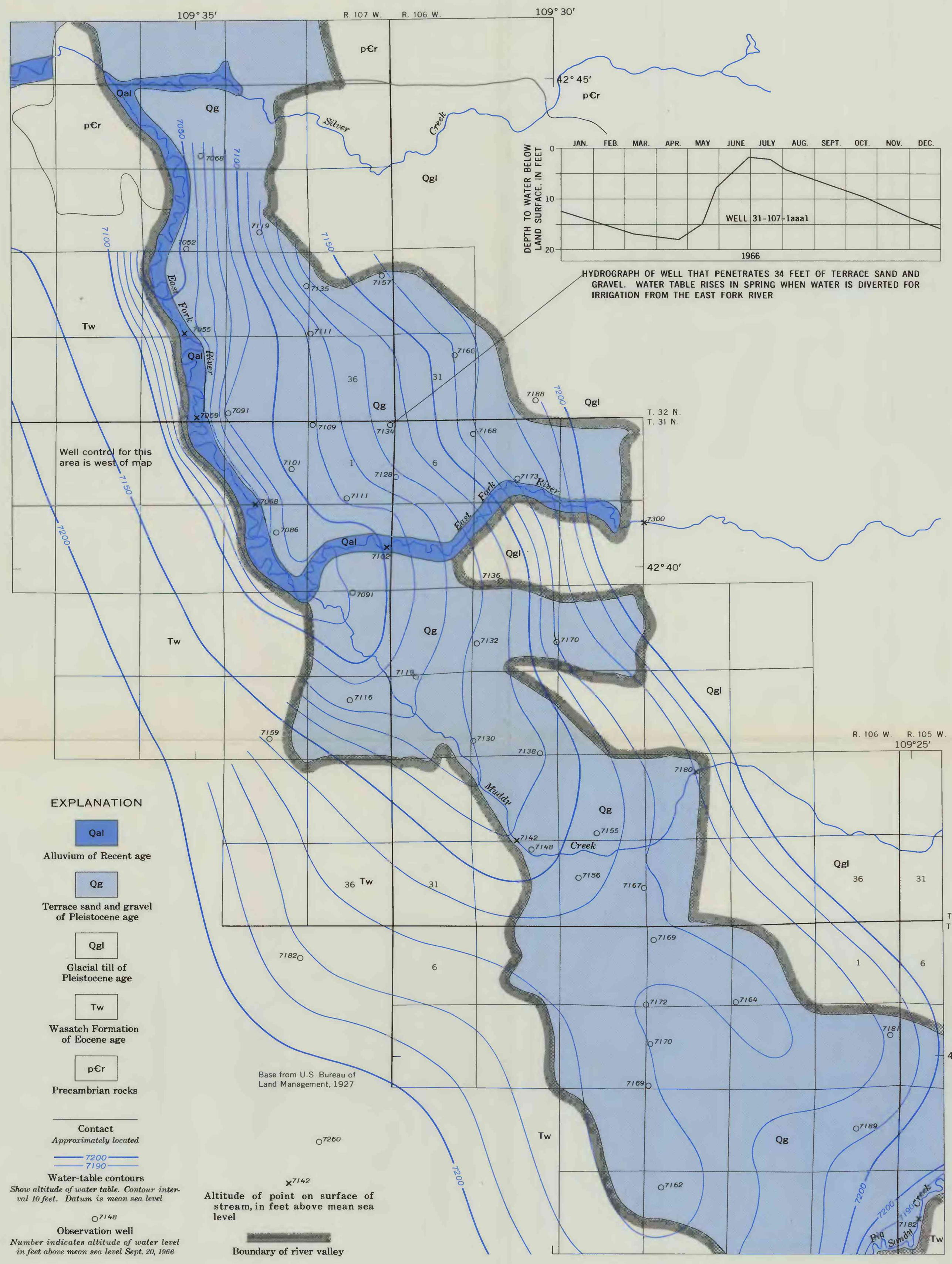
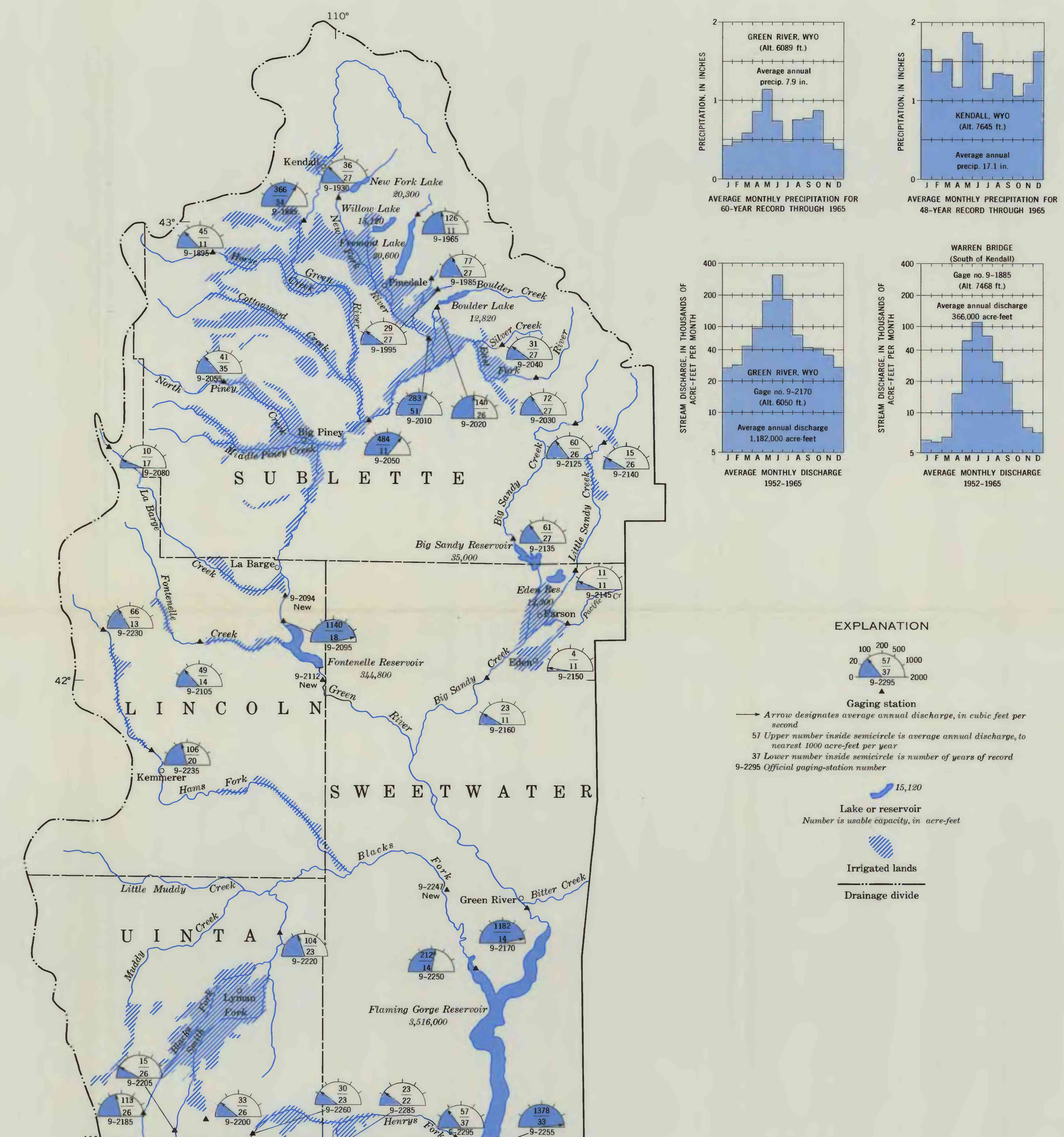
