Chemical Analyses of

RIVER AND SPRING WATERS

MISSOURI BUREAU OF GEOLOGY
and MINES

H. A. BUEHLER, *State Geologist*

ROLLA, MISSOURI

CHEMICAL ANALYSES OF SURFACE WATERS.

The following tables give the results of analyses of 206 samples of surface waters collected from the various rivers and springs throughout the State, which in general are representative of the more important sources of surface water supply. Where more than one analysis was made of the waters in any drainage basin the average mineral content is given in a summary. The turbidity was determined in the laboratory of the State Board of Health, which department also made bacteriological examinations of samples collected by the Bureau.

In each case a gallon sample was collected and in making the analysis the suspended matter was filtered out and determined. The results are expressed in parts per million. For the convenience of those who may desire the results in other forms, it may be stated that for practical purposes multiplying parts per million by 0.058 gives the equivalent in grains per U. S. gallon and multiplying by 0.070 gives the equivalent in grains per imperial gallon.

In the tables, the analyses of the springs and rivers are tabulated separately and are further classified according to drainage basins. The locations from which samples were taken appear on one page with such information as is relevant, and the analyses appear on the page directly opposite. Each location is given a number which corresponds to the number of the analysis on the opposite page. The drainage basins and sources are arranged alphabetically.

The coefficient of fineness is the ratio of the suspended matter to the turbidity and is a measure of the size of the particles in suspension. Total hardness has been calculated as calcium carbonate from determined calcium and magnesium after the magnesium content has been calculated to calcium. Alkalinity has been calculated as calcium carbonate from the carbonate and bicarbonate radicals. The sum of constituents has been reported rather than the customary "total dissolved solids." It is equivalent to the latter designation in the usual analysis.

All samples were collected during the dry season unless otherwise stated. Figures showing flow of springs indicate that measurements were made the same day the sample was taken. Where the flow was not measured at that time the fact is designated by the letter (a). Such measurements of flow as have been made can be found in Chapters II and III of this report.

The analyses were made by H. W. Mundt and Dr. W. D. Turner.

ANALYSES OF RIVER WATERS

Drainage basin.	No.	Source.	Town.	County.	Sec.	T.	R.	Discharge, sec. feet.	Stage, feet.	Date.	Remarks.
	1	Black	Leeper	Wayne	27	28N	3E	295	2.38	Aug. 1, 1925	
	2	Black	Poplar Bluff	Butler	2	24N	6E			Aug. 9, 1925	Above sewer.
Black	3	Black	Poplar Bluff, 3 mi. S.	Butler	13	24N	6E			Aug. 9, 1925	Below sewer.
	4	Summary of three samples									
	5	Chariton	Elmer	Macon	2	59N	16W	4,540	15.80	June 23, 1925	Wet season.
	6	Chariton	Keytesville	Chariton	11	53N	18W			July 23, 1925	Above Mussel Fork.
Chariton	7	Chariton, Little	Forest Green	Chariton	5	52N	17W			July 23, 1925	
	8	Chariton	Rockford	Chariton	15	53N	18W			July 23, 1925	Below Mussel Fork.
	9	Mussel Fork	Keytesville	Chariton	5	53N	18W			July 23, 1925	
	10	Summary of five samples									
Cuivre	11	Cuivre	Troy	Lincoln	18	49N	1E	4	1.22	Sept. 19, 1925	
	12	Current	Doniphan	Ripley	27	23N	2E	1,080	.16	Aug. 11, 1925	
	13	Current	Eminence	Shannon	15	29N	3W	480	.98	Aug. 14, 1925	
	14	Crooked Creek	Montauk	Dent	23	32N	7W	520	1.12	June 19, 1925	Stage at Eminence.
Current	15	Current	Owls Bend	Shannon	20	30N	4W	520	1.12	June 19, 1925	Stage at Eminence.
	16	Current	Van Buren	Carter	25	27N	1W	600	1.34	Aug. 15, 1925	
	17	Jacks Fork	Eminence	Shannon	26	29N	4W	126	.86	June 19, 1925	
	18	Summary of six samples									
Eleven Point	19	Eleven Point	Bardley	Oregon	20	23N	2W	230	1.14	Aug. 12, 1925	
	20	Middle Fabius	Lewistown	Lewis	11	61N	8W			June 24, 1925	Wet season.
Fabius	21	North Fabius	Monticello	Lewis	6	61N	7W	134	2.26	June 24, 1925	Wet season.
	22	South Fabius	Taylor	Marion	24	59N	6W			June 24, 1925	Wet season.
	23	Summary of three samples									
	24	Piney	Cabool	Texas	16	29N	10W			Aug. 9, 1926	
	25	Piney	Devil's Elbow	Pulaski	18	36N	10W	135	2.00	June 11, 1925	Stage at Big Piney.
	26	Gasconade	Hazelgreen	Laclede	15	35N	14W	156	2.59	June 11, 1925	Stage at Waynesville.
	27	Gasconade	Hooker	Pulaski	33	37N	10W	256	2.59	June 11, 1925	Stage at Waynesville.
	28	Gasconade	Jerome	Phelps	13	37N	10W	630	1.74	July 7, 1925	
Gasconade	29	Gasconade	Mt. Sterling	Gasconade	19	43N	6W	908	1.86	June 19, 1925	Stage at Rich Fountain.
	30	Gasconade	Waynesville	Pulaski	3	36N	12W	193	2.41	July 7, 1925	
	31	Indian Creek	Simmons	Texas	19	30N	9W			Aug. 9, 1926	
	32	Little Piney Creek	Arlington	Phelps	24	37N	10W			June 11, 1925	
	33	Roubidoux Creek	Waynesville	Pulaski	25	36N	12W			June 11, 1925	
	34	Summary of ten samples									

No.	Turbidity.	Coef. of fineness.	Total suspended matter.	Vol. suspended matter.	Non-vol. suspended matter.	Total hardness as $CaCO_3$.	Alkalinity as $CaCO_3$.	Sum of constituents.	Residue after ignition.	Silica. (SiO_2)	Iron. (Fe)	Calcium. (Ca)	Magnesium. (Mg)	Sodium and potassium. (Na)	Carbonate. (CO_3)	Bicarbonate. (HCO_3)	Sulphate. (SO_4)	Chloride. (Cl)	Nitrate. (NO_3)	Error, per cent.	No.
1	80	.....	Trace	.....	.....	134.8	137.7	139.9	88.0	5.8	1.02	28.0	15.8	1.1	6.0	155.8	3.3	3.1	0.12	−3.0	1
2	0	.....	10.3	4.6	5.7	144.3	142.0	143.4	88.0	6.4	0.48	29.7	17.1	0.3	3.3	166.5	2.3	2.0	0.34	−1.0	2
3	.....	.....	8.9	3.3	5.6	148.0	135.5	148.8	92.0	6.4	0.34	30.3	17.6	6.6	2.1	161.0	2.5	3.6	0.35	+6.2	3
4	.....	.....	6.4	2.6	3.8	142.4	138.4	144.0	89.3	6.2	0.61	29.3	16.8	2.7	3.8	161.1	2.7	2.9	0.27	+0.9	4
5	100+	21.24	2,124.0	304.0	1,820.0	86.4	46.6	121.1	106.0	11.0	1.08	24.9	5.9	7.4	1.8	53.4	38.2	1.7	3.87	+5.2	5
6	200	1.09	218.0	39.0	179.0	131.1	108.0	177.2	135.0	7.6	2.00	39.3	8.0	17.6	2.7	126.2	34.1	4.2	1.62	+5.8	6
7	125	0.69	87.0	0.0	87.0	142.7	86.7	227.8	168.0	9.4	1.23	40.7	10.0	24.0	3.3	98.8	66.2	24.9	0.56	+0.9	7
8	140	1.74	244.0	55.0	189.0	131.4	109.1	175.7	139.0	9.6	1.05	39.6	7.9	15.3	6.0	120.8	31.0	5.1	1.67	+4.8	8
9	150	1.23	185.0	15.0	170.0	81.9	80.1	117.1	39.0	8.0	2.00	25.2	4.6	10.6	0.0	97.6	13.1	6.4	1.05	+0.7	9
10	.....	.....	571.6	82.6	489.0	114.7	86.1	163.9	117.4	9.1	2.23	33.9	7.3	15.0	2.8	99.4	36.5	8.5	1.75	+3.3	10
11	125	0.78	98.0	28.0	70.0	138.0	136.6	166.0	104.0	5.8	0.23	44.2	6.7	10.7	0.0	166.5	11.5	4.4	0.70	+2.1	11
12	0	.....	Trace	.....	.....	178.6	177.8	181.9	119.0	5.4	1.06	36.0	21.6	5.5	9.3	197.9	2.3	3.2	1.23	+1.5	12
13	0	.....	Trace	.....	.....	180.4	175.7	176.5	142.0	4.8	0.87	36.4	21.8	2.8	9.3	195.5	1.6	3.2	0.37	−1.1	13
14	5−	0.32	1.6	0.4	1.2	151.1	147.2	152.1	102.0	5.6	0.48	31.7	17.5	2.0	5.4	168.5	2.7	3.0	1.24	+0.2	14
15	5−	1.52	7.6	1.6	6.0	169.8	173.0	178.6	136.0	9.6	0.27	34.3	20.5	6.0	7.5	195.9	0.8	3.0	0.46	+1.2	15
16	0	.....	8.5	3.7	4.8	172.9	168.6	164.7	99.0	5.6	0.29	34.4	21.2	0.0	14.4	176.2	0.0	2.3	0.00	+0.4	16
17	5−	0.52	2.6	1.0	1.6	166.2	162.7	167.5	146.0	5.6	0.19	33.2	20.3	4.9	7.3	183.8	1.4	3.8	0.58	+2.0	17
18	.....	.....	3.4	1.1	2.3	169.8	167.5	170.2	124.0	6.1	0.53	34.3	20.5	3.5	8.9	186.3	1.5	3.1	0.65	+0.9	18
19	10	.....	Trace	.....	.....	190.1	185.0	189.7	142.0	7.2	1.04	39.3	22.4	5.2	12.0	201.0	1.4	2.7	0.52	+2.7	19
20	1,750	1.42	2,482.0	291.0	2,191.0	65.6	43.8	124.4	99.0	10.6	1.25	17.7	5.2	13.4	0.0	53.4	46.5	1.2	3.45	−1.3	20
21	950	0.88	832.0	124.0	708.0	96.1	62.6	120.6	106.0	3.6	1.55	24.5	8.5	7.7	1.8	72.9	33.9	2.6	2.15	+4.4	21
22	2,750	0.90	2,489.0	325.0	2,164.0	55.5	31.5	71.3	78.0	11.2	2.22	13.5	5.3	4.4	0.0	38.4	13.0	0.5	4.50	+1.4	22
23	.....	.....	1,934.3	246.6	1,687.7	72.4	45.9	105.4	94.3	8.5	1.67	18.6	6.3	8.5	0.6	54.9	31.1	1.4	3.37	+4.6	23
24	.....	.....	12.8	6.8	6.0	179.0	164.4	186.0	122.0	11.0	0.44	38.3	20.3	4.7	13.8	172.6	5.4	3.9	0.74	+3.6	24
25	.....	.....	6.2	1.2	5.0	167.6	154.4	158.7	104.8	4.8	0.24	34.9	19.6	2.8	5.1	177.8	1.4	1.3	1.20	+4.4	25
26	.....	.....	16.6	2.0	14.6	181.6	177.1	181.3	118.4	7.0	0.37	34.7	23.1	2.8	4.5	206.4	2.7	3.1	1.56	+0.5	26
27	.....	.....	5.2	1.0	4.2	168.4	160.8	164.8	128.0	5.6	0.29	33.9	20.4	5.5	3.9	188.1	1.6	0.0	1.29	+5.1	27
28	.....	.....	5.6	1.2	4.4	171.0	164.0	173.1	92.0	8.8	0.54	34.1	20.9	5.8	11.1	177.4	2.9	2.1	0.00	+3.8	28
29	15	1.15	17.2	2.4	14.8	154.6	152.1	160.8	134.0	10.6	1.20	30.5	19.1	2.4	10.6	163.8	5.1	1.3	0.45	−0.2	29
30	.....	.....	5.0	1.0	4.0	185.7	186.4	196.2	101.0	10.8	0.45	36.6	23.0	5.0	15.0	196.6	5.5	3.4	0.10	0.0	30
31	.....	.....	9.2	6.6	2.6	214.6	189.0	211.5	137.0	12.0	0.44	45.5	24.6	4.1	18.9	192.1	3.5	3.1	1.20	+6.0	31
32	.....	.....	15.0	1.8	13.2	169.9	160.1	162.6	106.8	4.2	0.28	33.8	20.8	4.0	3.9	187.2	1.6	1.3	0.80	+4.2	32
33	.....	.....	5.2	1.5	3.7	166.6	158.1	160.0	118.4	5.2	0.27	33.2	20.4	3.3	2.1	188.4	1.4	0.3	1.27	+3.7	33
34	.....	.....	9.8	2.5	7.3	175.9	166.6	175.5	121.6	8.0	0.45	35.5	21.2	4.0	8.9	185.0	3.1	2.0	0.86	+2.9	34

