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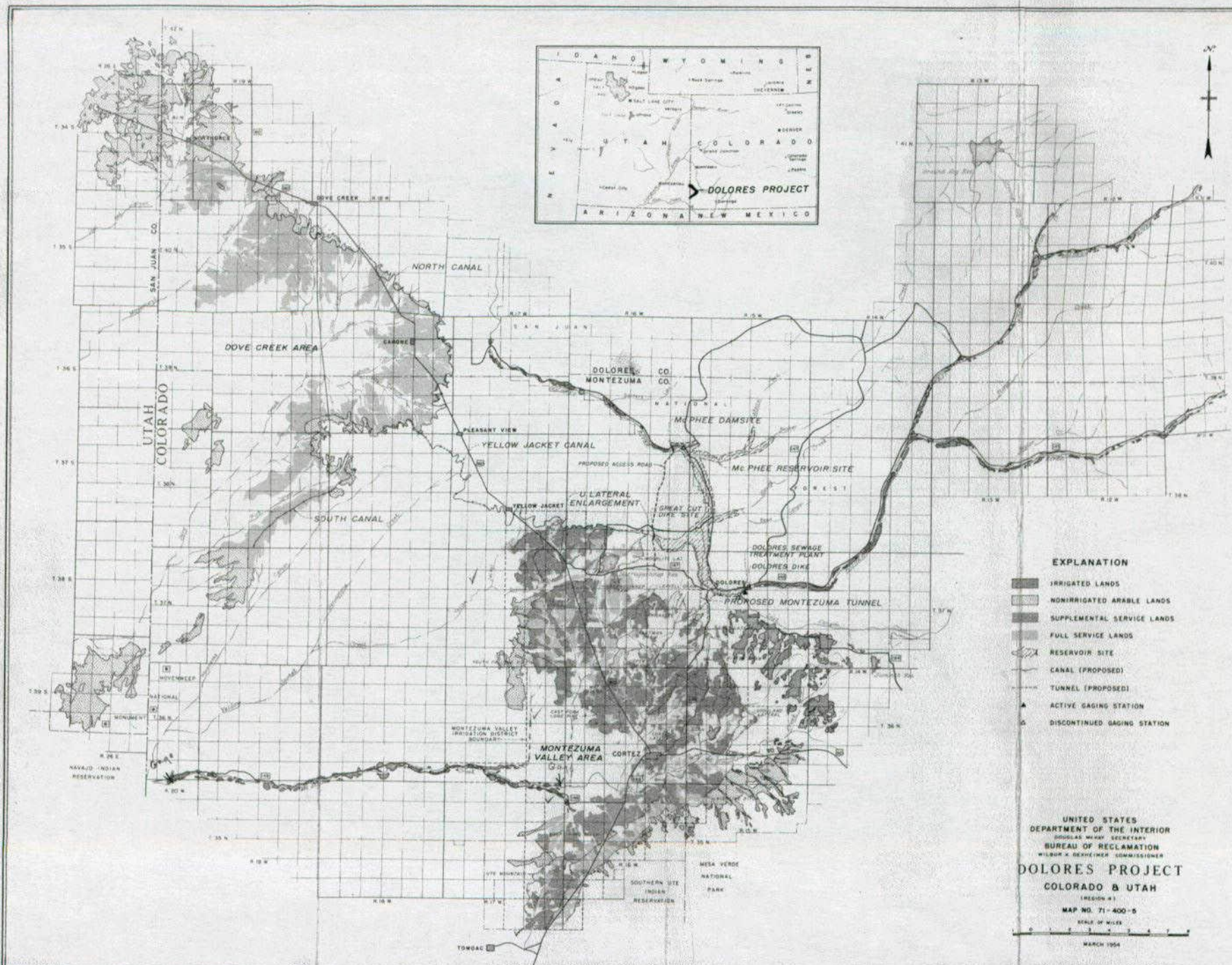
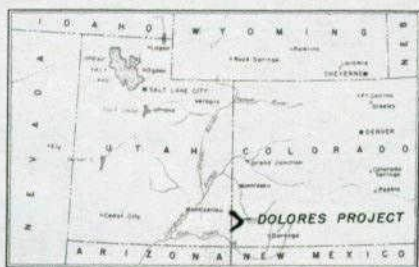
D O L O R E S P R O J E C T
C O L O R A D O

STATUS REPORT

Region 4

May 1954

Salt Lake City, Utah



EXPLANATION

- IRRIGATED LANDS
- NONIRRIGATED ARABLE LANDS
- SUPPLEMENTAL SERVICE LANDS
- FULL SERVICE LANDS
- RESERVOIR SITE
- CANAL (PROPOSED)
- TUNNEL (PROPOSED)
- ACTIVE GAGING STATION
- DISCONTINUED GAGING STATION

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 BUREAU OF RECLAMATION
 WILBUR N. BENTLEY, CHIEF ENGINEER

DOLORES PROJECT
 COLORADO & UTAH
 (REGION #1)
 MAP NO. 71-400-5
 SCALE OF MILES
 0 1 2 3 4 5 6 7

MARCH 1954

SUMMARY--DOLORES PROJECT

LOCATION: Southwestern Colorado, Upper Colorado River Basin.

PLAN OF DEVELOPMENT

The McPhee Reservoir with a total capacity of 328,000 acre-feet and an active capacity of 153,000 acre-feet would be created on the Dolores River by a dam 10 miles downstream from the town of Dolores. A low divide between the Dolores and San Juan River Basins would form the west bank of the reservoir. Two existing canal outlets through the divide, the Great Cut and the No. 1 tunnel, each serving to pass Dolores River water diverted by the Montezuma Valley Irrigation Company, would be filled or plugged and then inundated. One reservoir outlet structure would be placed in the Great Cut and another in the new Montezuma tunnel, the intake of which would be 17 feet below that of the No. 1 tunnel. Existing canals of the irrigation company would be served from both outlets. They would be enlarged as necessary to provide supplemental water to lands now irrigated in Montezuma Valley and a full supply to adjacent dry lands. A new Yellow Jacket Canal would convey water northwest 24 miles from the Great Cut outlet to the potential North and South Canals that would serve unirrigated lands in the Dove Creek area. Laterals would be constructed to serve all project lands not presently irrigated.