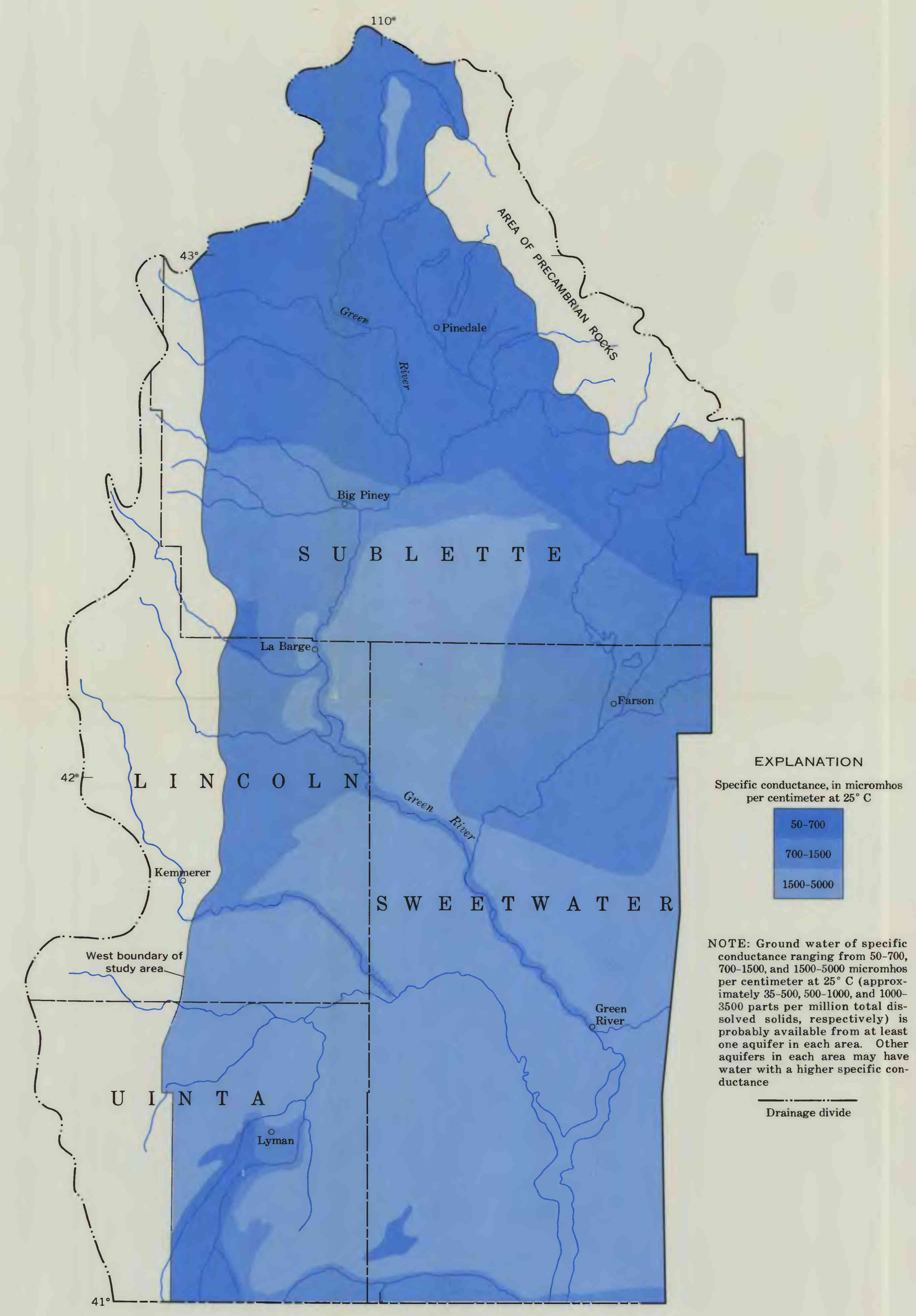