ANALYSES OF RIVER WATERS

Drainage basin.	No.	Source.	Town.	County.	Sec.	T.	R.	Discharge, sec. feet.	Stage, feet.	Date.	Remarks.
	35	Grand	Brunswick	Chariton	11	53N	20W	380	3.35	July 23, 1925	Stage at Sumner.
	36	Grand	Sumner	Chariton	29	56N	21W	13,200	18.32	June 19, 1925	Wet season.
Grand	37	Thompson	Trenton	Grundy	18	61N	24W	.....	.....	June 19, 1925	Above sewer; wet season
	38	Thompson	Trenton	Grundy	17	60N	24W	.....	.....	June 19, 1925	Below sewer; wet season
	39	Summary of four samples	.....	.....	.....	.....	.....	.....	.....	.....	.....
James	40	James	Galloway	Greene	16	28N	21W	177	2.31	Sept. 21, 1926	Stage at Battlefield.
	41	Blackwater	Blue Lick	Saline	27	49N	21W	52	.....	July 7, 1925	Discharge estimated.
	42	Flat Creek	Sedalia	Pettis	21	45N	21W	.....	.....	July 10, 1925	
Lamine	43	Lamine	Clifton City	Cooper	16	46N	19W	17	1.72	July 7, 1925	
	44	Summary of three samples	.....	.....	.....	.....	.....	.....	.....	.....	.....
Headwater	45	Castor	Zalma	Bollinger	29	29N	9E	184	52.80	July 2, 1925	
Diversion	46	Whitewater	Whitewater	Cape Girardeau	.....	30N	11E	.....	32.24	July 2, 1925	Low stage.
	47	Summary of two samples	.....	.....	.....	.....	.....	.....	.....	.....	.....
	48	Big	Byrnesville	Jefferson	18	43N	4E	185	3.12	July 21, 1925	
	49	Big	E. Bonne Terre	St. Francois	8	37N	5E	1,050	5.48	July 7, 1925	Stage at Byrnesville; wet.
	50	Bourbeuse	Union	Franklin	26	43N	1W	280	2.21	July 19, 1925	
Meramec	51	Meramec	Eureka	St. Louis	12	43N	3E	1,000	1.48	July 21, 1925	
	52	Meramec	Steelville	Crawford	21	38N	4W	198	.79	June 27, 1925	
	53	Meramec	Sullivan	Franklin	35	40N	2W	445	2.12	June 27, 1925	
	54	Meramec	Ten Brook	St. Louis	16	43N	6E	.....	.....	July 17, 1925	
	55	Summary of seven samples	.....	.....	.....	.....	.....	.....	.....	.....	.....
	56	Headwater Diversion Channel	Dutchtown	Cape Girardeau	30	30N	13E	.....	.....	July 13, 1925	
	57	Mississippi	Burlington Park	St. Charles	.....	48N	7E	.....	9.0	July 21, 1925	Medium stage.
	58	Mississippi	Cape Girardeau	Cape Girardeau	5	30N	14E	.....	20.4	July 1, 1925	High stage
	59	Mississippi	Caruthersville	Pemiscot	16	18N	13E	.....	.....	Aug. 5, 1925	
	60	Mississippi	Hannibal	Marion	20	57N	4W	.....	.5	Sept. 5, 1925	Low stage.
Mississippi	61	Mississippi	Jefferson Barracks	St. Louis	6	43N	7E	.....	11.2	July 21, 1925	Medium stage.
	62	Mississippi	Louisiana	Pike	18	54N	1W	.....	.8	Sept. 5, 1925	Low stage.
	63	Mississippi	New Madrid	New Madrid	3	22N	14E	.....	7.2	Aug. 5, 1925	Medium stage.
	64	Mississippi	Ste. Genevieve	Ste. Genevieve	17	38N	9E	.....	.....	July 7, 1925	
	65	Mississippi	St. Louis	.....	.....	.....	.....	.....	11.2	July 21, 1925	Medium stage.
	66	Summary of ten samples	.....	.....	.....	.....	.....	.....	.....	.....	.....

