground water resource beneath the Snake River Plain could be benefited by artificial recharge. Artificial recharge would consist of diverting surplus surface flows of wet years from Snake River or Henrys Fork to infiltration areas where this water would enter the porous materials of the Snake Plain aquifer. Thus, both the transient storage provided by the aquifer and the surplus surface water that is now unused would be beneficially joined.

If the concept of artificial recharge is considered in the light of present and future water resource developments in the Upper Snake River Basin above Bliss, it would have the following effects:

- (a) Put underground in an evaporation-free reservoir, surplus flows of Henrys Fork and Snake River that would otherwise spill past Milner unused;
- (b) Increase the flow from the aquifer into Snake River at various places between Idaho Falls and Bliss;
- (c) Make available water for a variety of purposes that might not otherwise be usable in this reach of the river;
- (d) Moderate a declining water level in some areas and forestall this trend in other areas; and
- (e) Provide flood control by diversion of peak flows of Henrys Fork and Snake River.



NOTICE THIS MATERIAL MAY BE
PROTECTED BY COPYRIGHT LAW
(TITLE 17 U.S. CODE).

As might be imagined, arriving at monetary benefits and identification of project beneficiaries to a sufficient degree for contracting repayment of project annual and construction costs, are questions perhaps more difficult to resolve than the physical relationships of getting excess surface water under ground. A disadvantage of artificial recharge is the inability to regulate the ground water storage reservoir. Additional pumping from the aquifer would have some adverse effect on present individual pumpers in localized areas because of lowering water tables; however, the aquifer as a whole is far from being fully developed and much further pumping can take place without mining the resource.

Question 4. What is the timing of the Bureau's studies on the American Falls Dam, the Lynn Crandall Dam, and the Snake Plain Recharge Project?

A report on replacement of American Falls Dam is to be completed in February 1968. The proposed report on Lynn Crandall is scheduled for completion in December 1968, and the proposed report on Snake Plain Recharge is scheduled for completion in August 1969. Because of the condition of the concrete in American Falls Dam, it no longer meets the standards of safety expected of a structure of this type. The primary problem there is replacement of the present structure as soon as it can be reasonably accomplished. Whether this replacement is the same size as the existing dam or is a larger dam is a decision which must be made. Whatever decision is made, the replacement should not be delayed pending authorization of Lynn Crandall or Snake Plain Recharge.

Question 6. What is the potential for irrigating lands in the Portneuf River Drainage by exchange from Blackfoot Reservoir, presuming that the Lynn Crandall Reservoir would supply the replacement water? The problem with respect to obtaining Indian approval and competition for water in downstream areas should be discussed.

During the investigations for the Upper Snake River Basin report, completed jointly by the Bureau of Reclamation and Corps. of Engineers, the Bureau of Reclamation made an inventory of the land resources in the Portneuf River Basin. This inventory showed there are about 75,000 acres that are dry farmed or idle that could be irrigated if sufficient water could be made available. In addition, there are about 47,000 acres presently irrigated which need supplemental water. It is physically possible to divert water from Blackfoot River below Blackfoot Reservoir into the headwaters of the Portneuf River Basin. Blackfoot Reservoir has usable capacity of 413,000 acre-feet. Operating limitations imposed by the Bureau of Indian Affairs limit the storage to about 340,000 acre-feet. Our preliminary studies indicate that the average annual yield from this reservoir is about 125,000 acre-feet. Physically, all this water is divertible to the Portneuf River Basin. This amount of water could be completely replaced to the Indian Reservation by use



NOTICE THIS MATERIAL MAY BE
PROTECTED BY COPYRIGHT LAW
(TITLE 17 U.S. CODE).

of storage in Lynn Crandall Reservoir during the wet years and ground water pumping in dry years. To accomplish this exchange, the Reservation Canal would have to be enlarged from Snake River to the point where the canal intersects Blackfoot River. The problems connected with this exchange are obtaining Indian approval to the exchange and competition for the water for downstream areas where there are more favorable growing seasons.

We appreciated the opportunity to discuss with your Board the replacement of American Falls Dam. If additional information is needed to aid in your consideration of this problem, please contact us.