MAP OF THE EAST FORK RIVER AREA, SUBLETTE COUNTY, SHOWING CONFIGURATION OF THE WATER TABLE



MAP SHOWING STREAMFLOW, RESERVOIR CAPACITIES, AND IRRIGATED LANDS



MAP SHOWING GENERALIZED AREAS OF SPECIFIC CONDUCTANCE OF GROUND WATER

GENERALIZED SECTION OF THE GEOLOGIC FORMATIONS

Era	System	Series	Subdivision[1]	Lithology and distribution[1]	Ground-water possibilities[2]
Cenozoic	Quaternary	Pleistocene and Recent	Alluvial deposits (0-50±)	Clay, silt, sand, and gravel; includes some slopewash material. Coarser alluvial deposits are in Green River valley north of Green River and along streams in and near highlands; alluvium overlying Green River and Wasatch Formations away from highlands is mostly clay, silt, and fine sand	Ground-water possibilities good in coarser deposits, but poor where silt and clay predominate. Water from 24 wells and 5 springs has D. S. ranging from about 250 to 2,800 ppm; known yields are less than 10 gpm, but clean sand and gravel near perennial streams would probably have yields of 500± gpm. Wells drilled in alluvium along Green River north of town of Green River, Fontenelle Creek, La Barge Creek, Piney Creek, Cottonwood Creek, New Fork River and its major tributaries, Hams Fork, Henrys Fork, and Smith Fork and Blacks Fork above Lyman would probably yield water having D. S. less than 1,000 ppm
			Windblown sand (0-30±)	Sand, and silt, unconsolidated. Both active and inactive sand dunes are widely scattered throughout basin; thickest deposits are in T. 24 N., R. 105 W.	Generally too thin to hold much water, but aids recharge to underlying formations. Water in small water-table lakes in dunes east of T. 24 N., R. 105 W. has D. S. of about 400 ppm
			Glacial deposits (thickness unknown)	Clay, silt, sand, gravel, and boulders, poorly sorted. Moraines and related terraces and outwash deposits of three principal periods of glaciation are present along southwestern Wind River Mountain front (Holmes and Moss, 1955); other deposits are south of Lyman (Robinove and Cummings, 1963)	Ground-water possibilities fair where glacial till can be drilled; wells would probably yield less than 20 gpm, but D. S. are probably less than 400 ppm
			Gravel deposits (0-70±)	Gravel, pebble to boulder size, sand, and silt. Located at several terrace levels above the streams and in scattered patches on highlands; includes some glacial outwash material. Test hole 31-106-17cbc1 near East Fork penetrated 69 feet of coarse gray quartz and feldspar sand and some cobbles and boulders	A good source of water near Wind River Mountains; water from 8 wells and 2 springs have D. S. ranging from 65 to 310 ppm; known well yields are less than 20 gpm, but fish hatchery springs at Boulder (32-108-26a1) and Daniel (34-111-8db1) flow 2,000 and 350 gpm, respectively; wells at favorable locations near East Fork probably would yield 500± gpm. Water from terrace deposits differs considerably in chemical character near Lyman (Robinove and Cummings, 1963) where D. S. range from 365 to 2,650 ppm and known well yields are less than 50 gpm
	Tertiary	Pliocene(?)	Igneous extrusive rock (100±)	Lava flow. Single exposure at Pilot Butte (sec. 10, T. 19 N., R. 106 W.) (Osterwald and others, 1959)	No ground-water possibilities
		Upper Miocene to middle Pliocene	South Pass Formation (0-200+)	Conglomerate, pebble- to boulder-sized material in a fine-grained, ashy matrix. Present in northeast (T. 28 N., R. 103 W.) (Zeller and Stephens, 1964)	Ground-water possibilities not known, but probably good
		Miocene(?)	Browns Park Formation (thickness unknown)	Conglomerate and sandstone (Robinove and Cummings, 1963)	Ground-water possibilities not known, but probably poor to fair. Outcrops generally are topographically high and probably well drained
		Oligocene or Miocene	Bishop Conglomerate (0-200±)	Conglomerate containing well-rounded boulders and cobbles of quartzite, limestone, and schist (Bradley, 1964); and sandstone (Robinove and Cummings, 1963). Present in scattered outcrops in south	Ground-water possibilities not known, but probably poor to fair. Outcrops generally are topographically high and probably well drained. A spring (13-111-9cb1) on Cedar Mountain has D. S. of about 350 ppm
		Middle and upper(?) Eocene	Bridger Formation (500-2,300±)	Mudstone, sandy, tuffaceous, gray to green, locally banded with pink; medium-grained, tuffaceous, muddy, brownish-gray sandstone; and thin-bedded limestone and marlstone; locally conglomeratic near Uinta Mountains. Contains fewer red beds and much more volcanic ash than Wasatch Formation; base interfingers with Laney Shale Member and generally is poorly defined (Bradley, 1964; Koenig, 1960; Zeller and Stephens, 1964). Present in much of southern half of basin	Ground-water possibilities poor; yields less than 50 gpm of highly mineralized water expected in most of area. Locally, however, sandstones might contain good water where overlain by alluvial or gravel deposits; as at Granger (wells 19-112-32bbd1, 2) and near Lyman (well 14-115-16ddd1) where D. S. of water in Bridger Formation is 563 and 914 ppm, respectively