No.	Turbidity.	Coef. of fineness.	Total suspended matter.	Vol. suspended matter.	Non-vol. suspended matter.	Total hardness as $CaCO_3$.	Alkalinity as $CaCO_3$.	Sum of constituents.	Residue after ignition.	Silica. (SiO_2)	Iron. (Fe)	Calcium. (Ca)	Magnesium. (Mg)	Sodium and potassium. (Na)	Carbonate. (CO_3)	Bicarbonate. (HCO_3)	Sulphate. (SO_4)	Chloride. (Cl)	Nitrate. (NO_3)	Error, per cent.	No.
35	50	2.76	138.0	0.0	138.0	144.0	134.8	186.9	119.0	9.6	0.44	44.0	8.3	12.7	5.1	154.0	19.9	11.4	0.14	0.0	35
36	.....	.....	2,612.0	356.0	2,256.0	89.3	58.4	122.2	108.0	13.0	1.37	26.7	5.5	7.5	2.1	67.1	26.8	1.3	6.27	+6.0	36
37	.....	.....	3,547.0	500.0	3,047.0	113.1	77.7	141.5	107.0	4.4	0.95	33.6	7.1	12.0	2.1	90.8	26.7	6.1	4.75	+7.9	37
38	100+	37.17	3,717.0	507.0	3,210.0	106.3	76.0	136.1	116.0	4.2	1.43	31.5	6.7	9.4	2.7	87.6	28.8	4.8	4.89	+3.7	38
39	.....	.....	2,503.5	1,016.5	1,487.0	113.2	86.7	146.7	112.5	7.8	1.05	33.9	6.9	10.4	3.0	99.9	25.6	5.9	4.02	+3.8	39
40	.....	.....	25.7	9.3	16.4	191.2	168.6	209.7	148.0	13.4	0.47	60.4	9.8	5.5	12.0	181.4	7.8	5.3	2.17	+4.5	40
41	.....	.....	31.0	25.0	6.0	299.2	134.6	795.9	256.0	10.0	0.40	83.6	22.0	181.1	4.8	154.4	69.5	348.9	0.00	−0.4	41
42	30	0.66	20.0	0.0	20.0	124.4	121.5	148.1	77.0	7.6	0.49	31.9	10.9	9.1	4.5	139.0	13.8	1.7	0.20	+2.1	42
43	.....	.....	6.8	1.3	5.5	154.3	137.3	172.1	105.0	11.6	0.69	34.6	16.5	7.1	7.8	151.3	17.5	2.4	0.00	+3.5	43
44	.....	.....	19.3	8.8	10.5	192.6	131.1	372.0	146.0	9.7	0.53	50.0	16.4	65.8	5.7	148.2	33.6	117.6	0.07	+0.5	44
45	0	.....	12.3	0.8	11.5	87.5	84.3	91.4	64.0	3.6	0.56	18.9	9.8	3.3	3.3	96.1	3.1	1.4	0.73	+2.4	45
46	70	0.88	61.8	6.2	55.6	148.9	146.4	153.3	148.0	5.0	0.63	35.3	14.8	4.5	7.5	163.1	1.8	2.4	1.60	+1.9	46
47	.....	.....	37.0	3.5	33.5	118.2	115.1	122.3	106.0	4.3	0.59	27.1	12.3	3.9	5.4	129.6	2.5	1.9	1.17	+0.2	47
48	130	0.74	96.0	0.0	96.0	159.1	141.1	166.3	102.0	6.0	0.45	34.9	17.5	2.2	12.3	147.0	18.3	1.7	1.01	+0.2	48
49	.....	.....	260.0	71.0	189.0	224.2	133.7	293.8	192.0	6.4	0.30	33.3	34.4	23.2	7.5	147.9	97.2	18.7	0.25	+2.5	49
50	.....	.....	262.0	26.0	236.0	43.4	38.3	52.8	43.0	4.4	0.46	10.0	4.5	3.1	0.0	46.7	6.8	0.5	0.48	+3.6	50
51	90	1.99	179.0	0.0	179.0	123.1	120.3	126.8	83.0	6.0	0.38	26.1	14.1	0.6	7.8	130.8	6.6	0.8	0.43	−1.8	51
52	5−	1.38	6.9	0.3	6.6	162.9	159.8	167.7	112.0	7.2	0.72	33.3	19.4	6.9	0.0	194.9	3.3	1.3	0.35	+3.3	52
53	0	.....	9.5	0.4	9.1	178.9	168.1	171.1	102.0	4.2	1.04	36.1	21.6	3.0	14.4	175.6	2.9	1.9	0.53	+2.9	53
54	.....	.....	951.0	61.0	890.0	67.9	63.8	83.6	51.0	4.0	0.24	16.0	6.8	2.3	0.0	77.8	8.0	7.5	0.67	−6.7	54
55	.....	.....	252.0	22.7	229.3	137.1	117.8	151.7	97.9	5.5	0.51	27.1	16.9	5.9	0.6	131.5	20.4	4.6	0.53	+4.4	55
56	100	0.20	19.6	1.5	18.1	100.3	95.1	109.5	78.0	9.6	0.87	21.9	11.1	4.7	4.5	106.7	3.5	1.0	0.59	+4.5	56
57	150	1.63	244.0	15.0	229.0	143.6	123.5	175.8	118.0	7.4	0.37	37.6	12.1	6.6	3.9	142.7	30.4	5.6	2.01	−2.0	57
58	2,750	0.97	2,682.0	309.0	2,373.0	132.1	100.0	193.1	136.0	9.8	0.73	37.7	9.2	18.0	4.2	113.2	48.5	6.8	3.10	+2.6	58
59	750	1.16	868.0	139.0	729.0	146.0	104.8	224.7	157.0	7.4	0.81	41.0	10.6	23.0	3.9	119.9	64.8	13.4	1.62	+0.8	59
60	100	1.84	184.0	171.0	13.0	181.5	153.0	194.2	129.0	4.6	0.50	40.8	19.4	11.7	0.0	186.3	19.7	5.9	0.30	+6.3	60
61	.....	.....	3,162.0	310.0	2,852.0	148.5	113.5	264.1	213.0	9.8	0.47	43.0	10.0	33.4	3.9	130.5	89.7	7.7	2.39	+0.2	61
62	50	3.94	197.0	162.0	35.0	170.0	132.8	194.4	133.0	5.8	0.54	39.1	17.6	13.9	0.0	161.9	25.1	12.5	0.72	+6.2	62
63	525	1.19	625.0	68.0	557.0	148.2	111.8	220.0	126.0	7.2	0.60	41.1	11.1	21.1	0.0	136.3	59.4	11.3	1.70	+0.6	63
64	.....	.....	2,928.0	339.0	2,589.0	143.6	99.2	234.1	191.0	9.0	0.38	40.0	10.4	27.9	2.7	115.4	76.8	8.3	1.83	+2.9	64
65	.....	.....	4,182.0	461.0	3,721.0	139.8	104.3	285.2	234.0	10.6	0.62	40.0	9.7	40.8	4.5	118.0	113.7	6.6	1.23	−1.1	65
66	.....	.....	1,509.2	197.6	1,311.6	145.4	113.8	209.5	151.5	8.1	0.59	38.3	12.1	20.2	2.8	133.1	53.2	7.9	1.55	+2.2	66

ANALYSES OF RIVER WATERS

Drainage basin.	No.	Source.	Town.	County.	Sec.	T.	R.	Discharge, sec. feet.	Stage, feet.	Date.	Remarks.
	67	Blue	Kansas City	Jackson	36	50N	33W			Aug. 4, 1925	
	68	Kansas	Kansas City	Jackson	31	50N	33W			Aug. 6, 1925	
	69	Loutre	McKittrick	Montgomery	23	46N	5W			Aug. 29, 1925	
	70	Missouri	Boonville	Cooper	35	49N	17W		12.2	July 23, 1925	Medium stage.
	71	Missouri	Chesterfield	St. Louis	3	45N	4E			July 21, 1925	
	72	Missouri	Glasgow	Howard	17	51N	17W			July 23, 1925	
	73	Missouri	Hermann, opposite.	Montgomery	34	46N	5W		7.4	Aug. 29, 1925	Medium stage.
	74	Missouri	Jefferson City	Cole	6	44N	11W			July 6, 1925	
	75	Missouri	Jefferson City	Cole	6	44N	11W			June 2, 1926	
	76	Missouri	Kansas City	Jackson	32	50N	32W		9.2	Aug. 4, 1925	Below Blue R.; medium stage.
	77	Missouri	Kansas City	Jackson	32	50N	33W		8.9	Aug. 6, 1925	Above sewer; medium stage.
Missouri	78	Missouri	St. Charles	St. Charles	32	47N	5E		17.1	July 21, 1925	High stage.
	79	Missouri	St. Joseph	Buchanan	19	57N	35W		3.6	Aug. 4, 1925	Below sewer; medium stage.
	80	Missouri	St. Joseph	Buchanan	7	57N	35W		3.6	Aug. 4, 1925	Above sewer; medium stage.
	81	Missouri	Washington	Franklin	22	44N	1W			July 21, 1925	
	82	Missouri	Waverly	Lafayette	14	51N	24W		13.9	Aug. 4, 1925	Medium stage
	83	Moreau	Jefferson City	Cole	6	44N	11W			June 2, 1926	
	84	Roche Perche Creek	McBaine	Boone	1	47N	14W			July 17, 1925	
	85	Wakenda Creek	Carrollton	Carroll	5	52N	23W			Aug. 4, 1925	
	86	Summary of nineteen samples									
Niangua	87	Niangua	Roach	Camden	3	37N	17W	300	1.08	July 1, 1925	
	88	Nodaway	Burlington Junct	Nodaway	17	65N	37W	260	3.87	June 18, 1925	Wet season.
Nodaway	89	Nodaway	Nodaway	Andrew	19	59N	36W	12	2.52	Aug. 4, 1925	Stage at Burlington Jct.
	90	Summary of two samples									
North Fork	91	North Fork of White	Tecumseh	Ozark	16	22N	12W	370	.42	Sept. 6, 1925	
	92	Little Osage	Horton	Vernon	17	37N	31W			Aug. 7, 1925	
	93	Marmaton	Horton	Vernon	33	37N	31W			Aug. 7, 1925	
	94	Osage	Bagnell	Miller	16	40N	15W	955	5.14	July 6, 1925	Wet season.
Osage	95	Osage	Jefferson City	Osage	3	43N	10W			July 27, 1925	
	96	Osage	Osceola	St. Clair	20	38N	25W	226	1.20	July 13, 1925	
	97	Osage	Rich Hill	Bates	35	39N	31W			Aug. 7, 1925	
	98	Summary of six samples									
	99	Platte	Agency	Buchanan	19	56N	34W	56	1.90	Aug. 4, 1925	
Platte	100	Platte	Ravenwood	Nodaway	14	64N	34W			June 18, 1925	Wet season.
	101	Summary of two samples									

