

**APPENDIX G:**

**QUARTZ-VEIN MICROPROBE DATA**

Quartz Vein Microprobe Data by Jim Walker (USGS)													
Briones sandstone with quartz veins at Clayton Road, San Jose, CA.													
No.	Na 2O	MgO	Al2O3	SiO2	K2O	CaO	TiO2	MnO	FeO	Total			
381	0.049	0.000	0.124	97.781	0.034	0.042	0.000	0.028	0.056	98.114	JIM_ALLEN'S	Qtz. Veins in Briones Formation at Clayton Road, SJ	1
382	0.000	0.005	0.074	98.542	0.024	0.006	0.000	0.000	0.000	98.651	JIM_ALLEN'S	Qtz. Veins in Briones Formation at Clayton Road, SJ	2
383	0.015	1.129	2.453	90.954	0.739	0.070	0.000	0.033	2.734	98.127	JIM_ALLEN'S	Qtz. Veins in Briones Formation at Clayton Road, SJ	3
384	0.002	0.008	0.016	98.334	0.023	0.004	0.000	0.028	0.053	98.468	JIM_ALLEN'S	Qtz. Veins in Briones Formation at Clayton Road, SJ	4
385	0.410	0.009	1.999	92.275	0.119	0.446	0.000	0.030	0.031	95.319	JIM_ALLEN'S	Qtz. Veins in Briones Formation at Clayton Road, SJ	5
386	0.083	0.123	0.812	96.569	0.204	0.036	0.052	0.000	0.511	98.390	JIM_ALLEN'S	Qtz. Veins in Briones Formation at Clayton Road, SJ	6
387	0.036	0.000	2.334	94.781	2.005	0.007	0.334	0.000	0.230	99.727	JIM_ALLEN'S	Qtz. Veins in Briones Formation at Clayton Road, SJ	7
388	10.909	0.007	19.938	67.142	1.590	0.404	0.012	0.025	0.097	100.124	JIM_ALLEN'S	Qtz. Veins in Briones Formation at Clayton Road, SJ	8
389	0.026	0.000	0.782	97.410	0.035	0.000	0.028	0.000	0.085	98.366	JIM_ALLEN'S	Qtz. Veins in Briones Formation at Clayton Road, SJ	9
SS pebbles with quartz veins from 101 northbound outcrops - Upper Petaluma Formation													
390	0.006	0.000	0.352	98.448	0.025	0.000	0.004	0.000	0.000	98.835	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	1
391	0.012	0.000	0.384	98.357	0.022	0.000	0.000	0.000	0.000	98.775	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	2
392	0.032	0.000	0.264	97.820	0.041	0.007	0.018	0.000	0.054	98.236	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	3
393	0.022	0.000	0.400	98.075	0.038	0.020	0.000	0.026	0.008	98.589	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	4
394	0.007	0.001	0.367	98.427	0.014	0.038	0.000	0.000	0.000	98.854	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	5
395	0.022	0.000	0.226	97.003	0.034	0.006	0.058	0.000	0.063	97.412	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	6
396	0.000	0.007	0.221	97.869	0.019	0.000	0.000	0.000	0.043	98.159	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	7
397	0.147	0.024	0.897	96.956	0.218	0.039	0.030	0.000	0.148	98.459	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	8
398	0.000	0.021	0.413	97.882	0.033	0.034	0.000	0.005	0.056	98.444	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	9
399	0.010	0.004	0.380	98.125	0.019	0.000	0.000	0.000	0.003	98.541	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	10
400	0.032	0.000	0.349	96.387	0.037	0.016	0.006	0.008	0.019	96.854	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	11
401	0.066	0.000	0.440	95.875	0.022	0.016	0.018	0.000	0.057	96.494	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	12
402	0.012	0.026	0.526	0.193	0.073	0.099	61.098	4.262	26.880	93.169	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	13
403	0.000	0.041	0.660	0.284	0.096	0.179	61.048	4.298	25.000	91.606	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	14
404	0.167	0.016	1.136	96.146	0.085	0.088	0.030	0.016	0.000	97.684	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	15
405	0.295	0.026	2.194	94.234	0.796	0.098	0.042	0.000	0.218	97.903	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	16
406	0.113	0.070	0.901	96.853	0.047	0.078	0.038	0.003	0.227	98.330	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	17