		Middle Eocene	Pass Peak Conglomerate of Eardley (1944) (1,000-5,000)	Conglomerate, sandstone, and shale (Eardley, 1944). Present in the northwest (T. 35 N., R. 113 W.) where it might overlie Hoback Formation of Paleocene and early Eocene age (Eardley and others, 1944)	Ground-water possibilities good. Maximum yield unknown, but probably exceeds 200 gpm; four wells range from 35 to 140 feet deep and 200 to 380 ppm D. S.
		Uppermost Paleocene to middle Eocene (Fort Union(part), Wasatch, and Green River Formations)	Upper tongue of Green River Formation (0-240)	Upper tongue of Green River Formation—Limestone containing numerous stromatolites and ostracods, marlstone, mudstone, siltstone, and sandstone (Lawrence, 1965; and Oriel, 1961). Present in west	Upper and middle tongues of Green River Formation and upper tongue of Wasatch Formation—These rock units are difficult to differentiate in the subsurface and are lumped into one unit (Tgwe). Ground-water possibilities are fair, but highly mineralized water is present locally. Twenty-six wells that penetrate one or more of these rock units range in depth from 63 to 1,056 feet and yield from 2 to 85 gpm; D. S. of water range from 705 to 7,020 ppm. Sulfate in ground water in vicinity of a 72-foot deep well (24-110-1ca1) probably came from gypsum in nearby outcrops; sulfate content and D. S. of water from this well are 2,730 and 5,030 ppm, respectively
			Laney Shale Member of Green River Formation (100-1,000±)	Laney Shale Member of Green River Formation—Marlstone, oil shale, tuff, siltstone, fine- to medium-grained sandstone; characteristically brown and buff colored (Bradley, 1964; Culbertson, 1962; and Love, 1964). Present in east	Laney Shale Member of Green River Formation—Ground-water possibilities fair. Of 18 wells tapping the Laney, yields, D. S., and depths range from 1 to 75 gpm, about 650 to 4,200 ppm, and 20 to 265 feet, respectively. Sandstone is a significant constituent and yields of about 300 gpm can probably be obtained locally, but D. S. of water generally will exceed 1,500 ppm
			Upper tongue of Wasatch Formation (0-700±)	Upper tongue of Wasatch Formation—Mudstone, green, gray, and red, and lentils of sandstone, which are conglomeratic in south; thickens to south (Lawrence, 1965; and Oriel, 1961). Present in west	(see Upper and middle tongues of Green River Formation and upper tongue of Wasatch Formation)
			Cathedral Bluffs Tongue of Wasatch Formation (0-200±)	Cathedral Bluffs Tongue of Wasatch Formation—Mudstone, gray, pink bands, and sandstone. Single outcrop in T. 25 N., R. 104 W.; not present in subsurface a short distance west of outcrop	Cathedral Bluffs Tongue of Wasatch Formation—Ground-water possibilities unknown, but probably poor
			Middle tongue of Green River Formation (0-250)	Middle tongue of Green River Formation—Limestone, mudstone, siltstone, and sandstone, and low-grade oil shale (Oriel, 1961; and Lawrence, 1965). Present in west	(see Upper and middle tongues of Green River Formation and upper tongue of Wasatch Formation)
			Wilkins Peak Member of Green River Formation (0-1,400±)	Wilkins Peak Member of Green River Formation—Marlstone, claystone, oil shale, siltstone, tuff, fine-grained sandstone (Bradley, 1964; Culbertson, 1961); contains saline minerals of trona, shortite, halite, etc., in south-central part of basin (Culbertson, 1966; Fahey, 1962). At National Park Service test hole (15-108-28cbb1) near Buckboard Crossing, Wilkins Peak was 1,160 feet thick. Present in east	Wilkins Peak Member of Green River Formation—Ground-water possibilities poor. Might yield less than 30 gpm of brine locally (J. R. Rapp and W. T. Stuart, written communication, 1966); saline minerals are probably a source of contamination to ground water in Tipton Shale Member and Wasatch Formation; water from Wasatch Formation at test hole 15-108-28cbb1 has D. S. of 1,690 ppm, but D. S. increased to over 8,000 ppm when Wasatch water in open hole flowed through Wilkins Peak
			New Fork Tongue of Wasatch Formation (0-250±)	New Fork Tongue of Wasatch Formation—Mudstone, sandy, gray to green, locally banded with red or maroon layers, contains many lenses and irregular beds of fine- to coarse-grained sandstone (Bradley, 1964; Oriel, 1961; and Lawrence, 1965). Present in west from T. 19 N. to T. 29 N. where it interfingers with middle tongue of Green River Formation (Bradley, 1964). Bradley (1964), however, maps the New Fork as far south as T. 14 N.	New Fork Tongue of Wasatch Formation—Ground-water possibilities good. Nine stock wells range from 120 to 760 feet in depth and have yields ranging from 2 to 40 gpm. D. S. of water from well 28-110-33aa1 is 1,730 ppm; no other quality-of-water data available