No.	Turbidity.	Coef. of fineness.	Total suspended matter.	Vol. suspended matter.	Non-vol. suspended matter.	Total hardness as $CaCO_3$.	Alkalinity as $CaCO_3$.	Sum of constituents.	Residue after ignition.	Silica. (SiO_2)	Iron. (Fe)	Calcium. (Ca)	Magnesium. (Mg)	Sodium and potassium. (Na)	Carbonate. (CO_3)	Bicarbonate. (HCO_3)	Sulphate. (SO_4)	Chloride. (Cl)	Nitrate. (NO_3)	Error, per cent.	No.
67	70	1.96	137.0	0.0	137.0	235.5	214.5	390.2	222.0	10.2	0.83	73.7	12.5	50.6	0.0	261.4	70.2	44.0	0.23	−0.6	67
68	100	1.98	198.0	0.0	198.0	193.9	160.3	404.2	173.0	13.6	0.70	59.7	10.9	66.8	0.0	195.4	52.0	104.7	0.25	−3.1	68
69	50	0.90	45.0	23.0	22.0	97.6	108.6	137.6	90.0	7.0	1.21	33.1	3.6	10.2	2.1	128.1	13.6	4.9	0.00	−4.0	69
70	2,750	0.98	2,697.0	251.0	2,446.0	133.6	104.8	261.5	203.0	9.6	0.83	36.7	10.2	38.0	4.5	118.6	92.8	10.5	0.84	−0.2	70
71	2,950	1.61	4,752.0	516.0	4,236.0	144.6	102.5	283.2	250.0	11.2	0.33	39.8	11.0	43.7	4.5	115.8	108.0	6.9	1.11	+3.0	71
72	2,500	0.68	1,689.0	201.0	1,488.0	130.2	100.6	263.9	217.0	9.6	1.42	37.3	9.0	42.2	3.9	114.7	94.4	10.0	0.96	+1.8	72
73	1,750	0.80	1,392.0	197.0	1,195.0	122.5	108.0	257.7	219.0	11.2	0.88	40.3	5.3	45.7	3.9	123.7	77.1	12.2	1.14	+3.7	73
74	4,000	1.05	4,222.0	424.0	3,798.0	158.8	113.1	306.5	226.0	10.4	0.66	45.0	11.3	49.0	3.9	129.9	111.0	10.3	1.60	+4.1	74
75	.....	.....	2,405.0	179.0	2,226.0	185.0	142.6	343.0	268.0	13.2	0.50	50.9	14.1	48.8	6.3	161.0	112.3	17.0	0.56	+1.4	75
76	1,450	1.06	1,534.0	125.0	1,409.0	156.1	109.0	281.7	199.0	12.2	0.63	45.4	10.4	36.6	0.0	132.9	90.8	19.1	1.75	+0.7	76
77	1,000	0.65	656.0	77.0	579.0	146.7	88.5	269.5	204.0	12.2	0.64	42.1	10.1	34.0	2.1	103.6	95.5	21.6	0.90	+0.3	77
78	3,100	1.56	4,827.0	463.0	4,364.0	143.1	106.3	291.0	260.0	11.0	0.25	40.5	10.2	46.1	3.9	121.7	111.0	7.0	1.41	+2.2	78
79	1,400	1.36	1,910.0	178.0	1,732.0	146.9	102.5	285.6	186.0	13.2	0.91	41.7	10.4	43.7	8.4	107.9	95.5	18.0	1.55	+2.8	79
80	1,600	1.06	1,615.0	175.0	1,440.0	145.2	104.8	280.9	197.0	22.8	0.89	41.5	10.1	33.7	0.0	127.7	98.3	10.5	1.14	−0.9	80
81	2,500	1.67	4,172.0	407.0	3,765.0	138.1	105.8	270.7	223.0	12.0	0.51	38.3	10.3	38.4	3.3	122.3	98.0	8.9	1.26	0.0	81
82	1,550	1.26	1,958.0	187.0	1,771.0	161.7	107.2	295.3	183.0	12.4	0.55	46.3	11.2	43.2	0.0	130.5	96.4	20.2	1.32	+3.8	82
83	.....	.....	828.0	132.0	696.0	187.5	152.2	313.0	233.0	8.4	0.50	47.0	17.1	47.7	9.2	166.7	87.2	13.6	0.29	+5.3	83
84	.....	.....	6.0	0.0	6.0	164.4	140.6	201.3	141.0	8.0	1.23	50.5	9.3	8.2	7.8	155.5	34.8	6.1	0.00	−0.8	84
85	50	0.56	28.0	0.0	28.0	229.0	235.3	285.5	177.0	15.0	0.76	66.5	15.3	19.2	0.0	286.9	15.4	12.4	0.50	+0.2	85
86	.....	.....	1,845.8	185.9	1,659.9	159.0	126.7	285.2	203.7	11.7	0.71	46.2	10.6	39.2	3.4	147.5	81.8	18.8	0.88	+1.2	86
87	0	.....	4.0	0.6	3.4	180.4	174.7	178.6	106.0	5.8	0.91	36.4	21.8	3.6	9.6	193.5	3.1	2.5	0.51	+1.9	87
88	900	15.00	13,519.0	1,874.0	11,645.0	51.4	29.3	68.0	.....	7.6	0.52	14.0	4.0	3.6	0.0	35.8	15.4	1.4	4.38	+7.7	88
89	80	0.81	65.0	0.0	65.0	222.8	208.1	259.1	154.0	9.8	0.56	64.2	15.2	16.4	11.7	230.0	19.3	8.2	1.00	+3.5	89
90	.....	.....	6,792.0	937.0	5,855.0	137.1	118.7	163.5	.....	8.7	0.54	39.1	9.6	10.1	5.9	132.9	17.4	4.2	2.69	+4.6	90
91	5	.....	Trace	.....	.....	233.8	209.6	236.1	130.0	8.0	0.30	44.5	29.9	4.4	13.5	228.0	16.6	4.5	2.35	+1.7	91
92	10	5.80	58.0	0.0	58.0	236.9	197.0	281.6	156.0	11.2	0.42	79.0	9.6	16.5	9.6	220.7	38.8	7.5	0.80	+4.6	92
93	10	5.30	53.0	0.0	53.0	377.2	139.8	834.5	440.0	3.6	0.23	103.3	29.0	154.5	4.5	161.2	251.5	208.6	0.11	+1.2	93
94	90	0.17	15.6	5.9	9.7	162.0	151.3	188.0	120.0	8.2	0.59	42.0	13.9	7.1	7.2	169.8	19.3	5.8	0.94	−0.7	94
95	**15**	.....	Trace	.....	.....	158.9	130.5	190.6	147.0	7.4	0.92	45.5	11.0	8.3	4.5	149.7	30.6	8.1	1.40	+0.4	95
96	.....	.....	14.0	7.7	6.3	162.6	140.1	197.8	129.0	8.4	0.25	50.9	8.6	10.0	6.0	158.5	25.5	9.8	0.47	+1.0	96
97	50	1.72	86.0	0.0	86.0	155.5	131.3	194.9	113.0	11.8	0.59	51.2	6.7	13.7	0.0	160.0	24.1	7.6	0.95	+5.0	97
98	.....	.....	37.8	2.3	35.5	208.8	148.3	314.6	184.2	8.4	0.50	62.0	13.1	35.0	5.3	170.0	66.0	41.2	0.78	+1.4	98
99	40	1.17	47.0	0.0	47.0	223.7	198.0	263.2	153.0	9.6	0.50	67.3	13.5	17.5	3.3	234.5	26.1	9.5	0.86	+4.5	99
100	100+	40.87	4,087.0	602.0	3,485.0	54.0	25.8	88.2	.....	13.4	1.79	14.7	4.2	4.4	0.0	31.4	25.1	4.5	6.50	+0.4	100
101	.....	.....	2,067.0	301.0	1,766.0	138.9	111.9	175.7	.....	11.5	1.15	41.0	8.9	10.9	1.7	132.9	25.6	7.0	3.68	+3 5	101

ANALYSES OF RIVER WATERS.

Drainage basin.	No.	Source.	Town.	County.	Sec.	T.	R.	Discharge, sec. feet.	Stage, feet.	Date.	Remarks.
Pomme de Terre	102	Pomme de Terre	Buffalo, west of	Dallas	11	33N	22W	17	1.54	Aug. 8, 1925	Stage at Hermitage.
	103	Pomme de Terre	Hermitage	Hickory	26	37N	22W	30	1.70	July 13, 1925	
	104	Summary of two samples									
	105	Cedar Creek	Pleasant View	Cedar	3	35N	27W	3	.61	July 10, 1925	
	106	Sac	Collins	St. Clair	12	36N	26W	259	1.91	July 13, 1925	
Sac	107	Sac	Stockton	Cedar	11	34N	26W	206	2.44	July 10, 1925	
	108	Sac	Stockton	Cedar	11	34N	26W	52	1.84	Aug. 7, 1925	
	109	Summary of four samples									
Salt	110	Middle Fork of Salt	Paris	Monroe	2	54N	10W			Sept. 19, 1925	
	111	South Grand	Archie	Cass	28	43N	31W			Aug. 25, 1925	
South Grand	112	South Grand	Brownington	Henry	17	40N	25W	23	1.56	July 10, 1925	
	113	Summary of two samples									
	114	North Fork of Spring	Neck City	Jasper	5	29N	32W			June 25, 1926	
	115	Elk	Noel	McDonald	22	21N	33W			June 24, 1926	
	116	Indian Creek	Anderson	McDonald	13	22N	33W			June 24, 1926	
	117	Shoal Creek	Grand Falls	Newton	35	27N	33W	133		July 2, 1925	
Spring	118	Shoal Creek	Neosho	Newton	15	26N	32W			June 24, 1926	
	119	Spring	Carthage	Jasper	33	29N	31W	430	2.54	June 24, 1926	Stage at Waco.
	120	Spring	Carthage	Jasper	33	29N	31W	134	1.70	July 2, 1925	Stage at Waco.
	121	Spring	Waco	Jasper	24	29N	34W	370	2.38	June 25, 1926	
	122	Summary of eight samples									
	123	Little River Ditch No. 1	Kirk	Dunklin	27	19N	10E	155	44.90	Aug. 5, 1925	
	124	Little River Ditch No. 66	Kirk	Dunklin	27	19N	10E	1	43.30	Aug. 5, 1925	
	125	Little River Ditch No. 81	Kirk	Dunklin	27	19N	10E	23	43.50	Aug. 5, 1925	
St. Francis	126	Little St. Francis	Fredericktown	Madison	8	33N	7E			July 13, 1925	
	127	St. Francis	Fisk	Butler	28	25N	8E			Aug. 9, 1925	
	128	St. Francis	Patterson	Wayne	16	29N	5E	112	2.44	Aug. 2, 1925	
	129	Summary of six samples									
Tarkio	130	Tarkio	Fairfax	Atchison	22	64N	40W	51	1.00	June 18, 1925	
	131	White	Beaver, Ark	Carroll, Ark	20	21N	26W	40	2.41	Sept. 3, 1925	
	132	White	Branson	Taney	4	22N	21W			Sept. 4, 1925	
White	133	White	Forsyth	Taney	33	24N	20W			Sept. 4, 1925	
	134	Summary of three samples									