407	0.061	0.000	0.320	98.022	0.017	0.012	0.002	0.000	0.045	98.479	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	18
408	0.012	0.000	0.561	97.988	0.017	0.006	0.034	0.000	0.039	98.657	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	19
409	0.027	0.013	0.462	98.136	0.015	0.011	0.026	0.013	0.005	98.708	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	20
410	0.096	8.499	17.882	40.167	6.340	0.181	4.080	0.177	13.803	91.225	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	21
411	0.132	8.881	16.631	39.552	6.798	0.103	3.894	0.112	13.532	89.635	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	22
412	0.147	8.740	16.801	39.575	6.833	0.106	4.334	0.124	13.968	90.628	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	23
413	0.016	0.000	0.275	97.913	0.000	0.000	0.000	0.000	0.015	98.219	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	24
414	0.009	0.000	0.544	98.358	0.152	0.000	0.004	0.000	0.000	99.067	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	25
415	0.075	0.000	0.704	97.103	0.365	0.000	0.000	0.000	0.000	98.247	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	26
416	0.013	0.015	0.279	97.955	0.022	0.002	0.020	0.009	0.002	98.317	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	27
417	0.033	0.005	0.427	97.844	0.011	0.011	0.004	0.067	0.000	98.402	JIM_ALLEN'S	Quartz veins in ss clasts, Upper Petaluma	28
Matrix of ss pebbles - 101 northbound lane (shoulder) - Upper Petaluma Formation													
418	11.186	0.008	21.608	65.625	0.176	1.894	0.048	0.030	0.054	100.629	JIM_ALLEN'S	Clasts Matrix	29
419	0.320	0.015	18.684	64.198	16.088	0.035	0.060	0.014	0.102	99.516	JIM_ALLEN'S	Clasts Matrix	30
420	2.667	0.005	19.265	64.885	13.102	0.072	0.024	0.046	0.106	100.172	JIM_ALLEN'S	Clasts Matrix	31
421	0.330	0.019	1.386	93.081	0.320	0.169	0.062	0.016	0.091	95.474	JIM_ALLEN'S	Clasts Matrix	32
422	4.309	0.012	11.762	79.589	3.006	1.209	0.018	0.044	0.140	100.089	JIM_ALLEN'S	Clasts Matrix	33
423	0.336	0.022	18.427	65.774	15.625	0.018	0.047	0.008	0.181	100.438	JIM_ALLEN'S	Clasts Matrix	34
424	0.031	0.000	0.661	97.064	0.395	0.000	0.018	0.052	0.020	98.241	JIM_ALLEN'S	Clasts Matrix	35
425	1.679	0.024	5.796	90.425	1.420	0.526	0.087	0.040	0.129	100.126	JIM_ALLEN'S	Clasts Matrix	36
426	5.569	0.013	16.160	56.034	0.541	6.327	0.056	0.005	0.293	84.998	JIM_ALLEN'S	Clasts Matrix	37
427	0.005	0.023	0.562	97.274	0.090	0.015	0.012	0.018	0.125	98.124	JIM_ALLEN'S	Clasts Matrix	38
428	0.086	0.013	0.681	97.058	0.055	0.036	0.000	0.000	0.048	97.977	JIM_ALLEN'S	Clasts Matrix	39
429	0.066	0.008	0.577	97.256	0.021	0.016	0.008	0.010	0.048	98.010	JIM_ALLEN'S	Clasts Matrix	40
430	0.210	0.355	2.345	21.628	0.104	1.150	0.086	0.156	43.157	69.191	JIM_ALLEN'S	Clasts Matrix	41
431	0.107	0.287	1.616	3.094	0.049	0.667	0.012	0.000	35.571	41.403	JIM_ALLEN'S	Clasts Matrix	42
Mean	1.922	0.057	8.538	70.928	3.642	0.867	0.038	0.031	5.719	91.742			
Std Dev.	3.203	0.113	8.552	29.207	6.205	1.679	0.029	0.040	14.332	16.846			
Range	11.181	0.355	21.046	94.18	16.067	6.327	0.087	0.156	43.137	59.226			
Minimum	0.005	0	0.562	3.094	0.021	0	0	0	0.02	41.403			
Maximum	11.186	0.355	21.608	97.274	16.088	6.327	0.087	0.156	43.157	100.629			
Count	14	14	14	14	14	14	14	14	14	14			
CL95.0%	1.849	0.065	4.938	16.863	3.583	0.969	0.017	0.023	8.275	9.726			
SS pebbles from Pepper and Stony Point Roads intersection													
432	4.725	0.000	7.829	87.144	0.000	0.000	0.000	0.000	0.000	99.698	JIM_ALLEN'S	Upper Petaluma	43
433	0.147	0.000	0.614	97.660	0.009	0.000	0.000	0.000	0.000	98.430	JIM_ALLEN'S	Upper Petaluma	44
434	2.160	0.022	3.908	86.948	0.422	0.119	0.000	0.000	0.073	93.652	JIM_ALLEN'S	Upper Petaluma	45