			Tipton Tongue and Tipton Shale Member of Green River Formation (0-400±)	Tipton Tongue and Tipton Shale Member of Green River Formation—Oil shale, tan to dark-brown, predominates in southeast; fine-grained calcareous sandstone, coarser in northeast; and subordinate amounts of siltstone, marlstone, and fossiliferous limestone (Bradley, 1964). Aggregate thickness of sandstone ranges from 200 to 400 feet northeast of Green River. The sandstone is discernable on electric logs over an area of about 4,000 square miles and appears to merge with the New Fork Tongue in west (Culbertson, written communication, April 6, 1966). Fossil zone at base is correlative with base of Fontenelle Tongue and mappable in subsurface over most of basin. Tipton is overlapped by younger rocks in north and south; present in east	Tipton Tongue and Tipton Shale Member of Green River Formation—A good source of water in east-central part of basin. Of 9 wells tapping the Tipton Shale Member, yields, D. S., and depths range from about 10 to 170 gpm, 500 to 3,000 ppm, and 580 to 1,900 feet, respectively. Water generally is poorer in quality in west and south. Water in this artesian aquifer is a nuisance to trona mining in T. 19 N., R. 110 W. (J. R. Rapp and W. T. Stuart, written communication, 1966)
			Fontenelle Tongue of Green River Formation (0-250±)	Fontenelle Tongue of Green River Formation—Limestone, muddy, fossiliferous, brown to white, brown carbonaceous claystone, gray to buff marlstone, and fine-grained calcareous sandstone (Bradley, 1964; Oriel, 1961; and Lawrence, 1965). Present in west from T. 14 N. to T. 29 N.; probably equivalent to lower part of Tipton Shale Member	Fontenelle Tongue of Green River Formation—Ground-water possibilities not known, but probably poor; no wells are known to tap the Fontenelle
			Main body of the Wasatch Formation (0-3,500+)	Claystone, silty to sandy, generally variegated red, orange, purple, brown, green or gray; lenticular beds of fine- to medium-grained sandstone becoming conglomeratic locally at basin periphery; and lesser amounts of oil shale, lignite, and limestone (Bradley, 1964; Culbertson, 1965; Oriel, 1961; and Zeller and Stephens, 1964) underlie most of basin; lateral and vertical lithologic variations are characteristic; may be as much as 7,000 feet thick in syncline that trends northwest through T. 30 N., R. 108 W. As mapped in the report, main body of Wasatch includes beds below Fontenelle Tongue and Tipton Shale Member of Green River Formation and above subsurface part of the Fort Union rocks; includes Niland Tongue in southeast (Culbertson, 1965) and Chappo and La Barge Members and conglomerate member in west (Oriel, 1962); part of Fort Union in southeast (Hansen, 1965) and east (Bradley, 1964) and Luman Tongue of Green River Formation in southeast are mapped with unit	A good source of water, particularly in north half. Contains more than one aquifer; wells tapping deeper sandstones flow in some areas. Yields of 125 wells range from 1 to 688 gpm and D. S. range from 200 to 3,700 ppm. Wells in north half of basin generally are less than 1,000 feet in depth; in south-central part of basin (T. 13 N., R. 112 W.), top of Wasatch is about 4,000 feet below surface. (See structure contours on geologic map.) Aggregate thickness of water-bearing sandstone probably ranges from one-third to two-thirds of total formation thickness; consequently, a large amount of water is in storage and the water is under pressure where deeply buried. These conditions could be troublesome in mining trona and oil shale in lower part of Green River Formation. More data are needed to properly evaluate water quality and potential of Wasatch Formation
		Paleocene	Fort Union Formation (part) (0-2,500+)	Sandstone, fine- to medium-grained, silty, gray; and dark-gray lignitic and coaly mudstone; coarser near mountains (Bradley, 1964). Underlies Wasatch Formation in most of basin and generally is overlapped by younger rocks at edges of basin; includes some Paleocene rocks older than Oriel's (1963) Chappo Member of the Wasatch near La Barge, and possibly older than Fort Union as used by Hansen (1965) in southeast and Paleocene rocks mapped with Wasatch by Bradley (1964). May be as much as 6,000 feet thick in syncline that trends northwest through T. 30 N., R. 108 W.	Ground-water possibilities not known; probably contains highly mineralized water in sandstone, which comprises 50 percent or more of formation in parts of basin
Cretaceous through Cambrian			Sedimentary rocks (12,000±)	Sandstone, quartzite, shale, mudstone, limestone, and dolomite. Deeply buried except on La Barge Ridge (T. 27 N., R. 113 W.), scattered outcrops near Boulder (T. 32 N., R. 107 W.), and north of T. 36 N., and in T. 12 N., R. 107 W. Rocks of all systems of Mesozoic and Paleozoic are represented, except Silurian in north, and Ordovician, Silurian, and possibly Devonian in south (Anderman, 1956; Love, 1950; Hansen, 1965; and Williams, 1955)	Ground-water possibilities largely unknown. A spring (26-114-1bac1) that issues from Madison Limestone has estimated yield of 4,000 gpm (Bertagnolli, 1941); D. S. of water is 186 ppm. Kendall Spring (38-110-2bd1) that issues from the Phosphoria Formation (but might have main source in deeper rocks) has estimated flow of 2,000 gpm with D. S. of 1,000 ppm. Very large quantities of mineralized water, undoubtedly, are present in these rocks. The Bighorn Dolomite, Tensleep, Weber, and Nugget Sandstones, and Frontier, Rock Springs, and Ericson Formations are other possible aquifers
Precambrian			Igneous and metamorphic rocks	Granite, gneiss, and schist (Love and others, 1955)	Ground-water possibilities not known, but yields of water (D. S. less than 500 ppm) might be obtained from weathered or fractured zones in mountain areas