No.	Turbidity.	Coef. of fineness.	Total suspended matter.	Vol. suspended matter.	Non-vol. suspended matter.	Total hardness as $CaCO_3$.	Alkalinity as $CaCO_3$.	Sum of constituents.	Residue after ignition.	Silica. (SiO_3)	Iron. (Fe)	Calcium. (Ca)	Magnesium. (Mg)	Sodium and potassium. (Na)	Carbonate. (CO_3)	Bicarbonate. (HCO_3)	Sulphate. (SO_4)	Chloride. (Cl)	Nitrate. (NO_3)	Error, per cent.	No.
102	40	1.15	46.0	0.0	46.0	182.6	159.3	186.4	92.0	4.0	0.48	37.3	21.8	5.6	9.0	175.9	9.2	11.6	1.34	+2.2	102
103	5	3.36	16.8	4.9	11.9	171.8	170.0	179.5	101.0	8.0	0.50	35.4	20.3	3.7	6.0	194.9	7.2	2.9	0.00	−0.4	103
104	.....	.....	31.4	2.5	28.9	177.2	164.6	182.9	96.5	6.0	0.49	36.4	21.0	4.7	7.5	185.4	8.2	7.3	0.67	+1.1	104
105	30	.....	Trace	.....	.....	93.4	83.4	119.6	76.0	7.4	0.78	27.2	6.2	9.1	2.1	97.3	14.2	4.7	0.80	+3.7	105
106	10	1.59	15.9	6.0	9.9	160.9	154.8	174.8	112.0	7.2	0.50	50.4	8.5	4.5	9.3	169.6	7.4	3.6	0.26	+1.0	106
107	15	1.33	20.0	15.0	5.0	161.9	155.6	179.3	120.0	8.4	0.67	51.8	7.9	2.7	7.8	174.0	10.3	3.7	1.10	−1.3	107
108	10	2.70	27.0	0.0	27.0	168.0	145.7	175.2	105.0	4.6	0.68	52.6	8.9	8.5	7.8	161.9	7.4	4.4	1.31	+0.7	108
109	.....	.....	15.7	5.2	10.5	146.1	134.9	162.2	103.3	6.9	0.66	45.5	7.9	6.2	6.8	150.7	9.8	4.1	0.87	+2.7	109
110	100	1.03	103.0	13.0	90.0	83.8	70.8	126.6	83.0	3.8	0.33	24.0	5.8	16.2	0.0	86.3	23.4	9.7	1.20	+4.2	110
111	250	0.20	49.0	0.0	49.0	160.1	138.8	210.6	132.0	6.8	0.82	49.9	8.6	17.5	0.0	169.2	34.7	8.5	1.27	+2.7	111
112	1,350	0.76	1,026.0	120.0	906.0	80.6	61.4	111.4	80.0	6.6	0.50	21.9	6.3	9.8	2.7	69.2	21.4	7.1	1.50	+3.6	112
113	.....	.....	537.5	60.0	477.5	120.3	100.1	161.0	106.0	6.7	0.66	35.9	7.4	13.6	1.3	119.2	28.0	7.8	1.38	+3.5	113
114	.....	.....	154.0	28.0	126.0	70.6	39.5	97.7	108.0	7.6	0.20	23.0	3.2	3.3	0.0	48.1	36.4	0.5	0.00	+0.1	114
115	.....	.....	57.0	39.0	18.0	119.9	113.5	125.1	96.0	5.4	0.16	44.5	2.1	0.6	0.0	138.5	2.3	1.0	0.00	+1.5	115
116	.....	.....	34.0	18.0	16.0	107.1	96.3	109.9	52.0	7.4	0.26	40.3	1.6	0.0	0.0	117.4	1.0	1.7	0.10	+1.1	116
117	.....	.....	67.0	0.0	67.0	125.2	114.1	151.5	85.0	9.4	0.54	44.0	3.7	8.6	4.5	130.0	8.8	4.2	4.30	+4.0	117
118	.....	.....	261.0	37.0	224.0	91.7	79.8	100.4	99.0	7.2	0.25	33.4	2.0	0.8	0.0	97.2	7.4	1.7	0.00	+1.9	118
119	.....	.....	137.0	30.0	107.0	110.8	100.0	112.1	104.0	5.2	0.13	40.4	2.4	0.3	0.0	121.8	1.6	2.2	0.00	+3.1	119
120	.....	.....	75.1	9.5	65.6	135.9	123.5	157.7	103.0	11.4	1.00	46.8	4.6	9.4	5.1	140.0	3.5	3.0	4.89	+7.4	120
121	.....	.....	160.0	30.0	130.0	101.2	82.6	110.3	116.0	5.4	0.17	36.2	2.6	0.5	0.0	100.7	13.8	2.2	0.00	+1.0	121
122	.....	.....	118.1	23.9	94.2	107.8	81.2	120.6	95.4	7.4	0.34	38.6	2.8	2.9	1.2	111.7	9.3	2.1	1.16	+4.1	122
123	5−	4.16	20.8	2.8	18.0	174.5	182.0	237.0	147.0	19.2	0.46	51.6	11.1	18.6	9.9	201.8	14.6	12.6	0.07	−0.1	123
124	5	3.84	19.2	3.2	16.0	201.2	203.8	258.9	143.0	18.4	0.30	53.6	16.4	19.5	13.8	220.1	10.5	18.2	0.00	+0.7	124
125	40	1.87	75.0	0.0	75.0	114.3	112.7	147.1	105.0	10.8	0.71	33.9	7.2	14.8	2.7	132.0	7.8	4.9	0.00	+6.8	125
126	0	.....	15.8	7.8	8.0	155.7	124.5	173.5	62.0	3.8	0.24	32.9	17.9	4.5	2.7	146.1	36.0	3.7	0.00	−0.5	126
127	0	.....	25.0	0.0	25.0	134.0	130.0	146.1	86.0	6.0	0.91	29.0	15.0	10.2	6.0	146.1	3.9	3.4	0.63	+5.6	127
128	60	.....	Trace	.....	.....	113.9	111.8	130.0	74.0	4.4	1.10	24.9	12.6	9.9	3.9	128.4	6.7	3.9	0.51	+4.0	128
129	.....	.....	25.9	2.3	23.6	148.9	144.1	182.1	102.8	10.4	0.62	37.6	13.4	12.9	6.5	162.4	13.3	7.8	0.20	+2.3	129
130	100+	48.93	4,893.0	694.0	4,199.0	78.3	53.1	116.0	117.0	18.0	1.19	20.3	6.7	7.1	0.0	64.8	20.3	3.8	7.86	+4.2	130
131	20	1.25	25.0	3.0	22.0	102.0	99.5	114.8	69.0	3.4	1.77	32.6	5.0	6.5	4.5	112.2	4.1	3.5	0.00	+3.1	131
132	50	3.30	165.0	165.0	0.0	124.1	121.5	141.3	92.0	5.6	0.27	37.0	7.7	9.1	2.1	143.9	3.9	5.1	0.00	+4.2	132
133	10	.....	Trace	.....	.....	121.1	121.5	134.2	93.0	6.0	0.55	36.3	7.4	4.7	5.1	137.8	2.2	4.7	0.00	+0.2	133
134	.....	.....	63.3	56.0	7.3	115.7	114.2	130.1	84.7	5.0	0.86	35.3	6.7	6.8	3.9	131.3	3.4	4.4	0.00	+2.8	134

ANALYSES OF SPRING WATERS

Drainage basin.	No.	Source.	Town.	County.	Sec.	T.	R.	Flow million gal. per day.	Date.	Remarks.
	1	Amsden	Centerville	Reynolds	19	31N	1E	1.6	Aug. 1, 1925	
	2	Carter	Piedmont	Reynolds	34	29N	2E	1.0	Aug. 1, 1925	
	3	Faulkenberry	Lesterville	Reynolds	16	32N	2E	.6	July 31, 1925	
	4	Keener	Keener	Butler	9	26N	5E	12.3	Aug. 3, 1925	
	5	Leeper	Leeper	Wayne	27	28N	3E	.3	Aug. 1, 1925	
Black	6	Markham	Williamsville	Wayne	23	27N	4E	4.8	Aug. 1, 1925	
	7	Mill	Mill Spring	Wayne	36	28N	3E	7.0	Aug. 1, 1925	
	8	Randolph	Ellington	Reynolds	20	30N	1E	.6	Aug. 1, 1925	
	9	Reeds	Centerville	Reynolds	28	32N	1E	4.9	July 31, 1925	
	10	Warner Bay	Lesterville	Reynolds	9	31N	2E	10.4	July 31, 1925	
	11	Summary of ten samples								
	12	Alley	Alley	Shannon	25	29N	5W	57.0	June 19, 1925	
	13	Big	Van Buren	Carter	6	26N	1E	283.0	Aug. 15, 1925	
	14	Blue	Eminence	Shannon	21	29N	2W	(a)	June 19, 1925	
	15	Montauk	Montauk	Dent	23	32N	7W	(a)	June 19, 1925	
Current	16	Phillips	Barren	Carter	10	25N	1E	5.7	Aug. 15, 1925	
	17	Pulltight	Ink	Shannon	4	30N	5W	(a)	July 27, 1925	
	18	Round	Owls Bend	Shannon	20	30N	4W	(a)	June 19, 1925	
	19	Welch	Cedar Grove	Shannon	14	31N	6W	(a)	June 19, 1925	
	20	Summary of eight samples								
	21	Blue	Alton	Oregon	16	22N	2W	43.0	Aug. 22, 1925	
	22	Boze Mill	Alton, 15 mi. E.	Oregon	16	23N	2W	8.4	Aug. 15, 1925	
	23	Graham	Thomasville	Oregon	31	25N	5W	.3	Aug. 15, 1925	
Eleven Point	24	Greer	Greer	Oregon	36	25N	4W	(a)	Aug. 13, 1925	
	25	Thomasson Mill	Couch	Oregon	16	22N	2W	17.0	Aug. 12, 1925	
	26	Turner Mill	Alton	Oregon	3	24N	3W	1.6	Aug. 15, 1925	
	27	Vaugt	Couch	Oregon	16	22N	2W	.4	Aug. 11, 1925	
	28	Summary of seven samples								
	29	Bartlett Mill	Waynesville	Pulaski	16	36N	12W	(a)	Aug. 6, 1925	
	30	Blue or Shanghai	Hooker	Pulaski	24	36N	11W	(a)	July 21, 1925	
	31	Boiling	Hooker	Pulaski	33	37N	10W	(a)	June 11, 1925	
Gasconade	32	Boiling	Licking	Texas	24	32N	10W	7.8	Aug. 14, 1925	
	33	Coppedge or Relfe	Relfe	Phelps	36	35N	10W	(a)	July 16, 1925	
	34	Creasy	Waynesville	Pulaski	16	36N	12W	(a)	Aug. 6, 1925	
	35	Falling	Waynesville	Pulaski	20	36N	12W	(a)	Aug. 6, 1925	

