



U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OPEN FILE REPORT 2005-1318
Page 1 of 16

Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California

By Zenon C. Valin and Robert J. McLaughlin

Open File Report 2005-1318

2005
U.S. Department of the Interior
U.S. Geological Survey

Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin

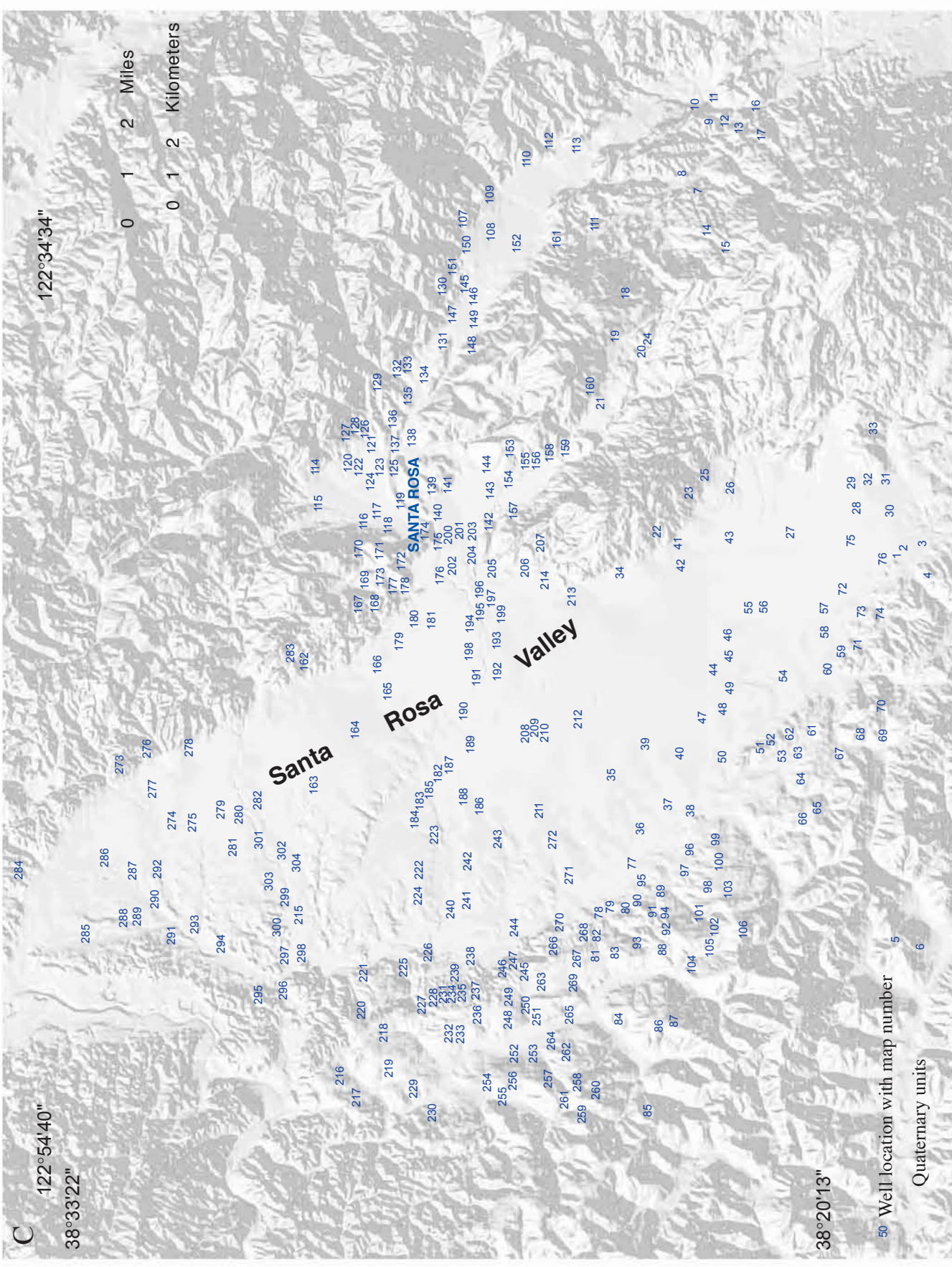


Figure 1. A) Map showing location of Santa Rosa Valley area well database in northern California. B) Regional map showing well locations. C) Shaded relief map showing well locations with map numbers indicated in Table 1; area of Quaternary units simplified from Wagner and Bortugno (1982).

**Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin**

This report contains information originally published in USGS Water-Supply Paper 1427, Geology and Ground Water in the Santa Rosa and Petaluma Valley areas, Sonoma County, California, by G.T. Cardwell (1958). The 304 wells selected are north of 38°18' primarily in the Santa Rosa Valley area and are deeper than or equal to 200 feet (61 meters) in total depth. The information is exactly as given in Cardwell (1958), except for the longitude and latitude coordinates, which were not published; these were determined by digitizing the well locations shown on Plate 1 of that publication. These locations are approximate, since the map projection of Plate 1 was not determined. The map number in column 1 corresponds to the well locations in Figure 1.

The selected well set in this data series was compiled for use in several three-dimensional imaging investigations in progress by the U.S. Geological Survey that require a knowledge of the subsurface of the Santa Rosa Plain and associated adjacent basinal areas. The geologic data presented here are used in building three-dimensional models of velocity to evaluate the shaking hazard during earthquakes, to contribute to a model of the structural architecture of the basins and sub-basins of the area, and to assist in constructing modern hydrologic models of ground water flow. The compilation may be further used for other purposes.