IRRIGATION

	<u>Area irri- gated</u>	<u>Annual water supply</u>
Montezuma Valley area		
Supplemental irrigation service land	30,550 acres	14,170 acre-feet
Full irrigation service land	9,450 acres	31,780 acre-feet
Dove Creek area		
Full irrigation service land	26,000 acres	99,840 acre-feet
Total	66,000 acres	145,790 acre-feet
		1800 Domestic
Depletion of Colorado River flow		69,370 acre-feet

COST AND REPAYMENT

Construction cost (all allocable to irrigation)	1/\$26,179,000
Repayable by water users in 50 years	1,533,000
Repayment assistance required	24,646,000
Annual operation, maintenance, and replacement costs (all payable by water users)	112,400
1/ Exclusive of \$42,000 expended from the nonreimbursable Colorado River Development Fund.	

BENEFIT-COST RATIO

Average annual benefits would compare with the annual equivalent costs in a ratio of 1.1 to 1.



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

Post Office Box 640
Durango, Colorado

May 7, 1954

To: Regional Director, Region 4, Salt Lake City, Utah
From: Area Engineer
Subject: Transmittal of Status Report--Dolores Project, Colo..

The accompanying report summarizes results of preliminary investigations made of means of utilizing presently unused water of the Dolores River in the Montezuma Valley and Dove Creek areas of the San Juan Basin in Colorado.

Data from previous investigations were utilized in the studies and only a minimum of field work was performed to obtain additional data. The investigation was carried out only in sufficient detail to determine whether more thorough studies are warranted and, on a finding in the affirmative, to give direction to those studies.

The project plan described in the report evolved from consideration of various means of bringing water to the land and of different scales of development. It represents the maximum development possible from storage only at the McPhee Reservoir site without inundating the town of Dolores. When more complete and accurate data are assembled in future studies, revisions in the plan may be found to be desirable.

Four land areas that would not be irrigated under the plan described should be further considered before the final project plan is formulated. These areas, further discussed in Chapter VIII of the report, are identified as follows:

- (1) From 4,000 to 6,000 acres of unclassified land located between the Montezuma Valley and Dove Creek areas that could be served from the potential Yellow Jacket Canal.
- (2) About 3,500 acres of unclassified land immediately south of the Montezuma Valley area in the Southern Ute Indian Reservation that could be served from the existing Montezuma Valley irrigation system.
- (3) Approximately 6,000 acres of arable land in the Montezuma Valley area that could be irrigated from two separate extensions of the existing irrigation system.

(4) About 2,300 acres of presently irrigated land in scattered tracts along the Dolores River above the McPhee Reservoir site that could receive some supplemental water from the stream in exchange for storage water that would be released to prior rights.

The capacity of the McPhee Reservoir site was estimated by projecting through 50 feet of elevation the area-capacity curve made from a previous survey. More accurate capacity determinations can be made from topographic data scheduled to be obtained this year by aerial photography. The actual reservoir capacity will be significant in the formulation of the most desirable plan and in determining project justifiability.

Perhaps the most important question bearing on project justifiability is the amount of water from the Dolores River required to satisfy rights prior to those of the project. The Montezuma Valley Irrigation Company has an absolute decreed right to irrigate 35,000 acres. In addition the company has a conditional right for 49,479 acres. Both rights are based on the irrigation of 65 acres per second-foot of water. Our studies showed that aside from meadow lands irrigated by seepage the company is actually irrigating only 30,550 acres and has an additional 9,450 acres of arable land under its ditches. We assumed, therefore, that with development of the Dolores project the company's actual water use would be limited to 40,000 acres and that the maximum rate of 1 second-foot for 65 acres would apply only for the period May 15 through August and would be lower before and after that period. It is, of course, not intended that the company's water rights be restricted below the quantity of water that it can apply to beneficial use. On the other hand, reservation for the company of water substantially in excess of its actual needs would surely prevent the further development outlined in this report. The company has pending before the district court a request to make absolute a right for 11,000 acres of its 49,479-acre conditional right, and in addition it has asked for 100 second-feet for domestic purposes. The granting of these requests would seriously impair the possibility of a Dolores project development.

Among other matters that should be further considered in future planning are these:

1. The practicability of hydroelectric power development utilizing water released from the McPhee Reservoir into the Dolores River.
2. The desirability of including in the project plan facilities to provide municipal water to small communities in the Dove Creek area.
3. The advisability of reducing the theoretical irrigation water requirements used in the present study since these appear to allow more water than is being used in the Mancos project in southwestern Colorado.

Since the report is intended primarily for use within the Bureau of Reclamation, it has not been refined in organization and presentation. I suggest, however, that copies be made available to State and local interests concerned whose desires and recommendations should be considered in any further work done on the potential project.

The rough analyses made for this report show that the Dolores project is economically justified although the margin by which the benefits would exceed the costs is small. Further studies directed toward completion of a feasibility report for submission to Congress are warranted. Detailed investigations of all phases of the project should be preceded, however, by the assembly of more reliable reconnaissance-type data on the more critical aspects. Periodical analyses of the information should be made. If at any time it is conclusively shown that the project would be unjustified or would not be supported by the local people, the investigations should be terminated.

/s/ William F. Crabtree

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