No.	Turbidity.	Coef. of fineness.	Total suspended matter.	Vol. suspended matter.	Non-vol. suspended matter.	Total hardness as $CaCO_3$.	Alkalinity as $CaCO_3$.	Sum of constituents.	Residue after ignition.	Silica. (SiO_2)	Iron. (Fe)	Calcium. (Ca)	Magnesium. (Mg)	Sodium and potassium. (Na)	Carbonate. (CO_3)	Bicarbonate. (HCO_3)	Sulphate. (SO_4)	Chloride. (Cl)	Nitrate. (NO_3)	Error, per cent.	No.
1	.....	.....	0.1	0.0	0.1	136.2	140.5	137.6	83.0	4.8	0.66	28.7	15.7	0.5	9.9	151.3	0.0	3.4	0.08	−3.0	1
2	0	.....	1.3	0.6	0.7	166.7	176.2	175.9	169.0	8.6	0.22	37.3	17.9	2.2	12.9	188.5	10.6	2.9	0.72	−2.7	2
3	0	.....	0.0	.....	.....	172.3	174.5	171.4	108.0	7.4	0.66	36.1	20.0	0.5	13.2	186.0	0.0	2.6	0.00	−1.3	3
4	0	.....	0.5	0.2	0.3	163.1	168.6	173.0	140.0	13.8	0.59	33.6	19.3	1.4	12.9	179.4	0.0	3.2	0.51	−2.1	4
5	0	.....	0.9	0.3	0.6	264.1	253.0	250.4	175.0	9.0	0.83	54.5	31.2	0.1	18.9	269.9	0.0	3.4	0.44	+1.1	5
6	0	.....	2.6	0.6	2.0	176.8	192.1	210.3	171.0	21.2	0.21	38.2	19.8	7.1	11.7	210.4	5.3	3.2	0.17	−2.4	6
7	0	.....	0.1	0.1	0.0	169.0	167.7	166.8	114.0	7.8	0.70	34.8	20.0	0.6	12.3	179.4	0.0	2.7	0.27	−0.3	7
8	0	.....	2.6	0.6	2.0	155.7	170.2	168.7	156.0	6.0	0.24	35.4	16.4	2.5	10.5	186.0	1.4	2.7	2.17	−4.6	8
9	0	.....	0.2	0.2	0.0	114.7	132.7	128.0	68.0	6.2	0.66	23.9	13.4	2.3	16.0	129.4	0.0	2.2	0.34	−6.5	9
10	0	.....	1.0	0.6	0.4	133.8	134.5	134.0	84.0	7.4	0.77	27.6	15.8	0.0	7.8	148.2	0.2	2.2	0.00	−1.3	10
11	.....	.....	0.9	0.3	0.6	165.2	171.0	171.6	126.8	9.2	0.55	35.0	19.0	1.7	12.6	182.9	1.8	2.9	0.47	−2.5	11
12	5−	0.44	2.2	0.9	1.3	150.5	137.4	148.4	114.0	5.4	0.17	30.5	18.1	4.6	3.6	160.3	1.4	5.0	0.91	+4.6	12
13	0	.....	0.6	0.3	0.3	192.1	185.0	187.7	109.0	6.0	0.36	39.9	22.5	4.9	0.0	225.2	1.0	2.1	0.31	+3.6	13
14	5−	0.06	0.3	0.1	0.2	145.6	141.7	146.0	150.0	5.6	0.32	29.2	17.7	3.8	5.6	161.4	0.4	3.7	0.54	+2.2	14
15	5−	0.34	1.7	0.6	1.1	151.2	148.0	152.9	98.0	2.4	1.33	31.3	17.8	5.2	7.8	165.4	0.2	4.8	2.05	+1.7	15
16	0	.....	1.0	0.3	0.7	188.0	182.7	181.5	113.0	5.4	0.50	39.1	22.0	1.7	0.0	222.5	1.6	2.1	0.00	+1.2	16
17	0	.....	0.6	0.0	0.6	158.2	157.5	157.7	103.0	7.4	0.25	32.6	18.7	1.4	2.1	187.8	0.4	2.2	0.53	0.0	17
18	5−	0.30	1.5	1.1	0.4	165.0	167.0	168.2	134.0	7.2	0.28	33.3	19.9	4.1	6.2	190.9	0.6	2.4	0.53	+0.6	18
19	5−	0.40	2.0	0.6	1.4	172.8	175.0	170.6	130.0	2.2	0.57	35.7	20.4	1.2	11.4	191.0	0.2	4.1	1.33	−2.0	19
20	.....	.....	1.2	0.5	0.7	165.4	161.8	164.1	118.9	5.2	0.47	34.0	19.7	3.4	4.6	188.1	0.7	3.3	0.78	+1.9	20
21	0	.....	1.2	0.4	0.8	253.1	248.8	248.2	143.0	7.4	0.33	53.2	29.3	3.5	0.0	303.2	1.8	2.4	1.13	+1.1	21
22	0	.....	3.7	1.6	2.1	227.5	224.0	224.3	130.0	8.6	0.50	47.5	26.5	3.1	0.0	272.6	1.2	1.7	1.40	+1.3	22
23	0	.....	1.5	1.1	0.4	182.9	175.9	181.9	115.0	13.2	0.62	38.4	21.3	0.0	0.0	214.0	0.0	1.9	1.61	+1.0	23
24	0	.....	0.4	0.2	0.2	184.5	182.7	181.7	118.0	6.8	0.33	38.7	21.4	0.0	0.0	222.5	1.4	1.9	1.86	−0.9	24
25	10	0.15	1.5	0.5	1.0	252.5	243.8	241.5	148.0	6.6	0.38	52.8	29.4	1.7	0.0	297.0	1.6	2.0	1.21	+1.4	25
26	40	0.01	0.5	0.4	0.1	207.6	203.6	200.7	120.0	7.8	0.32	43.5	24.1	0.0	12.9	222.0	0.0	2.7	0.36	−0.1	26
27	0	.....	1.0	0.0	1.0	201.6	196.5	199.5	130.0	5.0	1.37	42.1	23.5	4.5	0.0	239.2	2.7	2.5	1.26	+1.9	27
28	.....	.....	1.4	0.6	0.8	215.7	210.8	211.1	129.1	7.9	0.55	45.2	25.1	1.8	1.8	252.9	1.2	2.2	1.26	+1.0	28
29	0	.....	1.1	0.5	0.6	188.3	196.1	223.7	155.0	25.4	0.63	39.7	21.7	9.7	10.5	217.8	4.1	4.4	1.03	+0.4	29
30	40	0.21	8.5	0.8	7.7	182.3	179.0	183.4	133.0	7.4	0.73	41.1	19.4	1.7	7.2	203.5	2.5	2.9	1.01	−0.3	30
31	.....	.....	0.7	0.5	0.2	138.8	135.1	145.4	101.2	6.8	0.21	27.8	16.9	5.8	0.6	163.5	1.8	2.7	2.47	+2.9	31
32	0	.....	0.9	0.7	0.2	199.0	187.5	195.4	123.0	6.8	0.30	41.7	23.1	4.2	0.0	228.6	3.7	2.6	0.80	+3.1	32
33	.....	.....	1.1	0.3	0.8	160.7	158.5	162.7	97.0	6.6	0.29	33.6	18.7	2.2	1.5	190.0	3.3	2.4	0.79	0.0	33
34	0	.....	0.7	0.5	0.2	183.3	189.1	211.5	130.0	26.6	0.38	39.2	20.8	2.5	13.5	203.1	4.5	3.2	1.18	−2.6	34
35	0	.....	1.3	0.3	1.0	179.2	195.5	213.9	136.0	20.8	0.29	38.7	20.1	9.1	11.7	214.2	4.1	3.3	0.51	−1.4	35

ANALYSES OF SPRING WATERS.

Drainage basin.	No.	Source.	Town.	County.	Sec.	T.	R.	Flow million gal. per day.	Date.	Remarks.
	36	Gaines Ford	Rolla	Maries	35	39N	9W	.....	Aug 6, 1925	
	37	Hazleton	Hazleton	Texas	34	33N	10W	2.8	Aug. 14, 1925	
	38	Mammoth or Prewett	Edanville	Pulaski	32	34N	10W	11.1	July 21, 1925	
	39	Miller (Ebb and Flow)	Big Piney	Pulaski	6	34N	10W	(a)	July 21, 1925	
	40	Ousley	Spring Creek	Phelps	10	35N	10W	.....	Aug. 7, 1925	
	41	Paydown	Paydown	Maries	2	40N	8W	(a)	June 18, 1925	
	42	Piney	Yancy Mills	Phelps	4	35N	8W	3.2	June 19, 1925	
	43	Roubidoux or Waynesville	Waynesville	Pulaski	25	36N	12W	(a)	June 11, 1925	
Gasconade	44	Sands	Sands	Phelps	3	36N	8W	.12	July 22, 1925	
	45	Schlicht	Schlicht	Pulaski	30	37N	13W	.6	Aug. 6, 1925	
	46	Slabtown	Edanville	Texas	15	33N	10W	8.4	July 21, 1925	
	47	Stone Mill	Spring Creek	Pulaski	21	35N	10W	14.9	Aug. 7, 1925	Wet season.
	48	Sugar Tree	Newburg	Phelps	36	38N	10W	.....	Aug. 6, 1925	
	49	Thox Rock	Newburg	Phelps	7	38N	9W	.....	Aug. 6, 1925	
	50	Yancy	Yancy Mills	Phelps	32	36N	8W	1.0	June 19, 1925	
	51	Youngs	Rolla	Phelps	2	37N	9W	.....	Aug 22, 1925	
	52	Summary of twenty-three samples	.....	.....	.....	.....	.....	.....	.....	
	53	Jones	Springfield, 4 mi. E.	Greene	27	29N	21W	.8	Aug. 31, 1925	
James	54	Reeds	Reeds Spring	Stone	25	24N	23W	.....	Sept. 4, 1925	
	55	Summary of two samples	.....	.....	.....	.....	.....	.....	.....	
Lamine	56	Sweet	Sweet Springs, 1 mi. S.	Saline	14	48N	23W	.01	Aug. 25, 1925	
	57	Beaver	Steelville	Crawford	34	37N	5W	.1	July 6, 1925	
	58	Blue	Bourbon	Crawford	2	39N	3W	3.2	Aug. 16, 1925	
	59	House	Eureka	St. Louis	4	42N	4E	.5	Sept. 2, 1925	
	60	Idlewild	Cuba	Crawford	.....	.....	.....	.....	Aug. 16, 1925	
Meramec	61	Kratz	Stanton	Franklin	19	41N	2W	(a)	July 19, 1925	
	62	Lake	Lake Springs	Dent	2	35N	7W	.06	July 22, 1925	
	63	Meramec	St. James	Phelps	1	37N	6W	73.7	June 27, 1925	
	64	Onandaga Cave	Leasburg	Crawford	25	39N	3W	.....	Aug. 16, 1925	
	65	Roaring	Stanton	Franklin	19	41N	1W	.65	Sept. 3, 1925	
	66	Summary of nine samples	.....	.....	.....	.....	.....	.....	.....	
Mississippi	67	Mark Twain	Hannibal	Marion	28	57N	4W	.....	Sept, 15, 1925	
	68	Glencoe Hollow	Eureka	St. Louis	10	44N	3E	.....	Aug. 16, 1925	
Missouri	69	Rollins	Columbia	Boone	12	48N	13W	.....	Aug. 29, 1925	
	70	Summary of two samples	.....	.....	.....	.....	.....	.....	.....	

