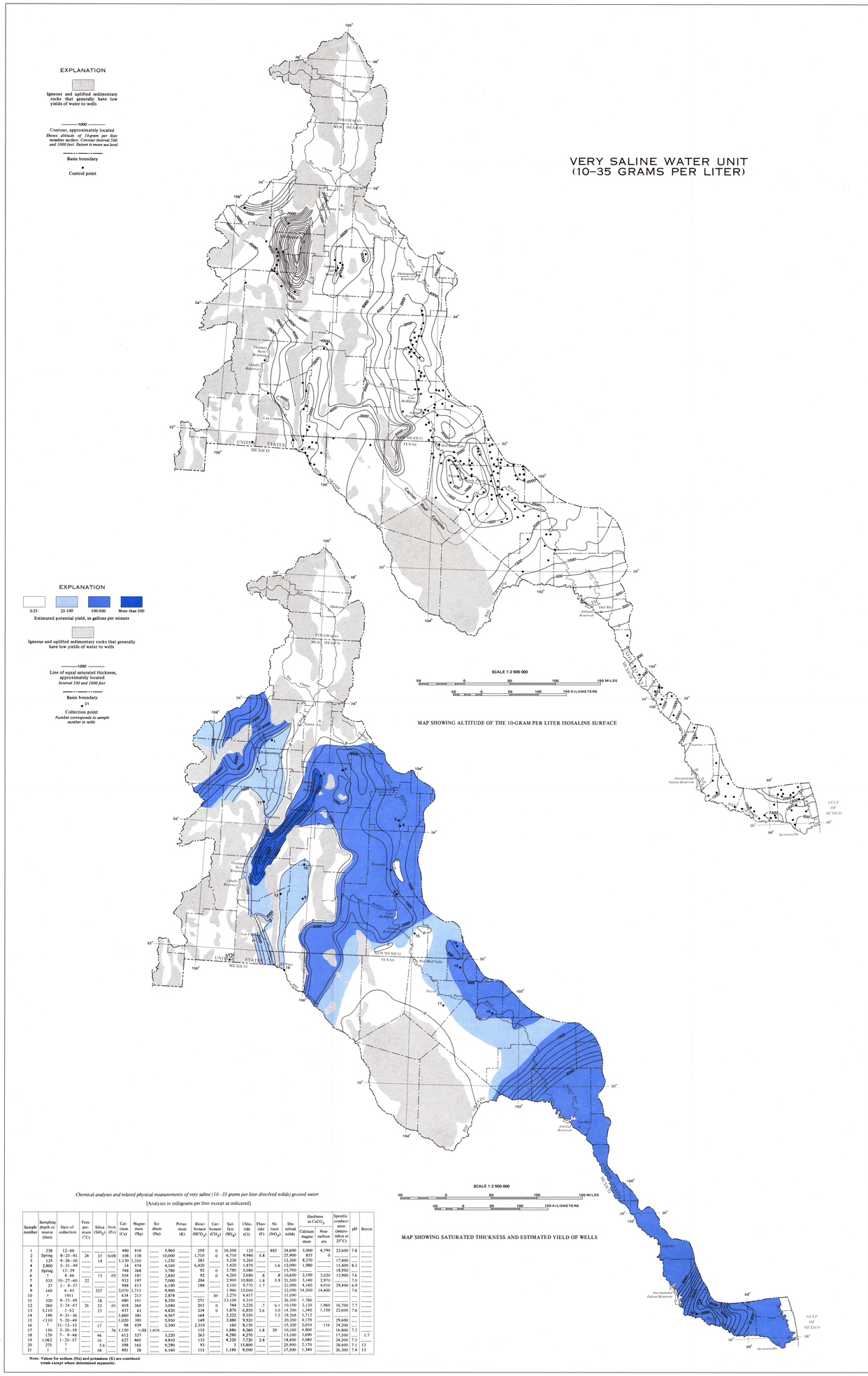
VERY SALINE WATER UNIT (10–35 GRAMS PER LITER)



