DEPARTMENT OF THE INTERIOR FRANKLIN K. LANE, Secretary

UNITED STATES GEOLOGICAL SURVEY
GEORGE OTIS SMITH, Director

Water-Supply Paper 425

CONTRIBUTIONS TO THE HYDROLOGY OF THE UNITED STATES

1917

NATHAN C. GROVER, Chief Hydraulic Engineer



WASHINGTON
GOVERNMENT PRINTING OFFICE
1919

NOTE.—The papers included in the annual volume "Contributions to the hydrology of the United States" are issued separately, with the final pagination, as soon as they are ready. The last paper will include a volume index, title-page, and table of contents for the use of those who may wish to bind the separate parts. A small edition of the bound volume will also be issued, but copies can not be supplied to those who have received all the parts.

11

CONTENTS.

[The	letters in parentheses preceding the titles are those used to designate the for advance publication.]	papers
	for advance publication.	Page.
(A)	Ground water in San Simon Valley, Arizona and New Mexico, by	
	A. T. Schwennesen, with a section on agriculture by R. H. Forbes	
	(published May 7, 1917)	1
(B)	Ground water for irrigation in Lodgepole Valley, Wyoming and	
	Nebraska, by O. E. Meinzer (published Sept. 14, 1917)	- 37
(C)	Hydraulic conversion tables and convenient equivalents (published	L
	Oct. 31, 1917)	71
(D ₁)	Ground water in Reese River basin and adjacent parts of Hum-	
. ,	boldt River basin, by G. A. Waring (published December 26,	•
	1918)	95
(E)	Ground water in Quincy Valley, Wash., by A. T. Schwennesen and	No.
	O. E. Meinzer (published December 30, 1918)	131
Inde	X	159

ILLUSTRATIONS.

	Page.
PLATE I. Map of San Simon basin, ArizN. Mex., showing areas of flow-	
ing wells and areas in which depth to water table of upper	
ground-water horizon is less than 100 feet	. 4
II. Map of San Simon and Bowie areas, San Simon Valley, Ariz.,-	*
N. Mex., showing locations of deep wells, flowing-well areas,	
and lands irrigated with well waters	14
III. Map of Rodeo area, San Simon Valley, ArizN. Mex., showing	
locations of wells and springs and depths to ground-water	
table	20
IV. Map of Lodgepole Valley in Laramie County, Wyo., showing	
geology and ground-water conditions	40
V. Map of Lodgepole Valley in Kimball and Cheyenne counties,	
Nebr., showing ground-water conditions	64
VI. Map of Lodgepole Valley in Deuel County, Nebr., showing	
ground-water conditions	66
VII. Map of Nevada showing areas covered by papers of the United	
States Geological Survey relating to ground water	96
VIII. Reconnaissance map of Reese River basin and adjacent parts	
of Humboldt River basin, Nev., showing geology and water	
resourcesIn p	ocket.
IX. A, View looking westward across Reese River valley, Nev.,	
from slopes back of Austin; B, Low bluffs along Reese River	
valley, Nev., near mouth of Boone Creek	100
X. A, Alluvial slopes near mouth of Big Creek, Nev., looking	
southeastward; B, Indian Valley, Nev., looking northward	
from its head	102

Plate XI.	A, Valley of Boone Creek, Nev., looking downstream from
	Mrs. Litster's ranch; B , Spring $1\frac{1}{3}$ miles southwest of Ante-
	lope Spring, in Antelope Valley, Nev
XII.	A, Head of Reese River canyon, Nev., showing Tertiary lake
	beds on each side; B, Reese River valley, Nev., looking
	downstream from James Litster's ranch
XIII.	Map of Quincy Valley, Wash., and adjacent areas, showing con-
	tours of the water table and areas contributing water to the
	valley
XIV.	Geologic section across Quincy Valley, Wash
FIGURE 1.	Map showing location of San Simon Valley, ArizN. Mex
2.	Generalized columnar section of San Simon Valley, Ariz
	N. Mex
3.	Map showing the drainage basin of Lodgepole Creek and
	adjacent areas in Wyoming and Nebraska
4.	Diagram showing annual precipitation at Austin and Battle
	Mountain, Nev
5.	Map of Washington showing location of Quincy Valley and
	other areas described in water-supply papers of the United
	States Geological Survey relating to ground water
6.	Generalized columnar section of geologic formations in Quincy
	Valley, Wash
7.	Diagram showing movements and disposal of surface and
	ground water in the Moses Lake region of Quincy Valley,
	117 a c b