

LIBRARY COPY

Compilation of Records of Surface Waters of the United States through September 1950

Part 9. Colorado River Basin

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1313



VIRGIN RIVER BASIN

636. Muddy River near Moapa, Nev. 1/

Location.--Lat 36°43', long. 114°42', in SW 1/4 sec. 15, T. 14 S., R. 65 E., three-quarters of a mile downstream from Home Ranch, 0.9 mile downstream from downstream end of a 1 1/2-mile reach containing 21 springs, 5 miles northwest of Moapa, and 9 1/2 miles upstream from Meadow Valley Wash.

Drainage area.--About 3,860 sq mi, of which about 80 sq mi contribute directly to surface runoff.

Gage.--Water-stage recorder and sharp-crested weir. Altitude of gage is 1,710 ft (from river-profile map), Oct. 21, 1944, to Sept. 30, 1948, at datum 0.08 ft higher.

Average discharge.--13 years (1913-15, 1916-18, 1928-31, 1944-50), 46.2 cfs.

Extremes.--1913-17, 1944-50: Maximum gage height, 9.9 ft Feb. 21, 1914 (discharge not determined); minimum, 36 cfs sometime during period July 2-14, 1916, and July 21, 1917.

Remarks.--Diversions for irrigation above station. Normal flow of stream is entirely from springs.

Cooperation.--Monthly runoff in acre-feet for 1928-32 furnished by University of Nevada Agricultural Experiment Station. Records for 1944-48 furnished by Bureau of Reclamation and have not been previously published by the Geological Survey.

Monthly and yearly mean discharge, in second-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1913	-	-	-	-	-	-	-	-	-	-	-	-	-
1914	47.6	48.9	49.7	50.3	58.7	46.8	45.4	44.0	44.3	44.7	45.4	46.7	-
1915	44.8	47.1	48.8	50.5	54.3	50.2	48.7	46.8	42.5	43.9	43.5	43.9	47.2
1916	-	-	-	-	-	-	-	-	-	-	-	-	47.6
1917	46.7	49.7	49.1	48.2	49.2	48.3	46.7	44.8	43.5	45.5	45.5	44.7	-
1918	47.1	48.2	49.2	49	50	49.5	47	46.0	44.3	44.9	44.8	44.5	46.7
1928	-	-	-	-	-	-	-	-	-	-	-	-	47.0
1929	42.4	44.1	46.7	47.5	47.0	45.7	44.7	42.7	42.6	42.4	43.7	42.5	-
1930	43.9	44.1	44.8	47.0	46.6	46.2	44.7	43.0	42.0	42.5	42.5	43.2	44.3
1931	43.7	44.3	45.8	46.8	46.8	45.5	42.8	42.5	40.7	40.7	41.2	43.2	44.3
1932	43.9	-	-	-	46.8	45.5	42.8	42.5	40.7	41.7	40.7	45.6	43.9
1945	45.9	47.0	48.8	47.4	47.2	46.1	43.7	42.0	41.1	41.4	-	-	-
1946	49.7	49.4	50.1	50.8	49.7	49.2	46.6	42.7	41.7	44.5	47.7	45.8	45.6
1947	49.6	51.2	50.6	50.1	49.6	48.3	46.6	42.7	40.6	42.5	46.0	45.9	46.9
1948	46.5	48.2	50.4	48.2	48.3	47.3	46.4	46.9	44.7	44.4	44.6	45.2	47.8
1949	47	47	49.5	53.5	50.9	47.6	46.5	45.4	44.6	42.6	43.2	44.1	46.3
1950	47.2	46.8	49.8	49.0	47.5	47.8	45.9	45.0	42.8	44.5	43.1	44.6	47.1