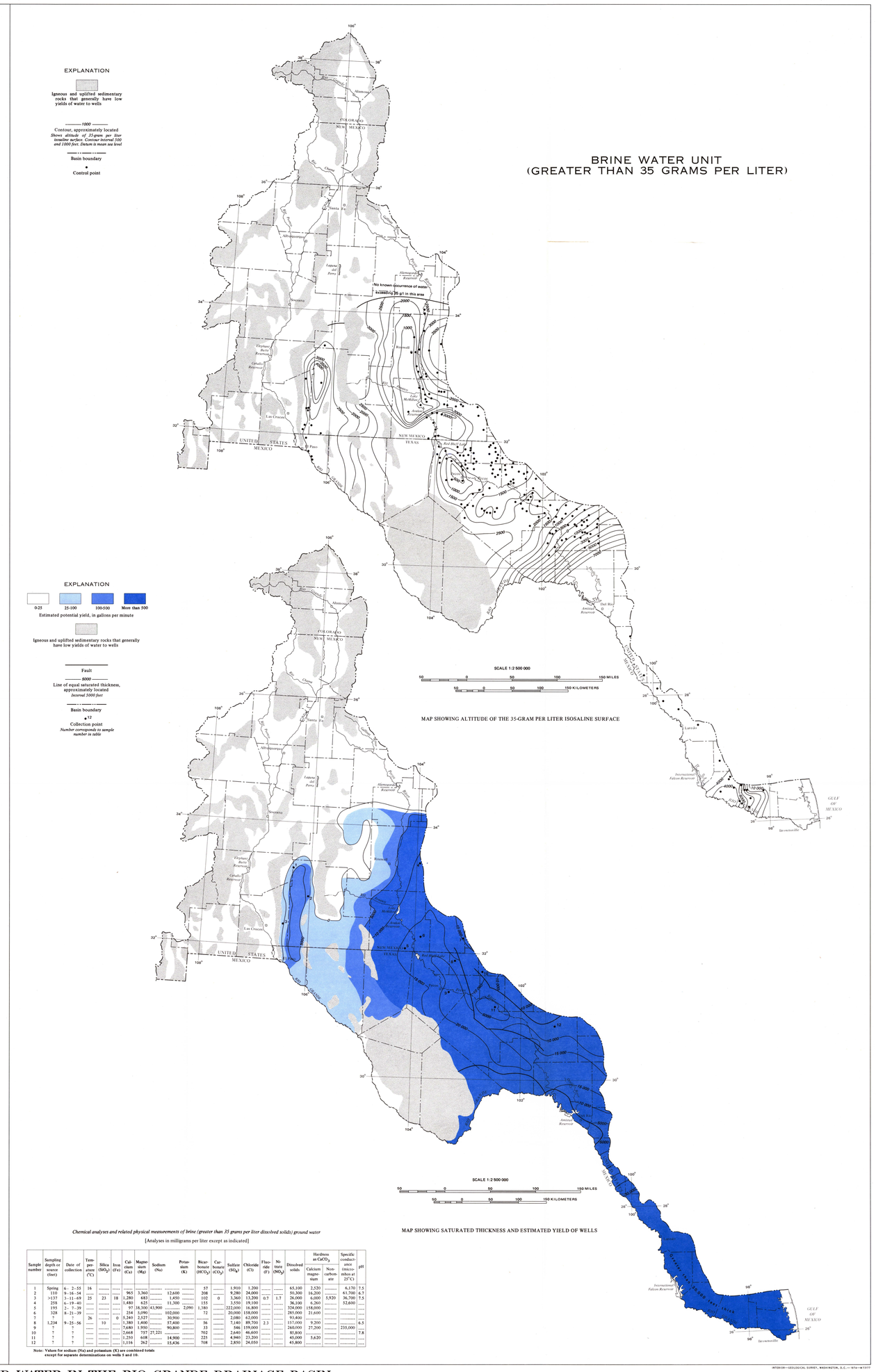
Chemical analyses and related physical measurements of very saline (10–35 grams per liter dissolved solids) ground water

[Analyses in milligrams per liter except as indicated]