[1] Thickness (in feet) and lithology based upon geologic literature and subsurface data.

[2] Yield, in gallons per minute (gpm); yields generally are of pumped wells and not the maximum yield. Total dissolved solids content (D.S.), in parts per million (ppm); estimates of D.S. were made from field measurements of specific conductance (Rainwater and Thatcher, 1960, p. 275).

CHEMICAL ANALYSES OF WATER FROM WELLS AND SPRINGS

[Analyses by U.S. Geological Survey unless otherwise noted. Results in parts per million except where indicated]

Location	Depth (feet)	Date of collection	Temperature (° F)	Silica (SiO_2)	Iron (Fe)[a]	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)[a]	Chloride (Cl)[a]	Fluoride (F)[a]	Nitrate (NO_3)[a]	Boron (B)	Dissolved solids[a]	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Noncarbonate	Sodium-absorption ratio (SAR)	Specific conductance (micromhos at 25° C)	pH
Cretaceous through Cambrian rocks																					
18-116-6dda1	1,005	5-22-42	57					611[c]		885	26	323				1,470				2,400	
26-114-1bac1	Spring	9-15-65		5.4	0.01	46	16	1.2	0.4	197	19	.8	0.3	0.1	0.0	186	179	17	0.04	355	7.7
32-107-8ddd1	Spring	9-22-66	95	49.0	.41	2.4	.2	91.0	1.2	17	14	70.0	14.0	.1	.1	268	7	0	15.2	460	9.3
38-110-2bd1	Spring	8- 9-66	85	15.0	.16	215	52	4.0	2.7	120	650	3.2	2.1	.0		1,000	749	651	.06	1,250	7.8
39-111-22ba1	664	12-23-54				68	6	11[c]		165	80	0				246			.3	350	
Wasatch Formation																					
15-108-28cbb1	2,218	10-21-63	79	15	0.06	1.8	0.1	720	2.6	1,720	2.2	94	8.6	0.0	1.6	1,690	134	0	142	2,660	8.4
15-109-10acc1[bd]	2,420	1957		11.3	4.47	40.0	7.3				2,020	3,070					130			7,800	8.4
16-107-22ddd1	990	9-20-63	61	12	.30	1.6	.1	448	1.6	841	80	45	2.4	.0		1,070	4	0	93	1,710	8.8
16-114-30abc1[b]	1,865	4- 9-53	60	11	.06	6.0	2.4	569	.8	379	504	301	1.0	.2	.37	1,590	25		50	2,600	8.6
16-105-7bab1	158x	7-16-58	51	7.9		5.6	2.7	414[c]		520	454	18		2.5		1,660	26		36	1,760	8.1
18-107-22aca1[b]	764	4-13-62	61	12	.28	1.5	0.3	476	1.0	1,040	48	33	5.0	.0		1,310	5	0	93	1,970	9.7
19-105-32dac1	190	10- 8-64	64	8.8	.28	39	30	374	4.6	260	710	39	.8	.0	.40	1,340	221	8	11.0	1,880	7.2
23-110-13dca1	1,725	9-15-64	71	13	.07	1.2	.5	292	.8	605	1.8	85	11	.0	.55	704	5	0	5.7	1,200	8.8
23-114-28daa1[b]		5-25-66	49	19	.33	24	42	240	1.0	333	373	18	.7	.0	.1	915	234	0	6.8	1,380	8.5
26-104-4cda1	427	10-22-65	51	11	.02	.0	.0	186	.4	299	87	9.2	4.6	.0	.8	472	0	0		772	8.9
26-112-6db2	100x	5-27-58	50	10		25	52	370[c]		516	459	125		.7		1,300	274		9.7	1,950	8.0
26-113-11ac1	145x	6-16-66	47	17	.89	86	67	43	1.0	235	356	18	.4	.0	.0	705	489	296	.8	1,010	8.2
27-112-29bca1	102	5-13-66	53			61	30	212	2.0	634	195	12				824			5.6	1,000	8.0
29-107-5db1	200	5-28-58	47	20		21	.9	562[c]		136	1,090	22		.8		1,780	55		33	2,520	7.3
29-107-10bb1	120x	6-12-65	46	9.6	.05	14	.5	276	1.0	172	438	13	.8	.0	.1	838	37	0	20	1,300	7.5
29-112-25aa1	389	5-14-65	52	2.3	.44	1.1	.1	275	.6	570	128	7.0	2.3	.0	.45	697	3	0	69	1,160	9.1
30-106-12ad1	102	6-10-65	48	9.8	.05	13	.4	80	.6	80	136	4.8	.3	.0	.0	284	34	0	6	466	8.2
30-111-17dbb1	195	6-10-65		8.7	.03	.8	.2	200	.4	364	76	15	.7	.0	.2	501	3	0	50	815	8.7
30-112-33cbd1	790x	6-29-66	51	9.8	.00	3.2	2.6	243	4.5	339	158	12	.8	.0	.17	646	18	0	25	1,020	9.0
30-112-36acc2	500x	9-21-66		8.8	.15	.0	1.5	250	.4	405	116	7.4	1.0	.1	.41	675	6	0	44	1,010	8.8
30-113-15cc1	196	8-17-66		6.0		9.0	2.3	258	1.2	360	263	10	.6	.1		745	32	0	20	1,160	8.4
31-107-23dc1	133	6- 6-66	46	10	1.6	199	18	55	2.2	107	523	38	.5	.0	.08	900	570	482	1.0	1,230	8.1