Table 1. *Data for selected water wells of the Santa Rosa Valley, Sonoma County, California*

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
1	5/8-1B1	122.69191	38.31454	261	125	129	39	QTm	gravel
						252	4	QTm	gravel
2	5/8-1H1	122.68889	38.31260	232	125	151	25	QTm	clay and gravel
						224	6	QTm	slightly cemented sand and gravel
3	5/8-1J1	122.68806	38.31011	290	135	44	5	QTm	cemented gravel
4	5/8-1L1	122.69568	38.30902	253	240	--	--	QTm	--
5	5/9-3A1	122.83522	38.31437	832	150	--	--	QTm	uncased below 40 ft.
6	5/9-3G1	122.83794	38.31120	1010	85	3	743	QTm	sandstone
						749	3	QTm	sandstone, streaks of rock
						840	92	QTm	clay and gravel; clay and boulders
						956	15	QTm	coarse sandstone
7	6/6-8N1	122.55190	38.37633	490	325	--	--	QTge, Tsv(?)	--
8	6/6-8P1	122.54922	38.37701	270	310	--	--	QTge	--
9	6/6-16B1	122.52593	38.37260	426	400	--	--	QTge, Tsv(?)	--
10	6/6-16B2	122.52483	38.37320	300	211	--	--	QTge	--
11	6/6-16H1	122.52185	38.36773	210	300	--	--	QTge, Tsv(?)	--
12	6/6-16J2	122.52357	38.36604	280	260	--	--	--	--
13	6/6-16Q1	122.52604	38.36166	360	235	260	100	Tsv	shale
14	6/6-18E1	122.57154	38.36980	225	925	204	21	Tsv	"shale" rock
15	6/6-18E2	122.57188	38.36804	214	975	175	5	Tsv	rock
16	6/6-21B2	122.52583	38.35871	240	275	192	48	QTge(?)	very porous volcanic rock
17	6/6-21C1	122.52975	38.35752	231	365	--	--	--	--
18	6/7-2J1	122.59512	38.39349	358	995	335	--	Tsv	rock
19	6/7-3H1	122.61134	38.39657	520	575	--	--	Qyal, Tsv	--

Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
20	6/7-3Q1	122.61694	38.38889	417	555	27	23	QTge	gravel
						98	12	QTge	wash gravel
						125	292	Tsv	white ash
21	6/7-4B1	122.63611	38.40086	609	440	--	--	Tsv, Tp	dry hole
22	6/7-7E1	122.68410	38.38441	278	240	--	--	Tsv	--
23	6/7-7R1	122.66964	38.37511	265	205	--	--	QTge(?)	--
24	6/7-10A1	122.61206	38.38709	350	600	--	--	--	--
25	6/7-17E1	122.66291	38.37050	650	225	--	--	--	--
26	6/7-18R1	122.66777	38.36308	250	160	--	--	--	--
27	6/7-19N1	122.68446	38.34556	340	117	--	--	QTge(?), QTm	--
28	6/7-31G1	122.67519	38.32600	508	135	--	--	--	--
29	6/7-31H1	122.66602	38.32725	298	160	--	--	Qyal, QTge(?)	--
30	6/7-31J1	122.67062	38.32007	280	135	45	49	QTge(?)	sandy clay and gravel
						103	37	QTge(?)	clay and gravel; cemented gravel
						170	28	QTge(?)	boulders; clay and gravel
						218	56	QTm	sand; sandstone; sand and gravel
31	6/7-32M	122.66438	38.32185	1163	145	-	--	--	--
32	6/7-32M2	122.66604	38.32304	200	150	190	10	--	coarse sand
33	6/7-33M1	122.64565	38.32139	317	185	294	21	Tp(?)	cemented gravel; gravel
34	6/8-1G1	122.69152	38.39693	276	225	-	--	Tsv	--
35	6/8-5E1	122.77492	38.39777	638	85	0	100	QTge	silt and gravel; sandy silt; sand
						160	260	QTge, QTm	gravel; sand and gravel; sand
						310	400	QTm	sand; sandy silt and gravel
						410	460	QTm	sand; sandy silt; sand and gravel
						480	638	QTm	sand; sand and gravel; sandy silt
36	6/8-7D1	122.79500	38.38929	410	70	--	--	QTm	--
37	6/8-7K1	122.78599	38.38124	340	70	0	260	Qyal, QTm	sand and gravel fill; gravel; sandstone
38	6/8-7P1	122.78874	38.37788	346	95	305	41	QTm	sandy clay; sand
39	6/8-8A1	122.76344	38.38781	248	90	30	218	QTge, QTm	sandy clay; sand; sandy clay and gravel
40	6/8-8Q1	122.76679	38.37784	200+	75	--	--	QTge, QTm(?)	--
41	6/8-12J1	122.68866	38.38138	223	130	--	--	QTge	--
42	6/8-12K1	122.69044	38.38110	205	120	40	20	QTge	perforated interval
						100	20	QTge	perforated interval
						185	20	QTge	perforated interval
43	6/8-13R1	122.68656	38.36298	675	115	--	--	Qyal, QTge, QTm(?)	--
44	6/8-15F1	122.73556	38.36803	275	95	50	600	QTge, QTm	silt and gravel; sandy silt; gravel; sand
						680	45	QTm	gravel; muddy clay and gravel

Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
45	6/8-15Q1	122.73055	38.36343	914	95	60	190	QTge	sand and gravel; silt and sand
						400	300	QTge	silt, gravel, and redwood
46	6/8-15R1	122.72275	38.36382	1028	95	20	310	QTge	silt and gravel; gravel and sand; silt and sand
						350	10	QTge	medium gravel
						380	440	QTge	gravel; sandy clay; sandy clay and gravel; silt and gravel
47	6/8-16F1	122.75346	38.37123	542	85	--	--	--	--
48	6/8-16K1	122.75018	38.36531	~710	85	--	--	QTge, QTm	--
49	6/8-16R1	122.74245	38.36325	568	90	--	--	QTge, QTm	--
49	6/8-16R1*	122.74245	38.36325	1204	90	749	11	QTm	gravel and sand
						930	7	QTm	gravel and sand
						1050	15	QTm	sandy cemented gravel
						1150	54	QTm	clay and gravel; boulders
50	6/8-17K1	122.76827	38.36535	210	140	--	--	QTm	--
51	6/8-20G2	122.76466	38.35431	239	120	--	--	QTm	--
52	6/8-20J1	122.76185	38.35131	302	125	62	24	QTm	sandstone; sand and fine gravel
						104	20	QTm	sand and gravel; sandstone
						178	12	QTm	sand
53	6/8-20Q1	122.76785	38.34801	316	135	--	--	QTm	--
54	6/8-22N1	122.73787	38.34765	200	120	185	15	QTm	sandy clay; gravel
55	6/8-23C1	122.71337	38.35719	438	95	--	--	QTge, QTm	--
56	6/8-23C2	122.71320	38.35701	300-350	95	--	--	QTge, QTm	perforated near 100 feet and below
57	6/8-26K1	122.71263	38.33576	203	100	--	--	QTm	--
58	6/8-26N1	122.71911	38.33414	246	105	--	--	QTm	--
59	6/8-26N2	122.72160	38.33261	290	150	--	--	QTm	--
60	6/8-27P1	122.73537	38.33469	582	120	360	62	QTm	sand; gravel
						435	38	QTm	clay and gravel; hard cement gravel
						498	74	QTm	gravel and streaks of clay; gravel
61	6/8-28E1	122.75813	38.33930	200	195	65	83	QTm	sandstone; clam shells
62	6/8-29A1	122.75964	38.34580	259	135	--	--	QTm(?)	upper perforations above 104 feet
63	6/8-29B1	122.76646	38.34332	1949	140	--	--	QTm(?)	--
64	6/8-29E1	122.77621	38.34246	285	200	--	--	QTm(?)	--
65	6/8-30F1	122.78764	38.34069	248	290	12	234	QTm	sand
66	6/8-30F2	122.79130	38.34196	288	290	95	58	QTm	sand
						219	69	QTm	sandstone; sand and gravel
67	6/8-32B1	122.76675	38.33124	202	310	--	--	Tsv	--
68	6/8-33E1	122.75414	38.32449	215	250	--	--	Tp	--
69	6/8-33M1	122.75441	38.32236	261	210	100	28	QTm	clay and gravel, mixed

**Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin**

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
70	6/8-33P1	122.74917	38.31906	338	265	118	27	QTm	sand; sand and fine gravel
71	6/8-34G1	122.72627	38.32597	213	190	207	6	Tsv(?)	rock
72	6/8-35A2	122.70557	38.33031	660	110	--	--	QTm	--
73	6/8-35F1	122.71399	38.32486	509	165	76	20	QTm	gravel
						139	4	QTm	sand and gravel
						153	7	QTm	clay and gravel; cemented gravel
						308	54	QTm	gravel; clay and gravel
						409	15	QTm	gravel
						426	21	QTm	gravel
74	6/8-35L1	122.71489	38.32246	288	155	--	--	QTm	--
75	6/8-36A1	122.68749	38.32797	695	115	60	4	QTm(?)	clay and gravel
						178	7	QTm	clay and little fine gravel
						324	14	QTm	cemented gravel
						376	48	QTm	cemented gravel; sandy clay
						471	35	QTm	sandy clay; gravel
						506	6	QTm	cemented gravel
76	6/8-36P1	122.69433	38.31866	255	130	237	18	QTm	sand and gravel; gravel
77	6/9-1P2	122.80789	38.39163	248	90	25	223	QTm	"quicksand"; fine gravel
78	6/9-2C1	122.82629	38.40111	600	120	304	95	QTm	clam shells and sand
						429	171	QTm	shells and sand; sand, grit, and shells; sediment and sand
79	6/9-2F1	122.82613	38.40006	260	125	2	260	QTm	soft quicksand; dry sand; clam shells
80	6/9-2P1	122.82460	38.39350	215	200	200	15	QTm	sand
81	6/9-3A1	122.83726	38.40224	260	230	250	10	QTm	sandstone
82	6/9-3A2	122.83508	38.40189	305	210	293	12	QTm	black sand
83	6/9-3H1	122.83589	38.40034	295	240	4	291	QTm	sandstone; sand; gravel
84	6/9-4M1	122.86605	38.39546	230	365	40	100	QTm	sandstone
85	6/9-7F1	122.90025	38.38701	280	725	3	277	QTm	sandstone
86	6/9-9E1	122.86870	38.38382	280	435	0	280	QTm	sandstone; sand
87	6/9-9N1	122.86690	38.37944	250	520	16	234	QTm	sandstone
88	6/9-10H1	122.83424	38.38580	400	315	178	222	QTm	clay and sandstone; "sticky stone"; sandstone
89	6/9-11A3	122.81870	38.38626	220	170	105	115	QTm	sand; sandstone
90	6/9-11B1	122.82190	38.39013	420	170	50	370	QTm	fine sand; fine sand and gravel
91	6/9-11C1	122.82531	38.38921	220	225	155	65	QTm	sandstone; sand and gravel
92	6/9-11D1	122.82884	38.38638	280	340	175	105	QTm	sandstone
93	6/9-11D2	122.83041	38.39031	338	225	278	60	QTm	sandstone
94	6/9-11F1	122.82607	38.38581	235	330	142	93	QTm	sandstone
95	6/9-12D3	122.81446	38.38892	278	130	35	243	QTm	"quicksand" and clamshells; "quicksand"; partly-cemented clamshells

Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
95	6/9-12D3	122.81446	38.38892	278	130	35	243	QTm	"quicksand" and clamshells; "quicksand"; partly-cemented clamshells
96	6/9-13B1	122.80280	38.37484	212	175	200	12	QTm	sand; gravel and sand
97	6/9-13C1	122.80820	38.37476	204	235	32	172	QTm	"quicksand"; gravel
98	6/9-13D1	122.81100	38.37305	471	260	--	--	QTm	--
99	6/9-13J1	122.79914	38.36738	280	200	239	41	QTm	sand and gravel
100	6/9-13L1	122.80865	38.36625	360	260	0	360	QTm	"quicksand"; sand and gravel; sand
101	6/9-14C1	122.82755	38.37205	365	325	--	--	QTm	--
102	6/9-14J1	122.83302	38.36760	394	330	--	--	QTm	--
103	6/9-14R2	122.81895	38.36362	200	325	--	--	QTm	--
104	6/9-15D1	122.84695	38.37424	200	395	25	67	QTm	sandstone; sand
						116	84	QTm	clay and sandstone; sandstone and clamshells
105	6/9-15G1	122.84074	38.36898	200	440	65	135	QTm	sandstone
106	6/9-22A1	122.83392	38.35924	360	120	20	340	QTm	sandstone; sandstone containing shells; sand and shells
107	7/6-19F1	122.56850	38.44087	585	575	35	530	QTge, Tsv(?)	clay and gravel
108	7/6-19N2	122.57348	38.43269	334	475	--	--	QTge	--
109	7/6-19R1	122.55943	38.43305	300	465	220	40	QTge	small boulders and coarse sand
						260	40	Tsv(?)	volcanic ash
110	7/6-29M1	122.54590	38.42226	400	415	--	--	Qyal, QTge(?), Tsv(?)	--
111	7/6-31P1	122.56981	38.40244	205	470	--	--	Tsv	--
112	7/6-32A2	122.53902	38.41571	390	445	--	--	Tsv	--
113	7/6-32H1	122.54095	38.41085	406	415	100	300	Tsv	perforated interval
114	7/7-5F2	122.66081	38.48391	275	325	65	10	QTge	packed gravel
						160	15	QTge	medium packed gravel
115	7/7-6G1	122.67445	38.48309	338	295	3	38	QTge	fine sand; clay streaked by gravel
						87	21	QTge	sand and gravel
						124	17	QTge	sand and gravel
						172	31	QTge	clay streaked by gravel
						310	23	QTge	sand and gravel
116	7/7-7F2	122.68053	38.46873	320	245	--	--	Tsv	--
117	7/7-7L1	122.67903	38.46777	214	240	--	--	Tsv	--
118	7/7-7N1	122.68272	38.46280	204	250	--	--	Tsv	--
119	7/7-7R3	122.66928	38.46354	245	260	228	17	Tsv	perforated interval
120	7/7-8A1	122.65257	38.47384	385	315	--	--	QTge	--
121	7/7-8A2	122.64922	38.47240	230	360	210	7	QTge	cemented gravel; gravel
						224	4	QTge	clay and gravel
122	7/7-8G2	122.65400	38.47124	425	290	--	--	QTge	--
123	7/7-8L1	122.66128	38.46521	278	250	208	15	Tsv	volcanic ash

**Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin**

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
124	7/7-8M2	122.66658	38.46786	211	250	--	--	--	--
125	7/7-8P2	122.66132	38.46433	250	285	233	17	Tsv	volcanic ash
126	7/7-9D1	122.64804	38.47239	245	380	35	10	QTge	fine packed gravel and sand
						230	15	QTge	coarse gravelly sand
127	7/7-9D2	122.64752	38.47370	323	375	275	25	QTge	hard gravel; loose gravel
128	7/7-9D3	122.64786	38.47306	319	400	70	60	QTge	sandy clay and gravel; cemented gravel
						241	2	QTge	gravel
						252	4	QTge	cemented gravel
						271	4	QTge	sandy clay, some gravel
						289	20	QTge	cemented gravel
129	7/7-10M1	122.62962	38.46587	~300	525	--	--	QTge	--
130	7/7-13N1	122.59015	38.44518	490	475	--	--	Tsv(?)	--
131	7/7-14P1	122.60632	38.44630	828	430	--	--	Qyal, QTge	--
132	7/7-15C1	122.62458	38.46004	397	375	--	--	QTge	--
133	7/7-15C2	122.62312	38.45704	205	365	40	25	QTge	sand, gravel, and clay; pea gravel
						150	20	QTge	sand and gravel
						185	20	QTge	sand and gravel
134	7/7-15M1	122.62655	38.45215	250	435	--	--	QTge	--
135	7/7-16A1	122.63469	38.46018	263	325	50	263	QTge	perforated interval
136	7/7-16C2	122.63984	38.45958	278	310	--	--	QTge(?)	all casing perforated
137	7/7-17A1	122.65269	38.46022	846	290	--	--	Tsv, QTm(?)	--
138	7/7-17A2	122.65000	38.45908	1018	285	--	--	Tsv, QTm(?)	--
139	7/7-18I1	122.66829	38.44996	300+	215	--	--	--	--
140	7/7-18Q1	122.67381	38.44691	249	205	--	--	Qyal, Qoal(?)	all casing perforated
141	7/7-18R2	122.66988	38.44674	206	210	--	--	Qoal(?), Tsv	below 50 ft. alternate casing joints are perforated
142	7/7-19Q1	122.67288	38.43333	680	225	--	--	Qyal, Tsv	--
143	7/7-19R1	122.66997	38.43301	670	225	--	--	Qyal, Tsv	--
144	7/7-20P1	122.66024	38.43401	243	245	--	--	Tsv	uncased below 40 ft.
145	7/7-23A1	122.59335	38.44377	365	475	250	50	QTge	clay and gravel; gravel; sandy clay and gravel
						303	62	QTge	sand and gravel; cemented gravel; sandy clay and gravel
146	7/7-23A2	122.59446	38.44262	337	450	--	--	QTge	--
147	7/7-23C1	122.60417	38.44402	1300+	420	--	--	Qoal(?), QTge	--
148	7/7-23F1	122.60683	38.44159	440	420	--	--	Qoal(?), QTge	below 75 ft. alternate 20 ft. joints are perforated
149	7/7-23G1	122.59795	38.44168	1100+	430	--	--	QTge	--
150	7/7-24A1	122.57794	38.44297	622	565	--	--	Tsv	cased to 208 ft.; no perforations
151	7/7-24B1	122.57932	38.44366	585	565	--	--	--	--
152	7/7-25A1	122.57757	38.42849	400+	450	--	--	--	--

**Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin**

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
153	7/7-29B1	122.65459	38.43046	240	380	--	--	Tsv	--
154	7/7-29D1	122.66563	38.43071	588	240	40	20	Qoal(?)	loose gravel
						130	50	QTge(?)	sand and gravel; shale; boulders
						410	130	Tsv	volcanic ash
155	7/7-29L1	122.65847	38.42253	365	265	--	--	Tsv	--
156	7/7-29L2	122.65847	38.42253	365	265	--	--	Tsv	--
157	7/7-30C1	122.67705	38.42917	448	255	--	--	QTge, QTm(?)	--
158	7/7-32B1	122.65569	38.41571	266	325	--	--	Tsv	--
159	7/7-32G1	122.65392	38.41109	403	325	0	40	Qyal	gravel
						210	182	Tsv	volcanic ash; volcanic ash and basalt; ash and clay
160	7/7-33R1	122.63113	38.40386	438	510	82	95	Tsv(?)	cemented gravel
161	7/7-36A1	122.57607	38.41352	284	615	60	45	Tsv(?)	gravel; coarse gravel; clay and gravel
						177	9	Tsv(?)	boulders
162	7/8-3C1	122.73398	38.48720	235	175	47	68	QTge	clay and gravel
163	7/8-6H2	122.78001	38.48443	397	135	26	56	QTge	sandy clay; sandstone; loose boulders
						145	42	QTge	gravelly clay
						232	3	QTge	small loose boulders
						275	55	QTge	hard sandstone; gravelly clay; loose sandstone
164	7/8-9D1	122.75932	38.47237	200	130	--	--	QTge	--
165	7/8-9R1	122.74506	38.46287	210	120	35	15	QTge	sand and gravel
						136	3	QTge	gravel
						162	3	QTge	gravel
						180	7	QTge	gravel
166	7/8-10L1	122.73494	38.46586	212	135	100	14	QTge	light gravel and some coarse sand
167	7/8-11G1	122.71252	38.47143	237	290	--	--	QTge	gravel
168	7/8-11K1	122.71213	38.46664	254	300	238	16	QTge	sandstone
169	7/8-12E2	122.70345	38.46958	298	245	80	218	Tsv	perforated interval
170	7/8-12H1	122.68862	38.46972	255	460	160	24	Tsv	perforated interval
						208	47	Tsv	perforated interval
171	7/8-12K1	122.69168	38.46543	347	480	273	74	Tsv	sand, clay, and gravel; sand and rock
172	7/8-12Q1	122.69530	38.46357	200	405	--	--	Tsv	--
173	7/8-12Q2	122.69440	38.46484	220	430	125	95	Tsv	sandy clay and gravel; clay and gravel
174	7/8-13J1	122.68709	38.45319	253	20	148	105	QTge(?)	perforated interval
175	7/8-13J2	122.68858	38.45215	210	210	188	18	Tsv(?)	perforated interval
176	7/8-13K1	122.69300	38.45081	529	200	129	6	QTge	cemented gravel
						272	159	QTge	clay and gravel; cemented gravel; coarse gravel; clay
177	7/8-14A1	122.70570	38.46109	360	175	--	--	QTge	--

**Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin**

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
178	7/8-14A1	122.70570	38.46109	901	175	--	--	Tsv	--
179	7/8-14D1	122.72001	38.45855	300	155	95	15	QTge	cemented gravel
						146	54	QTge	gravel; clay and gravel
						265	35	QTge	hard cemented gravel; hard clay and gravel
180	7/8-14E1	122.71919	38.45637	761	155	--	--	QTge	--
181	7/8-14M1	122.71815	38.45332	227.8	155	--	--	QTge	--
182	7/8-17N1	122.77569	38.44807	544	85	3	33	Qyal	soft sandstone; gravel
						52	10	QTge	gravel
						162	2	QTge	cemented gravel
						234	34	QTge	sandy clay; soft streaks with gravel; cemented gravel
						376	8	QTge	cemented gravel
						424	6	QTge	cemented gravel
						506	10	QTge	sandstone
183	7/8-18K1	122.78579	38.45327	420	85	20	14	QTge(?)	sand and gravel
						40	2	QTge	gravel
						330	86	QTge	gravel
184	7/8-18M1	122.79285	38.45500	640	80	--	--	QTge	--
185	7/8-18Q1	122.78283	38.45112	811	80	50	5	QTge	sandy clay and gravel
						130	23	QTge	cemented gravel; sand and clay
						192	6	QTge	coarse cemented gravel
						222	14	QTge	clay and gravel
186	7/8-19P1	122.78796	38.43610	245	85	20	12	QTge	sand; gravel
						45	20	QTge	gravel; cemented gravel
						150	30	QTm	sand, gravel; sand, sediment
						219	16	QTge	gravel
187	7/8-20C1	122.77245	38.44497	625	90	77	3	QTge	gravel
						230	1	QTge	gravel
						539	3	QTge	gravel
						580	2	QTge	gravel
						591	32	QTge	sand containing trace of soft clay; gravel
188	7/8-20D1	122.77547	38.44410	484	90	190	104	QTge	clay and gravel
						446	30	QTge	cemented gravel
189	7/8-20K1	122.76485	38.43878	626	98	--	--	QTge	--
190	7/8-21C1	122.75147	38.44493	310	110	--	--	QTge	coarse gravel
191	7/8-22K1	122.73180	38.43643	285	135	--	--	--	--
192	7/8-22Q1	122.72942	38.43433	360	140	--	--	--	--
193	7/8-22R2	122.72568	38.43475	205	145	--	--	--	--

**Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin**

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
194	7/8-23L1	122.71722	38.43743	300	155	48 132 273	4 1 5	QTge QTge QTge	gravel gravel gravel
195	7/8-23M1	122.71855	38.43698	990	155	54 320 500 751 955	66 15 127 63 15	QTge(?) QTge QTm QTm QTm	clay containing streaks of sand and gravel; gravel sand and gravel sand and red gravel; sand sand sand
196	7/8-23M2	122.71825	38.43700	210	155	--	--	QTge(?)	--
197	7/8-23M3	122.71835	38.43681	300	155	--	--	--	--
198	7/8-23M4	122.72208	38.43867	1279	150	--	--	--	--
199	7/8-23P1	122.71585	38.43341	266	150	90 116 258	5 22 6	QTge QTge QTge	clay and gravel clay and gravel; cemented gravel; gravel clay and gravel
200	7/8-24A2	122.68694	38.44516	930	195	--	--	Qyal, QTge, Tsv(?)	--
201	7/8-24A3	122.68688	38.44427	300	195	--	--	Qyal, QTge	--
202	7/8-24A4	122.68797	38.44467	1000	195	--	--	Qyal, QTge, Tsv(?)	--
203	7/8-24A5	122.68702	38.44345	291	190	50 186	120 102	QTge --	-- --
204	7/8-24A6	122.68681	38.44332	1200	190	--	--	Qyal(?), QTge, Tsv(?)	--
205	7/8-24K1	122.69542	38.43724	238	180	234	2	QTge	coarse sand and gravel
206	7/8-25L1	122.69874	38.42294	745	175	270 545	100 200	QTge --	-- --
207	7/8-25R1	122.68935	38.41832	320	235	30	120	Tsv(?)	--
208	7/8-29J1	122.76067	38.42214	700	94	--	--	QTge	--
209	7/8-29R1	122.76043	38.42131	682	93	110 130 150 175 238 650	10 15 7 22 15 29	QTge QTge QTge QTge QTge QTge	cemented gravel clay, gravel, and boulders sandy clay and gravel clay and gravel cemented gravel fine free gravel; sandy sediment
210	7/8-29R2	122.76018	38.42111	801	94	--	--	--	--
211	7/8-30P1	122.78891	38.41875	205	85	--	--	QTge, QTm(?)	--
212	7/8-33M1	122.75533	38.40745	452	95	40 87 146 172	23 17 7 119	QTge QTge QTge QTge	gravel sand and gravel sand and gravel gravel

**Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin**

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[—, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
						346	29	QTge	sand and gravel
213	7/8-35H1	122.70504	38.41430	270	150	422	30	QTge	sand and gravel
214	7/8-36D2	122.70329	38.41708	252	165	241	8	QTge	--
215	7/9-2C1	122.82857	38.48874	610	70	--	--	Tsv(?)	coarse sand
216	7/9-5N1	122.88869	38.47668	292	170	--	--	Qyal, Qtge, QTm	--
217	7/9-7G1	122.89673	38.47189	331	250	--	--	QTm	--
218	7/9-8J1	122.87304	38.46756	250	215	160	114	Klu	sandstone
219	7/9-8K1	122.87730	38.46606	350	225	276	74	QTm	sandstone
220	7/9-9F1	122.86418	38.47045	226	280	186	40	QTm	sand; sandstone
221	7/9-10E1	122.85014	38.46985	260	200	160	100	QTm	sandstone; sand
222	7/9-13M1	122.81163	38.45370	320	70	235	57	QTm	sandy clay
223	7/9-13R1	122.79843	38.44926	375	70	37	9	QTge	sand and gravel; clay and gravel
						70	11	QTge	clay and gravel; gravel
						94	26	QTge	clay and gravel
						130	40	QTge	clay and gravel
						265	10	QTge	clay and gravel
						330	45	QTge	sandy clay and gravel; gravel
224	7/9-14K1	122.82137	38.45398	636	80	16	24	QTge	sand; fine gravel; clay
						86	24	QTge	clay, small gravel, and sand
						138	446 (136.0)	QTm	shells and gravel; sand; sand and small gravel; small gravel
225	7/9-15E2	122.84821	38.45821	220	125	215	5	QTm	sand and shells
226	7/9-15Q1	122.84245	38.45110	200+	75	--	--	QTm	--
227	7/9-16L1	122.86211	38.45280	255	220	--	--	QTm	--
228	7/9-16Q1	122.85936	38.44952	321	225	--	--	QTm	--
229	7/9-18J1	122.89355	38.45523	650	115	--	--	Klu	--
230	7/9-18K1	122.89388	38.45338	266	115	--	--	Klu(?)	--
231	7/9-21B1	122.85976	38.44766	550	240	--	--	QTm	--
232	7/9-21C1	122.86412	38.44499	325	225	290	35	QTm	sandstone
233	7/9-21F1	122.86442	38.44160	320	200	--	--	QTm	--
234	7/9-21G1	122.85799	38.44407	530	240	--	--	QTm	--
235	7/9-21G2	122.85944	38.44257	240	205	--	--	QTm	--
236	7/9-21G3	122.86106	38.44144	408	215	390	18	QTm	sandstone
237	7/9-21J1	122.85741	38.44006	205	230	195	10	QTm	sandstone
238	7/9-22F1	122.84397	38.44204	575	125	42	215	QTm	fine sand
						383	17	QTm	small boulders with shells
						481	31	QTm	small boulders with shells

Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
						517	58	QTm	fine gravel; coarse gravel
239	7/9-22F2	122.84683	38.44182	380	150	--	--	QTm	--
240	7/9-23F1	122.82645	38.44455	610	70	15	22	QTm	sandstone; sand
						48	22	QTm	coarse sandstone; sand; "quicksand"
						70	540	QTm	sandstone and shells; sand and shells; sand and gravel
241	7/9-23K1	122.82298	38.43982	200	85	--	--	QTge, QTm	--
242	7/9-24L2	122.80847	38.43957	330	95	--	--	QTge, QTm(?)	--
243	7/9-25A1	122.80018	38.43081	256	80	90	16	QTm	sand
						190	16	QTm	sand
244	7/9-26M1	122.83320	38.42598	206	80	--	--	QTm	--
245	7/9-27E1	122.84975	38.42645	260	145	12	248	QTm	sandstone and clam shells; sand and gravel; sand
246	7/9-27E2	122.84868	38.42894	370	165	0	47	QTm	sand and gravel; quicksand
						90	280	QTm	sandstone; gravel and sand
247	7/9-27F1	122.84718	38.42763	200	150	--	--	QTm	--
248	7/9-28G1	122.85955	38.42745	260	120	90	170	QTm	sandstone
249	7/9-28G2	122.85927	38.42723	240	115	40	200	QTm	sandstone; sandstone and clam shells
250	7/9-28L1	122.86415	38.42427	565	110	5	537	QTm	sandstone (20' of surface casing)
251	7/9-28P1	122.86626	38.41935	585	115	--	--	QTm	--
252	7/9-29J1	122.87244	38.42386	400	120	--	--	QTm	--
253	7/9-29J2	122.87276	38.42487	657	120	46	453	QTm	sandstone
						548	109	QTm	soft sandstone; sand with shells
254	7/9-30A1	122.89096	38.43375	260	135	--	--	QTm	--
255	7/9-30G2	122.89643	38.42929	200	200	--	--	QTm	--
256	7/9-30J1	122.89033	38.42637	200	285	160	40	QTm	sandstone
257	7/9-31A1	122.88965	38.41606	240	410	--	--	QTm	--
258	7/9-31J1	122.89202	38.40979	352	465	40	22	QTm	fine sand
						185	56	QTm	sandstone with clam shells
						296	56	QTm	sandstone containing streak gravel
259	7/9-31Q1	122.89345	38.40751	235	480	90	145	QTm	sandstone
260	7/9-31Q3	122.89419	38.40611	250	470	--	--	QTm	--
261	7/9-32E1	122.88781	38.41252	200	485	--	--	QTm	--
262	7/9-32F2	122.87994	38.41407	365	395	--	--	QTm	--
263	7/9-33A1	122.85343	38.41802	245	225	--	--	QTm	--
264	7/9-33D2	122.86749	38.41824	300	155	--	--	QTm	--
265	7/9-33F1	122.86576	38.41278	200	165	0	200	QTm	sand; sandstone
266	7/9-34G1	122.84006	38.41451	358	195	349	9	QTm	coarse soft sandstone
267	7/9-34J1	122.83581	38.40961	230	190	--	--	QTm	--

**Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin**

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
268	7/9-34J2	122.83490	38.40884	350	310	310	20	QTm	--
269	7/9-34L1	122.84444	38.41104	315	300	300	15	QTm	sand
270	7/9-35E1	122.83110	38.41273	253	150	--	--	QTm	--
271	7/9-36F1	122.80650	38.41312	270	85	40	5	QTge	pea gravel
						60	90	QTge	fine gravel; large gravel
						160	18	QTm	river sand
						200	70	QTm	fine and coarse gravel; quicksand
272	7/9-36H1	122.80048	38.41485	568	85	70	32	QTge	gravel
						280	230	QTm	sandstone; gravel and sand; sand
273	8/8-17L1	122.77222	38.54059	278	185	--	--	QTge	--
274	8/8-19M1	122.79322	38.52553	260	105	27	18	QTge	sand and fine gravel; coarse packed gravel
						115	15	QTge	small boulders
						160	25	QTge	fine gravel and sand
						205	55	QTge	coarse packed gravel; medium gravel
275	8/8-19N1	122.79435	38.52263	249	105	27	18	QTge	packed fine sandy gravel; coarse packed gravel
						105	15	QTge	"small bouldery" sand
						150	25	QTge	fine gravel and coarse sand
						200	49	QTge	packed coarse gravelly sand
276	8/8-20B2	122.76697	38.53308	231	185	202	25	QTge	sand clay and gravel; gravel
277	8/8-20D1	122.77436	38.53123	260	145	--	--	QTge	--
278	8/8-20Q1	122.76602	38.52081	310	140	20	275	QTge	gravel and sand; gravel and some clay; gravel
279	8/8-30L1	122.78918	38.51149	463	120	90	98	QTge	clay and gravel; gravel
						204	259	QTge	sandy clay and gravel; sandy clay
280	8/8-30N1	122.79296	38.50756	455	120	60	38	QTge	clay and gravel
						119	104	QTge	clay and gravel; gravel
						231	8	QTge	cemented gravel
						253	97	QTge	sandy clay and gravel
						405	45	QTge	sandy clay and gravel
281	8/8-30N2	122.79556	38.50759	600	120	62	121	QTge	clay and gravel; gravel
						190	200	QTge	clay and gravel; sandy clay and gravel
						425	11	QTge	sandy clay; clay and gravel
						580	5	QTge	clay and gravel
282	8/8-31B1	122.78613	38.50357	210	115	188	18	QTge	gravel; clay and gravel
283	8/8-34Q1	122.73067	38.49123	285	345	--	--	QTge	--
284	8/9-1M1	122.81177	38.57031	315	185	250	2	QTge	sand and gravel
						261	1	QTge	sand and gravel
						281	1	QTge	sand and gravel

**Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin**

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
					298		2	QTge	sand and gravel
285	8/9-10R1	122.83569	38.55077	400	165	--	--	QTge	--
286	8/9-13C1	122.80721	38.54531	202	105	65	137	QTge	clay and gravel; gravel
287	8/9-13N1	122.81207	38.53715	208	90	14	26	QTge	gravel
						70	4	QTge	gravel
						82	4	QTge	gravel
						98	12	QTge	sand and gravel
						130	6	QTge	sand, clay, and gravel
						152	32	QTge	gravel
288	8/9-14L1	122.82986	38.53980	265	95	53	5	QTge	loose gravel
						83	6	QTge	cemented gravel
						106	3	QTge	loose gravel
						242	11	QTge	pea gravel
289	8/9-14P1	122.82924	38.53583	264	95	11	5	QTge	sand and gravel
						19	18	QTge	large gravel
						60	5	QTge	sand
						118	2	QTge	gravel
						176	8	QTge	fine gravel
						253	11	QTge	pea gravel
290	8/9-23G1	122.82274	38.53074	225	75	18	10	QTge	gravel
						37	15	QTge	sand; pea gravel
						79	16	QTge	fine gravel
						128	10	QTge	sand and gravel
						200	23	QTge	gravel
290	8/9-23G1*	122.82274	38.53074	440	75	276	4	QTge	gravel
291	8/9-23L1	122.82721	38.52734	429	75	15	36	QTge	coarse gravel; sand
						56	14	QTge	coarse gravel
						74	11	QTge	coarse gravel
						306	45	QTge	gravel
						376	27	QTge	coarse sand and washed sand
292	8/9-24E1	122.81148	38.52995	330	80	--	--	Qyal(?), QTge	--
293	8/9-26D1	122.83206	38.51907	464	75	240	40	QTge	sandy clay and gravel; gravel
						394	68	QTge	clay and gravel; gravel
294	8/9-27K1	122.83936	38.51137	333	60	50	2	QTge	sand and gravel
						303	30	QTm	gravel and clam shells
295	8/9-33G1	122.85868	38.49966	358	100	--	--	--	--
296	8/9-33J1	122.85358	38.49793	325	45	--	--	--	--

**Locations and data for water wells of the Santa Rosa Valley, Sonoma County, California
by Zenon C. Valin and Robert J. McLaughlin**

Table 1. Data for selected water wells of the Santa Rosa Valley, Sonoma County, California—Continued

[--, no data; *, data for deepened well]

Map Number	Well Number	West Longitude (°)	North Latitude (°)	Total Depth (feet)	Surface Elevation (feet)	Depth to top of water interval (feet)	Water interval thickness (feet)	Geologic unit present in water interval ¹	Down-Hole Lithology of water interval
297	8/9-34R1	122.83441	38.49432	360	65	--	--	Qyal, QTge, QTm	--
298	8/9-34R2	122.83444	38.49123	490	65	20	50	Qyal	pea gravel; sand
						118	41	QTge	clay and gravel; small gravel
						190	160	QTm	small gravel; sand; shell and gravel; shells
299	8/9-35K1	122.82190	38.49616	498	80	50	22	QTge	cemented gravel
						198	10	QTge	cemented gravel
						268	52	QTge, QTm	sandstone; clay and gravel
						398	27	QTge, QTm	sandstone; cemented gravel
						465	--	QTge, QTm	sandstone; cemented gravel; sand and gravel
300	8/9-35M1	122.83326	38.49475	475	65	--	--	Qyal, QTge, QTm	--
301	8/9-36G1	122.80103	38.49917	642	100	--	--	QTge, QTm	--
302	8/9-36K1	122.80515	38.49665	1325	95	--	--	--	--
303	8/9-36L1	122.80878	38.49755	565	95	--	--	QTge	--
304	8/9-36P1	122.80970	38.49241	1048	90	--	--	QTge, QTm	--

¹Unit symbols, name, and ages from Cardwell (1958); corresponding revised units (in brackets) based on more recent geologic mapping and chronostratigraphy (McLaughlin and others, 2004; McLaughlin and others, 2005).

Qyal, Younger alluvium (Recent) [Quaternary alluvium (Holocene and Pleistocene)]

Qoal, Terrace deposits and older alluvium (Pleistocene) [Quaternary alluvium (Holocene and Pleistocene)]

QTge, Glen Ellen Formation (Pliocene (?) and Pleistocene) [Nonmarine sedimentary rocks (Pleistocene and Pliocene)]

QTm, Merced Formation (Pliocene and Pleistocene (?)) [Marine sedimentary rocks (Pliocene and late Miocene)]

Tp, Petaluma Formation (Pliocene) [Intercalated marine and nonmarine sedimentary rocks (Pliocene and late Miocene)]

Tsv, Sonoma Volcanics (Pliocene) [Volcanic rocks (Tertiary)]

KJu, Cretaceous and Jurassic rocks, undifferentiated [Basement rocks (pre-Tertiary)]

REFERENCES CITED

Cardwell, G.T., 1958, Geology and Ground Water in the Santa Rosa and Petaluma Valley areas, Sonoma County, California: U.S. Geological Survey Water-Supply Paper 1427, 273 p.

McLaughlin, R.J., Sarna-Wojcicki, A.M., Fleck, R.J., Wright, W.H., Levin, V.R.G., and Valin, Z.C., 2004, Geology, Tephrochronology, radiometric ages, and cross sections of the Mark West Springs 7.5' Quadrangle, Sonoma and Napa Counties, California: U.S. Geological Survey Miscellaneous Field Studies Map MF2858, scale 1:24,000, 2 sheets. <http://pubs.usgs.gov/sim/2004/2858/>

McLaughlin, R.J., Wagner, D.L., Sweetkind, D.S., Sarna-Wojcicki, A.M., Rytuba, J.J., Langenheim, V.E., Fleck, R.J., Jachens, R.C., and Deino, Alan, 2005, Late Neogene transition from transform to subduction margin east of the San Andreas Fault in the wine country of the northern San Francisco Bay Area, California: Fieldtrip guidebook and volume for the Joint Meeting of the Cordilleran Section GSA and Pacific Section AAPG, 112 p.

Wagner, D.L., and Bortugno, E.J., 1982, Geologic Map of the Santa Rosa Quadrangle, California, 1:250,000: California Division of Mines and Geology Regional Geologic Map Series, Santa Rosa Quadrangle Map No. 2A (Geology), Sheet 1 of 5.