Sample number	Sampling depth or source (feet)	Date of collection	Temperature (°C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$: Calcium magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Boron
1	238	12–66	.....	.....	.....	490	919	 5,960	.....	259	0	16,500	125	.....	482	24,600	5,000	4,790	22,600	7.8	.....
2	Spring	8–23–41	24	37	0.08	108	138	 10,000	.....	1,710	0	6,710	9,940	5.8	.....	27,900	837	0	.....	.....	.....
3	125	4–26–50	.....	14	.....	1,130	1,350	 1,220	.....	283	.....	3,230	5,260	.....	.....	12,300	8,370	.....	17,400	.....	.....
4	2,800	3–31–49	.....	.....	.....	14	474	 4,160	.....	6,420	.....	1,420	1,870	.....	1.6	12,090	1,980	.....	15,400	8.3	.....
5	Spring	12–39	.....	.....	.....	748	268	 3,780	.....	92	0	3,780	5,080	.....	.....	13,700	.....	.....	18,950	.....	.....
6	?	4–66	.....	13	.05	554	181	 2,850	.....	92	0	4,260	2,680	.8	.8	10,600	2,100	2,020	13,900	7.6	.....
7	533	10–27–60	22	.....	.....	932	197	 7,000	.....	204	.....	2,900	10,800	1.8	5.9	21,500	3,140	2,970	.....	7.0	.....
8	27	1–4–57	.....	.....	.....	988	413	 6,190	.....	188	.....	3,550	9,770	1.7	.....	21,000	4,160	4,010	29,400	6.9	.....
9	160	6–45	.....	327	.....	3,070	1,715	 9,900	.....	.....	.....	1,940	15,000	.....	.....	32,000	14,500	14,400	.....	7.6	.....
10	?	1911	.....	.....	.....	634	213	 2,874	.....	.....	30	2,270	4,457	.....	.....	11,090	.....	.....	.....	.....	.....
11	320	8–23–49	.....	18	.....	486	141	 8,350	.....	271	.....	13,100	4,310	.....	.....	26,500	1,780	.....	.....	.....	.....
12	260	2–24–67	26	23	.01	418	264	 3,040	.....	203	0	744	5,220	7	6.1	10,100	2,130	1,960	16,500	7.7	.....
13	3,110	3–62	.....	23	.....	437	61	 4,820	.....	224	0	1,870	6,850	2.6	3.0	14,200	1,340	1,150	22,600	7.6	.....
14	190	4–21–36	.....	.....	.....	1,660	381	 4,567	.....	164	.....	2,222	9,350	.....	7.5	18,268	5,712	.....	.....	.....	.....
15	<110	5–20–49	.....	.....	.....	1,020	395	 5,950	.....	149	.....	2,880	9,920	.....	.....	20,200	4,170	.....	29,600	.....	.....
16	?	11–12–53	.....	17	.....	98	429	 5,300	.....	2,310	.....	160	8,130	.....	.....	15,300	2,010	116	24,200	.....	.....
17	150	2–20–59	.....	.....	.76	1,150	<.05	1,410	.....	155	.....	1,880	4,360	1.8	29	10,100	4,800	.....	16,800	7.2	.....
18	170	7–9–48	.....	46	.....	612	527	 3,220	.....	263	.....	4,290	4,270	.....	.....	13,100	3,690	.....	17,500	.....	1.7
19	1,062	1–23–57	.....	16	.....	627	845	 4,810	.....	133	.....	4,220	7,720	2.8	.....	18,400	5,040	.....	24,500	7.3	.....
20	275	?	.....	5.6	.....	598	165	 9,290	.....	93	.....	0	15,800	.....	.....	25,900	2,170	.....	38,400	7.1	13
21	?	?	.....	34	.....	491	28	 6,160	.....	115	.....	1,190	9,500	.....	.....	17,500	1,940	.....	26,300	7.4	13

Note: Values for sodium (Na) and potassium (K) are combined totals except where determined separately.

BRINE WATER UNIT (GREATER THAN 35 GRAMS PER LITER)



Chemical analyses and related physical measurements of brine (greater than 35 grams per liter dissolved solids) ground water

[Analyses in milligrams per liter except as indicated]

Sample number	Sampling depth or source (feet)	Date of collection	Temperature (°C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$: Calcium magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH
1	Spring	6–2–55	16	.....	.....	.....	.....	.....	.....	57	.....	1,910	1,200	.....	.....	55,100	2,520	.....	6,170	7.5
2	110	9–16–54	.....	.....	.....	965	3,360	.....	12,600	.....	208	.....	9,280	24,000	.....	50,300	16,200	.....	61,700	6.7
3	>137	3–11–69	25	23	18	1,280	683	.....	1,450	.....	102	0	3,360	13,200	0.7	1.7	26,000	6,000	5,920	36,700	7.5
4	258	6–19–40	.....	.....	.....	1,480	625	.....	11,300	.....	155	.....	3,550	19,100	.....	.....	36,100	6,260	.....	52,600	....
5	195	2–7–39	.....	.....	.....	97	18,300	43,900	.....	2,090	1,380	.....	222,000	16,800	.....	.....	324,000	158,000	.....	.....	....
6	328	8–21–59	.....	.....	.....	254	2,090	.....	102,000	.....	72	.....	20,000	158,000	.....	.....	285,000	21,600	.....	.....	....
7	?	?	26	.....	0	5,240	2,527	.....	30,900	.....	.....	.....	2,080	62,000	.....	.....	93,400	.....	.....	.....	....
8	1,234	9–25–56	.....	10	.....	1,380	1,400	.....	57,400	.....	56	.....	7,140	89,700	2.3	.....	157,000	9,200	.....	.....	6.5
9	?	?	.....	.....	.....	7,680	1,950	.....	90,800	.....	33	.....	546	159,000	.....	.....	260,000	27,200	.....	235,000	....
10	?	?	.....	.....	.....	2,668	757	27,221	.....	.....	702	.....	2,640	46,600	.....	.....	82,800	.....	.....	.....	7.8
11	?	?	.....	.....	.....	1,250	608	.....	14,900	.....	225	.....	4,940	23,200	.....	.....	45,000	5,620	.....	.....	....
12	?	?	.....	.....	.....	1,116	262	.....	12,436	.....	708	.....	2,850	24,000	.....	.....	45,800	.....	.....	.....	....

Note: Values for sodium (Na) and potassium (K) are combined totals except for separate determinations on wells 9 and 10.

RECONNAISSANCE INVESTIGATION OF GROUND WATER IN THE RIO GRANDE DRAINAGE BASIN

WITH SPECIAL EMPHASIS ON SALINE GROUND-WATER RESOURCES

By
T. E. Kelly

1974

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