No.	Turbidity.	Coef. of fineness.	Total suspended matter.	Vol. suspended matter.	Non-vol. suspended matter.	Total hardness as $CaCO_3$.	Alkalinity as $CaCO_3$.	Sum of constituents.	Residue after ignition.	Silica. (SiO_2)	Iron. (Fe)	Calcium. (Ca)	Magnesium. (Mg)	Sodium and potassium (Na)	Carbonate. (CO_3)	Bicarbonate. (HCO_3)	Sulphate. (SO_4)	Chloride. (Cl)	Nitrate. (NO_3)	Error, per cent.	No.
36	5	0.28	1.4	0.3	1.1	230.2	228.8	235.2	145.0	7.8	0.26	48.3	26.7	4.4	2.7	273.0	6.6	3.4	0.79	−0.3	36
37	0	.....	0.6	0.3	0.3	161.5	156.4	155.7	98.0	5.6	0.30	33.6	18.9	0.6	9.0	172.5	0.0	2.8	0.32	+0.6	37
38	5	0.12	0.6	0.2	0.4	183.1	184.5	180.7	117.0	7.6	1.63	38.3	21.3	0.3	2.7	219.3	0.2	1.9	0.39	−1.1	38
39	5	1.30	6.5	0.6	5.9	188.6	208.0	209.5	139.0	10.4	0.52	38.7	22.4	8.3	7.2	238.5	0.8	3.3	0.92	−1.7	39
40	.....	.....	8.0	3.1	4.9	257.4	275.0	301.2	211.0	35.8	0.36	53.1	30.4	12.1	30.3	273.5	2.1	2.5	0.15	+0.5	40
41	15	0.21	3.2	1.3	1.9	102.0	105.0	131.8	99.0	13.0	1.00	19.8	12.8	4.1	3.6	120.6	14.8	2.4	1.92	−6.1	41
42	5−	0.28	1.4	0.9	0.5	156.1	155.8	166.6	111.0	9.6	0.04	32.1	18.5	5.3	4.5	180.7	2.9	3.4	1.29	+0.9	42
43	.....	.....	0.4	0.2	0.2	167.3	159.3	164.0	115.0	4.8	0.22	33.3	20.5	5.0	3.0	188.1	2.0	1.0	1.81	+4.2	43
44	5−	0.84	4.2	1.0	3.2	251.4	236.2	253.7	173.0	9.6	0.38	51.5	29.9	3.0	9.9	267.8	12.7	3.6	1.62	+1.4	44
45	.....	.....	19.1	3.2	15.9	212.3	199.0	447.6	163.0	21.8	0.24	44.4	24.7	6.5	15.0	212.0	3.7	5.4	0.45	+3.4	45
46	5	0.14	0.7	0.3	0.4	144.1	150.8	148.2	101.0	6.6	0.23	30.1	16.8	1.1	1.5	180.7	1.2	1.4	0.53	−2.5	46
47	.....	.....	1.0	0.5	0.5	188.1	196.7	201.2	148.0	6.4	0.31	40.0	21.5	7.3	15.6	208.0	2.3	3.2	2.35	−0.2	47
48	0	.....	0.3	0.2	0.1	245.3	251.5	258.1	170.0	7.4	0.52	53.3	27.3	7.2	0.0	306.4	7.8	3.7	0.35	−0.8	48
49	0	.....	2.5	0.4	2.1	277.3	277.0	286.5	167.0	11.0	0.33	59.1	31.6	4.7	0.0	337.1	2.3	6.5	5.22	−0.8	49
50	5−	0.20	1.0	0.2	0.8	159.2	153.1	171.6	116.0	6.8	1.41	32.9	18.8	10.5	5.9	174.8	5.4	3.2	2.05	+5.1	50
51	0	.....	1.0	0.5	0.5	190.1	187.0	204.6	122.0	6.8	0.60	39.3	22.4	10.4	0.0	227.9	6.2	4.9	2.39	+2.4	51
52	.....	.....	2.8	0.7	2.1	188.9	189.8	211.0	133.4	11.8	0.49	39.5	22.0	5.5	6.8	217.5	4.1	3.2	1.32	+0.3	52
53	0	.....	0.6	0.3	0.3	228.2	199.0	269.1	159.0	9.6	1.04	85.5	3.5	15.3	0.0	242.5	10.1	15.1	10.46	+4.4	53
54	25	0.40	1.0	0.6	0.4	171.0	161.6	182.7	101.0	6.4	0.31	63.3	3.1	4.4	0.0	197.0	2.2	4.4	1.89	+2.4	54
55	.....	.....	0.8	0.5	0.3	199.6	180.3	225.9	130.0	8.0	0.68	74.4	3.3	9.9	0.0	219.8	6.2	9.8	6.12	+3.5	55
56	5−	0.36	1.8	0.8	1.0	969.3	202.2	2,902.4	2,661.0	10.6	1.31	223.7	100.0	740.0	0.0	246.5	112.5	1,590.0	0.18	+0.3	56
57	5	0.08	0.4	0.2	0.2	235.3	228.5	235.7	129.0	8.2	0.24	48.5	27.8	5.7	5.1	268.0	4.7	2.7	0.98	+1.9	57
58	0	.....	26.0	0.0	26.0	163.2	155.5	169.8	101.0	6.6	0.62	35.1	18.4	3.5	7.8	173.8	9.0	1.9	1.86	+0.4	58
59	10	0.12	1.2	0.0	1.2	281.7	248.2	289.4	196.0	9.8	0.62	92.3	12.4	0.0	0.0	302.3	19.3	3.6	3.03	+1.1	59
60	0	.....	1.0	0.6	0.4	289.2	276.8	276.0	155.0	7.0	0.34	58.3	35.0	6.0	1.5	334.0	2.0	1.7	0.00	+3.7	60
61	.....	.....	19.0	0.0	19.0	124.1	118.0	132.7	95.0	8.6	0.23	25.5	14.7	1.4	3.3	137.0	8.0	2.7	0.98	−1.7	61
62	5−	0.38	1.9	0.5	1.4	202.2	197.8	203.4	132.0	12.4	0.26	41.7	23.9	2.2	7.8	225.0	0.0	4.1	0.39	−0.7	62
63	0	.....	1.4	0.4	1.0	149.0	147.9	153.2	87.0	6.2	0.87	30.2	17.9	3.3	8.4	163.1	2.7	2.4	1.73	+0.2	63
64	.....	.....	Trace	.....	.....	221.0	216.1	220.8	137.0	8.0	0.44	47.6	24.9	2.2	16.2	230.6	4.3	2.7	1.39	+0.2	64
65	20	0.06	1.3	0.6	0.7	180.2	165.3	185.3	120.0	7.8	0.58	36.5	21.7	1.9	0.0	201.6	10.5	6.6	1.06	−0.8	65
66	.....	.....	5.8	0.3	5.5	205.1	194.8	207.4	128.0	8.3	0.47	46.2	21.8	2.9	5.6	226.2	6.7	3.2	1.27	+0.8	66
67	0	.....	3.1	2.0	1.1	1,341.2	237.1	12,153.1	11,244.0	7.2	0.39	452.0	51.5	3,990.0	0.0	289.0	1,112.0	6,398.0	Trace	−2.0	67
68	.....	.....	4.3	0.8	3.5	256.7	236.2	176.2	201.0	12.0	0.24	86.9	9.6	11.3	5.1	227.5	30.6	5.1	1.86	+0.8	68
69	5−	15.20	76.0	21.0	55.0	397.1	324.8	482.1	307.0	11.2	0.60	145.5	8.1	22.7	5.4	384.9	78.8	12.6	8.25	+1.7	69
70	.....	.....	40.2	10.9	29.3	326.9	280.5	329.2	254.0	11.6	0.42	116.2	8.9	17.0	5.3	331.2	54.7	8.8	5.06	−3.6	70

ANALYSES OF SPRING WATERS.