31-111-3cd1	235	8-12-65	52	8.1	.08	8.0	8.3	131	1.7	262	86	9.4	1.1	1.4	.2	389	54	0	7.82	638	8.3
32-111-24ac1	110x	8- 3-66		6.6	.17	.0	1.4	193	.8	264	142	1.2	.5	.0		533	6	0	35	817	8.9
32-113-33cb1	211	8-12-65	56	14	.12	34	19	18	1.2	212	4	7.4	.6	2.5	.0	215	162	0	.61	371	7.7
33-113-22dc1	170x	7-20-60		6.1	.07	3.2	.7	175	.7	315	68	21	.2	.0	.57	441	11	0	23	734	8.5
34-111-35cb1	117	9-21-66		6.3		19	6	100	.02	237	80	.7	1.5	.0	.24	320	72	0	4.95	519	8.1
35-111-1ddb1[b]	270	7-21-66	47	7.9	.04	1.2	.7	130	.7	276	40	1.9	.3	.0	.15	329	6	0	23	530	8.6
Wasatch Formation and Tipton Shale Member of Green River Formation																					
23-107-30bcb1	1,279	11- 4-65		11	0.0	0.0	6.8	338	4.0	567	93	39	6.4	0.0	0.62	883	28	0	25	1,430	9.2
24-109-9abd1	1,500	4-28-66	61	11	.08	.0	.0	330	.8	519	.0	62	18	.0	.9	777	0	0		1,270	9.3
26-106-3aca1[f]	1,825	9- 1-62				.0	.61	218	3.13	115	84.2	65.9			.74	592			60	986	10.2
28-107-16cb1[b]	900x	4-23-65	57	5.8	.11	1.1	.1	212	.4	365	2.2	100	11	.0	.48	513	3	0	52	932	9.0
Tipton Shale Member of Green River Formation																					
18-110-17bac1[b]	2,145	4-16-62	61	0.1	0.05	3.2	2.4	1,470	3.8	990	13	1,700	2.0	0.2		3,700	18	0	154	6,580	8.3
19-110-21ddd1	1,908x	10-22-63	80	11	.14	2.0	.2	1,140	4.4	1,740	2.1	508	16	.0		2,720	6	0	205	4,310	9.0
23-106-4acd1[f]	950	4-27-62				.0	.37	298	.78	363	226	16			.53	781			104	1,250	9.1
23-107-1bac1[f]	1,029	4-27-62				.0	.61	363	.78	493	178	34			.64	885			100	1,480	9.3
25-106-13abb1[f]	1,069	3-20-62				.4	1.34	226	.78	269	157	25			.58	627			40	1,010	9.1
25-106-21ac1[f]	1,262	5- 2-62				.0	.36	217	.28	290	130	26			.45	605			78	928	9.1
25-106-27db1[f]	1,030	3-20-62				1.8	.37	243	.39	224	172	19			.53	631			43	1,040	9.1
Tipton Shale Member and Wilkins Peak Member of Green River Formation																					
23-107-34cac1[f]	998	4-27-62				0.0	1.83	2,968	6.64	729	189	113			1.62	6,960			435	10,200	10.3
Laney Shale Member of Green River Formation																					
12-110-6ad1[b]	150	6-14-66	53	21		0.0	0.6	261	0.5	463	65	43	2.7	0.1	.39	666	2	0	72	1,020	8.9
15-108-9dbb1	676	10-13-63	58			5.8	29	1,290		1,960	355	394				3,330	134	0	48	5,060	8.4
22-105-6dc1	99	4-28-66	47	11	.0	39	34	220	1.0	305	453	5.0	.8	.0	.1	913	237	69	6.2	390	7.9
25-105-31adc1	265	6- 9-66	48	14	.77	207	83	480	2.0	183	1,630	39	1.0	.0	.58	2,550	859	709	7.4	3,200	8.0
25-106-24aa1	265	6-10-66	49	12	.05	60	23	400	1.0	265	600	128	.6	6.7	.19	1,530	440	289	8.5	2,250	8.1
26-106-35aa1	75	6-10-66	50	14	.35	474	119	289	6.0	134	1,720	21	1.0	3.0	.20	2,510	1,620	1,560	3.1	2,790	7.9
28-109-23bc1[b]	218	6-26-59		4.7		55	4.4	992[c]		198	1,810	175	2.0	16	1.0	3,160	156		35	4,420	7.8
28-109-32aa1	268	6- 2-59		4.8		19	14	790[c]		362	1,350	62	6.2	1.0	.69	2,440	106		33	3,550	8.2
28-110-9ad1[b]	300	6- 2-59		4.6		5.6	1.7	559[c]		320	899	24	8.1	1.3		1,650	21		53	2,390	8.0
New Fork Tongue of Wasatch Formation																					
28-110-33aa1	420	6- 2-59		5.6		5.2	1.7	584[c]		326	936	29	1.9	1.7		1,730	20		57	2,510	8.2
Upper tongue of Green River Formation																					
16-114-31add1[b]	1,200	9-30-54	50	0.12	6.3	30	7.2	160	3.8	136	339	4.5	0.2	0.8		614	104	0	6.79	919	8.1
Equivalents of upper and middle tongues of Green River Formation, and upper tongue and New Fork Tongue of Wasatch Formation																					
21-114-20dfb1[b]	180	6-22-66	54	7.4	0.47	5.0	0.4	545	1.0	322	750	82	1.9	0.0	0.3	1,580		0	63	2,350	8.1
22-110-5aba1[b]	973	3-27-64				1.0	.2	495	1.6	520	92	82				1,560				2,000	9.4
22-112-26ddc1[b]	616	10-19-65	52	11	.03	.0	.0	500	1.0	711	143	29	5.3	.0	1.4	1,220	0			1,990	9.4