Monthly and yearly runoff, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1913	-	-	-	-	-	-	-	-	-	-	-	-	-
1914	2,930	2,910	3,050	3,100	3,260	2,870	-	-	2,750	2,700	2,780	2,780	-
1915	2,760	2,800	3,000	3,100	3,020	3,090	2,700	2,700	2,640	2,700	2,670	2,610	34,140
1916	-	-	-	-	-	-	-	-	2,900	2,880	2,720	2,860	34,450
1917	2,870	2,960	3,020	2,970	2,730	2,970	2,780	2,760	2,590	2,800	2,660	2,660	-
1918	2,900	2,870	3,020	3,010	2,780	3,040	2,800	2,740	2,670	2,730	2,750	2,650	33,840
1928	-	-	-	-	-	-	-	-	2,800	2,830	2,640	2,740	34,060
1929	2,610	2,620	2,870	2,920	2,610	2,810	2,660	2,630	2,530	2,600	2,680	2,530	-
1930	2,700	2,630	2,750	2,890	2,590	2,840	2,660	2,650	2,500	2,640	2,610	2,570	32,050
1931	2,690	2,640	2,820	2,880	2,600	2,800	2,550	2,610	2,400	2,500	2,530	2,370	31,150
1932	2,700	-	-	-	2,600	2,800	2,550	2,610	2,420	2,560	2,510	2,710	31,790
1945	2,820	2,800	3,000	2,910	2,620	2,830	2,600	2,580	2,450	2,540	2,510	2,710	-
1946	3,060	2,940	3,080	3,120	2,760	3,020	2,770	2,620	2,410	2,630	2,830	2,730	33,990
1947	3,050	3,050	3,110	3,080	2,760	2,970	2,890	2,880	2,660	2,730	2,740	2,700	34,620
1948	2,860	2,870	3,100	2,970	2,790	2,920	2,770	2,790	2,660	2,730	2,740	2,620	33,630
1949	2,890	2,800	3,050	3,290	2,820	2,930	2,790	2,810	2,660	2,620	2,660	2,620	34,080
1950	2,900	2,780	3,060	3,010	2,640	2,949	2,730	2,770	2,710	2,650	2,690	2,650	33,450

Yearly discharge, in second-feet

Year	W.S.P. no.	Water year ending Sept. 30						
		Momentary maximum		Minimum day	Mean	Runoff in acre-feet	Calendar year	
		Discharge	Date				Mean	Runoff in acre-feet
1913	359	85	Aug. 31, 1913	-	-	-	-	
1914	389	(a)	Feb. 21, 1914	-	-	-	-	
1915	409	88	Feb. 11, 1915	39.7	47.2	34,140	46.7	
1916	439	68	July 24, 1916	-	-	34,450	-	
1917	459	62	July 23, 1917	-	-	-	33,810	
1918	1049	-	-	37	46.7	-	-	
					47.0	33,840	46.6	
					-	34,060	-	
					-	-	33,780	

a The figure previously published in Water-Supply Papers 389, 647, and 1049 for the peak of Feb. 21, 1914, has been found in error on the basis of restudy of the original notes, and should not be used.

1/ Records for 1904-6, 1908-10, originally published under this name, were obtained at another location later called Muddy River near Logan, were published under that name in Water-Supply Paper 1049, and are published under that name in this report.

Monthly and yearly runoff, in acre-feet, of Muddy River near Glendale, Nev.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1910	-	-	-	-	-	-	-	5,790	3,900	3,630	3,280	2,260	-
1911	2,410	-	-	-	-	-	-	-	-	-	-	-	-
1913	-	-	-	-	-	-	-	-	-	2,080	2,090	2,370	-
1914	2,650	2,810	3,110	3,750	-	-	-	-	-	-	-	-	-
1950	-	-	-	-	-	2,790	2,590	2,470	2,150	2,520	2,260	2,430	-

642. Muddy River near Overton, Nev. 1/

Wells Siding
Location.--Lat 36°38', long. 114°30', in NW¼ sec. 21, T. 15 S., R. 67 E., at Wells Siding diversion dam, 2 miles northwest of Logandale, 5 miles downstream from Meadow Valley Wash, 6½ miles northwest of Overton, and 7½ miles southeast of Moapa.
Drainage area.--About 8,180 sq mi, of which about 4,230 sq mi contributes directly to surface runoff, for site near Overton, 1948-50. About 200 sq mi greater for sites near St. Thomas, 1913-16 (now submerged by Lake Mead).