Drainage basin.	No.	Source.	Town.	County.	Sec.	T.	R.	Flow million gal. per day.	Date.	Remarks.
	71	Bennett	Brice	Dallas	1	34N	18W	(a)	July 1, 1925	
	72	Blue or Sweet	Eldridge	Laclede	30	36N	17W	10.0	Aug. 6, 1925	
Niangua	73	Blue or Sweet	Eldridge	Laclede	30	36N	17W	10.0	Aug. 6, 1925	
	74	Hahatonka	Hahatonka	Camden	2	37N	17W	49.3	July 1, 1925	
	75	Summary of four samples								
	76	Bryant	Bryant	Douglas	7	27N	15W	1.3	Sept. 8, 1925	
	77	Crystal	Larissa	Douglas	22	26N	15W		Sept. 8, 1925	
	78	Double	Dormis	Ozark	32	24N	11W	53.2	Sept. 7, 1925	
North Fork of White	79	Hodgson Mill	Sycamore	Ozark	34	24N	12W		Sept. 7, 1925	
	80	Morris	Rockbridge	Ozark	4	24N	13W		Sept. 7, 1925	
	81	Siloam	Siloam Springs	Howell	32	25N	10W		Sept. 7, 1925	
	82	Taylor	Elijah	Ozark	35	23N	11W	.06	Sept. 6, 1925	
	83	Wilder	Elijah	Ozark	21	23N	11W	4.0	Sept. 6, 1925	
	84	Summary of eight samples								
Osage	85	Gravois Mills	Gravois Mills	Morgan	19	41N	17W		July 6, 1925	
Pomme de Ter.	86	Eidson	Bolivar	Polk	10	33N	22W		Aug. 8, 1925	
	87	Cave	Pearl	Greene	4	30N	23W	.3	Aug. 31, 1925	
	88	Chesapeake	Chesapeake	Lawrence	25	28N	25W		Sept. 21, 1926	
	89	Dunnegan	Dunnegan	Polk		34N	24W		Aug. 8, 1925	
Sac	90	Fullbright	Springfield, 4 mi. N.	Greene	2	29N	22W	6.5	Aug. 31, 1925	
	91	Humansville	Humansville	Polk		35N	24W		Aug. 8, 1925	
	92	Paris	Paris Springs	Lawrence	28	29N	25W	.002	Aug. 31, 1925	
	93	Stockton	Stockton	Cedar	8	34N	26W		Aug. 7, 1925	
	94	Summary of seven samples								
	95	Big	Mt. Vernon	Lawrence	28	28N	27W	5.6	Sept. 1, 1925	
	96	Big	Neosho	Newton	19	25N	31W		Sept. 2, 1925	
	97	Big	Neosho	Newton	19	25N	31W		June 24, 1926	
Spring	98	Clarkson	Pierce City	Lawrence	17	27N	28W	5.2	Sept. 1, 1925	
	99	Morse Park	Neosho	Newton	19	25N	31W		May 4, 1926	
	100	Pierce City	Pierce City	Lawrence	28	26N	28W		July 2, 1925	
	101	Verona or Marbut	Verona	Lawrence	17	26N	26W		July 2, 1925	
	102	Summary of seven samples								
White	103	Roaring River	Cassville	Barry	27	22N	27W	(a)	Sept. 3, 1925	

No.	Turbidity.	Coef. of fineness.	Total suspended matter.	Vol. suspended matter.	Non-vol. suspended matter.	Total hardness as $CaCO_3$.	Alkalinity as $CaCO_3$.	Sum of constituents.	Residue after ignition.	Silica. (SiO_2)	Iron. (Fe)	Calcium. (Ca)	Magnesium. (Mg)	Sodium and potassium. (Na)	Carbonate. (CO_3)	Bicarbonate. (HCO_3)	Sulphate. (SO_4)	Chloride. (Cl)	Nitrate. (NO_3)	Error, per cent.	No.
71	0	.....	0.9	0.0	0.9	187.9	182.0	185.7	110.0	5.6	0.94	38.6	22.3	4.1	8.7	204.4	1.4	1.9	2.47	+2.3	71
72	0	.....	0.7	0.3	0.4	232.8	242.0	256.9	174.0	23.2	1.87	47.7	27.7	5.5	20.1	254.0	2.7	4.1	0.78	−1.3	72
73	0	.....	1.6	0.9	0.7	235.1	226.0	232.6	140.0	8.0	0.85	48.1	28.0	5.5	12.9	249.0	2.3	4.0	1.17	+2.6	73
74	0	.....	0.7	0.2	0.5	194.9	192.5	194.3	105.0	7.4	0.65	39.4	23.5	1.9	7.2	219.8	1.6	2.7	2.30	−0.1	74
75	.....	.....	1.0	0.4	0.6	212.7	210.6	217.4	132.3	11.1	1.08	43.5	25.4	4.3	12.2	231.8	2.0	3.2	1.68	+1.0	75
76	0	.....	1.6	1.5	0.1	196.3	177.2	191.1	116.0	5.2	0.28	47.2	19.1	0.0	9.6	196.5	8.4	3.9	0.90	−1.2	76
77	0	.....	0.2	0.2	0.0	248.4	239.6	240.2	135.0	4.0	0.24	54.9	27.1	2.5	5.4	281.0	3.5	3.2	1.20	+1.1	77
78	0	.....	0.6	0.2	0.4	221.2	212.0	213.2	126.0	4.8	0.21	47.3	25.1	0.0	7.8	242.8	3.9	3.7	1.10	−0.2	78
79	0	.....	0.3	0.3	0.0	217.7	208.6	210.6	133.0	4.8	0.33	46.4	24.8	0.0	3.6	247.0	4.3	3.9	1.20	−0.5	79
80	0	.....	0.8	0.7	0.1	254.0	250.3	245.5	157.0	5.8	0.23	55.5	28.1	0.0	6.9	291.5	1.6	3.7	0.40	−0.7	80
81	5	0.44	2.2	1.0	1.2	348.5	330.3	344.3	191.0	7.2	0.45	72.0	41.1	5.1	9.9	382.5	6.1	8.0	6.50	+0.9	81
82	50	0.02	0.9	0.8	0.1	302.7	262.0	303.8	176.0	8.2	0.35	57.0	38.7	6.5	0.0	319.0	32.9	3.3	0.09	+2.5	82
83	5	0.26	1.3	0.8	0.5	229.6	212.0	222.0	160.0	7.2	0.41	46.4	27.7	1.7	5.1	247.6	6.4	3.3	2.24	+2.0	83
84	.....	.....	1.0	0.7	0.3	252.3	236.5	246.3	149.3	5.9	0.30	53.3	28.9	2.0	6.0	275.9	8.4	4.1	0.28	+1.2	84
85	5	0.26	1.3	0.3	1.0	287.5	282.9	275.6	166.0	6.8	0.38	58.7	34.3	1.2	7.8	329.4	1.4	3.0	0.27	+0.3	85
86	0	.....	1.3	0.6	0.7	239.0	230.5	242.2	133.0	8.2	1.15	48.2	28.9	6.3	16.2	248.1	3.9	5.8	2.52	+1.5	86
87	5—	0.60	3.0	0.5	2.5	230.1	224.0	257.7	173.0	8.0	0.23	90.7	0.8	3.8	0.0	273.2	6.4	4.9	8.62	−1.2	87
88	.....	.....	3.6	3.6	0.0	224.3	205.2	229.6	161.0	9.6	0 48	58.9	18.8	4.9	13.2	223.5	2.7	4.7	3.03	+3.9	88
89	0	.....	1.9	1.2	0.7	254.1	238.2	260.4	200.0	6.8	0.61	56.2	27.7	7.1	15.0	260.0	14.8	3.7	1.13	+1.9	89
90	.....	.....	4.1	1.2	2.9	188.0	187.6	210.3	137.0	8.8	1.60	71.8	1.7	0.9	0.0	228.9	3.3	6.1	5.08	−4.0	90
91	0	.....	0.6	0.4	0.2	270.3	262.1	273.6	133.0	7.8	0.57	56.8	31.3	5.8	16.8	285.5	8.0	5.3	1.24	+0.6	91
92	20	0.45	9.0	0.0	9.0	248.5	178.0	335.0	260.0	22.8	1.10	84.0	9.4	14.9	0.0	216.9	86.6	10.5	0.00	−0.4	92
93	0	.....	2.4	0.5	1.9	262.0	242.1	285.4	165.0	9.0	0.45	74.1	18.7	8.2	16.8	260.8	6.0	8.5	15.62	+1.3	93
94	.....	.....	3.5	1.1	2.4	239.6	219.6	264.6	175.6	10.4	0.72	70.4	15.5	6.5	8.9	249.5	18.2	6.2	4.96	+0.5	94
95	0	.....	0.6	0.0	0.6	172.3	158.6	197.0	116.0	9.4	0.29	59.1	6.0	7.2	0.0	193.4	7.4	6.6	6.10	+1.9	95
96	5—	0.08	0.4	0.0	0.4	148.3	142.5	172.4	104.0	10.2	0.73	58.0	0.8	2.8	0.0	173.7	3.9	5.3	5.91	−1.6	96
97	.....	.....	19.0	19.0	0.0	119.4	107.5	123.1	106.0	6.8	0.12	45.8	1.2	0.9	0.0	131.0	1.0	2.9	0.00	+3.6	97
98	0	.....	1.8	0.1	1.7	147.7	140.1	168.7	103.0	9.4	0.22	54.3	2.9	1.1	0.0	170.7	3.5	5.8	7.60	−2.4	98
99	.....	.....	3.4	2.8	0.6	149.8	137.9	173.0	117.0	10.0	0.40	57.8	1.3	8.5	6.6	154.7	0.0	7.1	4.94	+5.0	99
100	0	.....	2.1	0.4	1.7	131.8	102.6	160.1	95.0	10.2	0.77	50.6	1.3	3.9	4.8	115.4	10.5	9.6	12.35	+1.1	100
101	0	.....	0.9	0.1	0.8	145.6	134.1	159.7	92.0	7.2	0.75	56.1	1.3	0.0	11.1	141.2	2.7	4.0	7.87	−1.2	101
102	.....	.....	4.0	3.2	0.8	144.9	131.9	164.9	104.7	9.0	0.47	54.5	2.1	3.5	3.2	154.4	4.1	5.9	6.39	+0.2	102
103	0	.....	1.4	0.9	0.5	161.6	153.0	173.5	107.0	6.4	0.91	58.1	4.0	3.3	0.0	186.3	2.1	4.4	3.36	+1.5	103