23-110-1cdb1	560	9-16-64	55	11	.02	56	30	1,550	1.6	214	104	18	4.9	.0	.34	980	140		19	1,470	9.5
24-110-1ca1	72x	4-20-65	47	16	.26	78	95	1,480	4.6	193	2,730	154	8.8	.1	.86	5,000	585		27	6,650	8.1
24-112-5cb1	150x	6-28-66	52	18	.89	58	40	113	2.0	334	222	32	.5	.0	.0	705	499	296	2.8	971	8.2
25-110-26bc1	107	8-29-66				63	102	1,010[c]		294	2,080	70	2.6	1.4	.83	3,760	578		18	4,810	7.9
27-109-19bd1	349	4-27-65	51	5.2	.17	16	.0	386	.7	409	319	46	2.7	.0	.78	1,020	4	0	84	1,690	9.2
27-110-21bb1	491	6-26-59				36	31	2,280[c]		329	3,910	579	5.0	2.5		7,020	218		67	10,500	8.3
Bridger Formation																					
13-113-31dd1	110	6-14-66	57	42		13	2.8	226	15	166	386	30	0.9	0.7	0.42	811	45	0	16	1,200	8.0
13-115-18ad1	30	4- 8-59	48	27	0.0	75	27	64	5.0	246	140	35	.2	4.6	.06	563	297	13	1.6	862	7.4
14-115-16ddd1	40	6-14-66	50	14	.04	160	29	1,400	2.0	206	2,930	359	3.8	3.6	4.8	4,930	520	351	27	6,470	7.8
19-112-32bbd1,2	1,048	1- 4-67	6			145	40	100	1.8	318	263	42	.4	.0	.1	914	527	266	1.9	1,270	7.8
Tertiary rocks undivided																					
29-105-3cd1	560	10- 7-65	52	11	0.0	0.0	0.0	93	0.4	132	36	7.2	0.9	0.0	0.1	217	0	0		363	8.9
Gravel deposits																					
14-115-3cbc1	15	4- 7-59	41	32	0.02	165	139	500	1.7	380	696	726	0.9	14	0.62	2,460	983	671	6.9	3,850	7.6
15-114-10cc1	5	4- 8-59	33	23	.22	67	25	68	5.2	311	92	37	.5	.6	.17	492	368	113	1.8	800	7.5
15-115-13add1	16	4- 8-59	37	36	.01	140	81	114	2.1	548	173	57	.8	.5	.30	831	368	0	3.6	1,290	7.6
15-116-35dda1	14	4- 9-59	39	64	.03	69	29	9.4	.1	352	13	3.9	1.5	.2		363	293	4	.24	549	7.4
31-106-19dba1	20x	5-28-58	45	20		29	5.8	9.0[c]		30	34	8.5	.4	1.9		148	96		.4	235	7.3
31-107-1aaa2	107	5-10-56		12	.03	23	8.6	18		118	11	.9	.2	.1	.04	154	94	0	.81	234	7.8
32-108-26a1	Spring	2- 8-58			.40	10.6	3.4	2.8	1.3		7.2	5.0				65			.19	87	8.1
34-111-8db1	Spring	11-19-56	45		.12	25.2	30.3	5.8	1.2		22.3	1.3				258			.17	440	7.6
Alluvial deposits																					
14-115-19aba1	44	4- 7-59	34	14	7.0	44	8.8	16	0.9	154	17	25	0.2	0.5	0.04	209	146	20	0.58	363	6.9
15-115-24bad1	6.5	4- 9-59	41	11	1.1	69	9.2	37	.1	242	245	31	.2	4.6	.06	523	210	12	1.1	552	7.4
16-115-33ccd1	54	4- 8-59	48	7.6	.46	12	4.6	67	.7	177	30	18	.3	.2	.04	249	50	0	4.2	391	7.9
17-109-2abb1	16x	10-27-53		14		326	84			405	1,310	225		1.4			1,160	828		3,510	7.5
17-113-10-1	15	7-18-58		11		309	108	586[c]		332	1,760	272	.4	.6		3,210	1,220		7.3	4,020	7.4
19-105-8bbd1	59	5-19-66	50	18	.0	76	51	265	3.0	516	467	41	2.1	.0	.99	1,180	400	0	5.8	1,740	8.0
26-112-6dd1[e]	16	1966			.0	53	29	79	2	305	130	28				471			2.2	375	6.8
27-107-35-1	Spring	5-29-58	45	11		3.2	.5	416[c]		260	625	24		.0		1,220	10		57	1,730	8.7
32-108-33-1	15x	5-28-58	44	12		.8	.2	129[c]		125	123	8.0	1.9	.0		359	3		32	526	8.8
35-110-4-1	15x	5-23-59	42	13		46	8.3	25[c]		228	7.4	5.0	.1	1.0		218	148		27	342	8.7

[a] Recommended maximum limits for common constituents in drinking water (U.S. Public Health Service, 1962): Total dissolved solids, 500 ppm if available, 1,000 ppm maximum; Cl, 250 ppm; Fe, 0.3 ppm; NO_3, 45 ppm; SO_4, 250 ppm; F, 0.8 to 1.7 ppm.
[b] Geologic source is questionable.
[c] Figure is total sodium and potassium.
[d] Analysis by Chemical Products of Texas laboratory.
[e] Analysis by Chemical and Geological Laboratory of Casper, Wyo.
[f] Analysis by U.S. Bureau of Reclamation.
[x] Depths marked by "x" are questionable.

GROUND-WATER RECONNAISSANCE OF THE GREEN RIVER BASIN SOUTHWESTERN WYOMING

By
George E. Welder

1968

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