Gage.--Water-stage recorder at present site since Dec. 13, 1947; crest of Wells Siding dam is control. Datum of gage is 1,432.16 ft above mean sea level, datum of 1929 (Bureau of Reclamation bench mark).

Prior to Feb. 21, 1914, staff gage 14½ miles downstream at different datum. Mar. 15, 1914, to Sept. 30, 1916, staff gage 15 miles downstream and a quarter of a mile upstream from mouth at different datum. Altitude of gage is 1,100 ft (from river-profile map).

Extremes.--1913-16, 1947-50: Maximum discharge, 6,500 cfs Feb. 22, 1914 (gage height, between 8 and 9 ft, datum then in use), from rating curve extended above 300 cfs on basis of slope-area determination of peak flow; no flow at times in most years. Greatest flood peaks known, 10,000 cfs (estimated) Mar. 3, 1938, and 12,000 cfs (estimated, corrected) Aug. 11, 1941.

Remarks.--Many diversions above station for irrigation in 1913-16 above station and in 1948-50 above and below station. Records for both 1913-16 and 1948-50 were obtained below point of diversion for irrigation in vicinity of Logandale. Diversions at Wells Siding dam are not included in records for 1948-50. Records for 1913-16 show flow into Virgin River; those for 1948-50 show flow below Wells Siding dam and inflow to Lake Mead except for waste and drainage return from irrigated lands in vicinity of Logandale and diversion to a wild-life refuge.

Monthly and yearly mean discharge, in second-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1913	-	-	-	-	-	-	-	-	0.26	0.41	1.10	2.49	-
1914	3.87	14.0	19.2	26.7	136	13.5	8.71	10.2	2.82	.92	.42	4.58	19.3
1915	5.86	12.0	21.3	34.8	63.7	23.4	5.56	51.2	-	-	-	-	-
1916	-	-	-	77.2	61.6	20.5	2.44	2.74	.93	9.58	12.7	2.48	-
1948	-	-	25.5	26.5	34.9	12.5	6.3	1.2	1.0	0	.1	0	-
1949	.03	12.1	25.4	30.5	29.2	11.8	1.7	0	0	0	0	0	9.1
1950	0	1.89	18.8	22.2	3.77	1.06	.25	.28	.01	.06	0	0	3.98

near St. Thomas
Wells Siding Gage

Monthly and yearly runoff, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1913	-	-	-	-	-	-	-	-	16	25	68	148	-
1914	238	833	1,180	1,640	7,560	831	518	629	168	56	26	272	13,950
1915	360	714	1,310	2,140	3,540	1,440	331	3,150	-	-	-	-	-
1916	-	-	-	4,750	3,540	1,260	145	169	56	589	781	148	-
1948	-	-	1,570	1,630	2,010	772	373	73	58	0	4.0	0	-
1949	2.0	720	1,560	1,880	1,620	724	103	0	0	0	0	0	6,610
1950	0	112	1,160	1,360	209	6.5	15	17	.6	4.0	0	0	2,880

near St. Thomas
Wells Siding Gage

Yearly discharge, in second-feet

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Runoff in acre-feet	Mean	Runoff in acre-feet
		Discharge	Date					
1913	359	-	-	0	-	-	-	
1914	389	6,500	Feb. 22, 1914	.1	19.3	13,950	19.5	
1915	409	4820	Feb. 11, 1915	-	-	-	-	
1916	439	61,700	Jan. 20, 1916	-	-	-	-	
1948	1119	-	-	0	-	-	-	
1949	1149	-	-	0	9.1	6,610	9.9	
1950	1179	-	-	0	3.98	2,880	7.73	

near St. Thomas
Wells Siding Gage

a Maximum for water year.
 b Maximum discharge observed.

1/ Published as "near St. Thomas", 1913-16.