Sincerely yours,

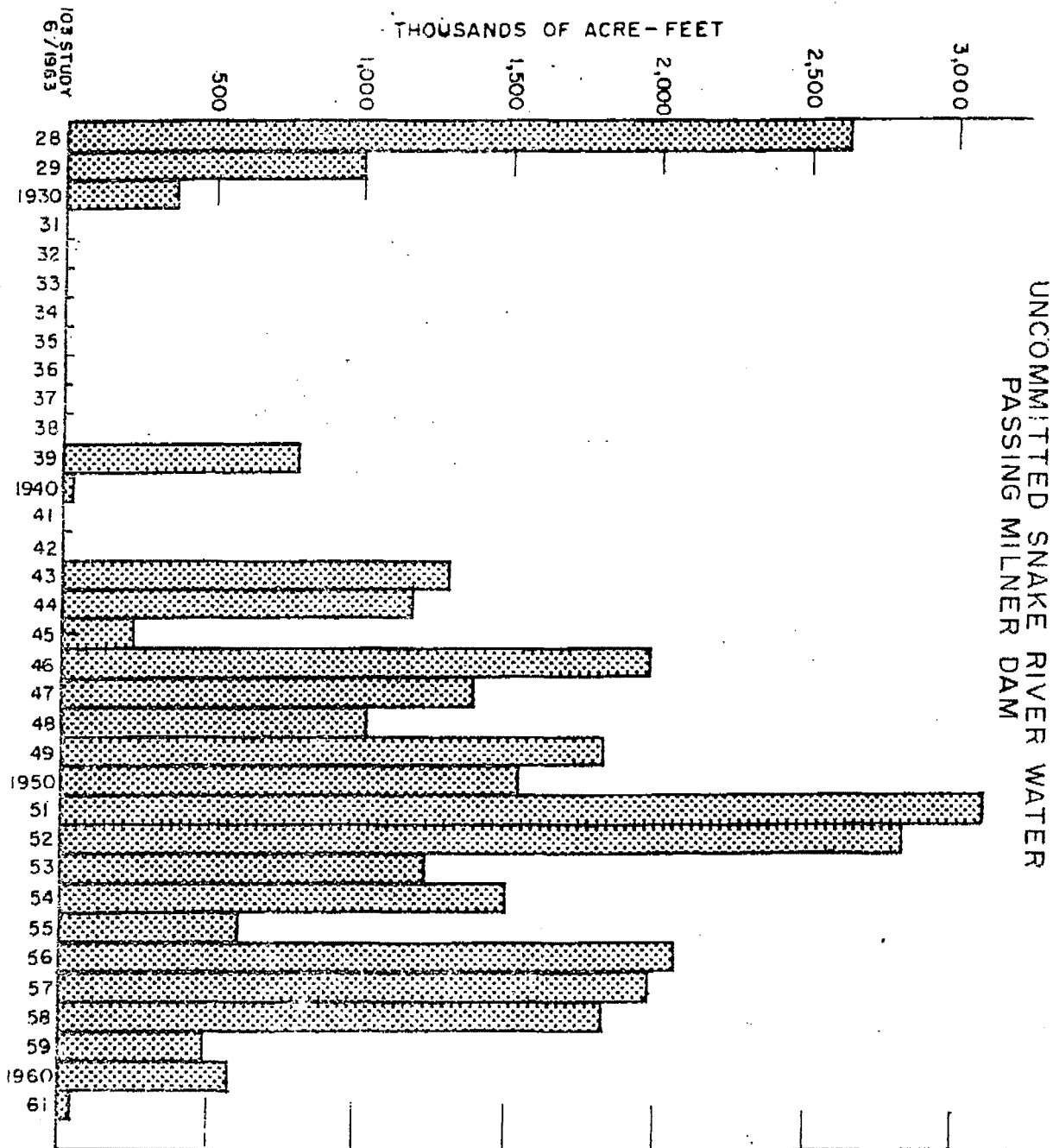
Norman H. Rose

Regional Director

Assistant

Attachment





NOTICE THIS MATERIAL MAY BE
PROTECTED BY COPYRIGHT LAW
(TITLE 17 U.S. CODE).