



Preliminary Report on Ground Water in the Salmon Falls Area, Twin Falls County Idaho

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Table 1.—Data from pumping tests of wells in Salmon Falls area

Well	Owner	Depth to water (feet)	Dis-charge rate (gpm)	Draw-down (feet)	Specific capacity (gpm per foot)	Depth of well (feet)	Aquifer
11S-16E- 2dd1..	O. A. Schnitker..	290	1,360	50	27	500	"Soft red rock." ¹
6db1..	Edward Babcock.	305	680	150	4.5	975	Probably cinders. Lava, cinders, talc.
11S-17E-23ad1..	Harold Nelson..	195	756	208	3.6	514	Sand (old lakebed).
11S-18E-32cc1..	Oran Butler....	49	1,350	246	5.2	300	Gravel.
12S-15E-26aa1..	Lee Leichter..	315	450	80	5.6	625	Sand.
12S-16E-22bc1..	Leonard Peters..	169	72	41	1.8	395	Sand in basalt.
22dd1..	J. K. Courtney ..	70	75	25	3.0	191	
36db1..	John Rayl.....	0	450	100	4.5	-----	
12S-17E-18dd2..	Glenn Nelson...	135	2,500	45	55	230	Basalt.
13S-16E- 3bb2..	Martin Knudson.	87	180	159	1.1	-----	Basalt mingled with red soil.
13S-17E- 6bc1.. and 6bc2..	Ora Jones	4	² 2,700	50	27	600	Rock.
14S-15E-28aa1..	Ralph Schnell ..	191	³ $\left\{ \begin{array}{l} 1,810 \\ 1,380 \\ 1,275 \end{array} \right.$	$\left\{ \begin{array}{l} 95 \\ 60 \\ 50 \end{array} \right.$	$\left\{ \begin{array}{l} 19 \\ 23 \\ 25 \end{array} \right.$	455	Sandstone and cinders.
14S-16E- 2ad1..	A. E. Kunkel....	19	10	4	2.5	60	Gravel.
16ba1..	Harry Noh.....	215	270	85	3.1	1,210	

¹Reported by George and Harley, drillers.²Combined yield of the two wells.³Different pumping rates during test.

RECHARGE FROM DIRECT PRECIPITATION

The average annual precipitation within the boundary of the area shown on plate 1, about 200,000 acres, is about 10 inches, or approximately 167,000 acre-feet per year. Part of the precipitation runs off from the land surface and is discharged into the Snake River, some is evaporated or is transpired by plants, and some is retained as soil moisture; the residual is available for ground-water recharge. Blaney and Criddle (1949, p. 9) estimated that it takes about $6\frac{1}{2}$ inches of precipitation annually to sustain the type of sparse vegetation that is native to the area. Six and one-half inches is about 70 percent of the total annual precipitation; part of the remainder is lost by evaporation from the soil or by sublimation of snow.

A correlation of average annual precipitation and water yields of drainage basins in southeastern Idaho suggests that 10 inches of precipitation would yield an amount of water equivalent to three-fourths of an inch over

the area, or about 12,000 acre-feet per year (Mundorff, oral communication, 1959). Water yield is defined as the total of both surface and ground water which moves out of a basin by surface runoff and underflow. The surface drainage is poorly developed and on the basis of recharge-runoff relations in similar areas of the Snake River basin, it is estimated that about one-half of the yield, or roughly 5,000 acre-feet, becomes ground-water recharge.

RECHARGE FROM UPLAND TO THE EAST AND SOUTHEAST

Deep and Desert Creeks and other small ephemeral streams drain the hills to the east and southeast of the Salmon Falls area. The total amount of recharge derived from that source is unknown. However, a considerable amount of recharge to the area from that direction is suggested by the shallow depth to water and by the shape of the water-level contours southeast of Hollister (pl. 1). The average annual precipitation in this bordering area is about $13\frac{1}{2}$ inches (fig. 3). The relation