Table 3. Geochemical data for duplicates and blanks.

Field sample ID	Sample type	Comments	Sampling method	$1000\ \delta^{18}O_{VSMOW}$	1 SD $1000\ \delta^{18}O_{VSMOW}$	$1000\ \delta^{2}H_{VSMOW}$	1 SD $1000\ \delta^{2}H_{VSMOW}$	EPA Dissolved organic carbon mg/L	USGS-Menlo ParkTritium TU
Detection limits (MDL)								0.067	
Detection limits (QL)								0.500	
684	regular		Geosub pump	-14.2	0.01	-109.2	0.24	1.46	-0.4
684 DUP	duplicate			-14.1	0.04	-109.1	0.44	1.54	-0.1
679	regular		Geosub pump	-13.5	0.07	-104.6	0.10	1.40	8.4
679 DUP	duplicate			-13.5	0.01	-105.1	0.25	1.51	9.4
695	regular		flowing	-17.5	0.01	-137.8	0.16	BQL (0.383)	0.3
695 DUP	duplicate			-17.6	0.08	-138.0	0.10	BQL (0.373)	0.0
B-VS1	blank	filtered in line	Geosub pump					BQL (0.460)	
B-VS2	blank	no filter	Direct to bottles					BQL (0.198)	
B-VS3	blank	filter and all sample tubing contact	Peristaltic pump					0.750	
B-VS4	blank	used peristaltic pump and filter to sample	Bailer					BQL (0.204)	
D-VS5	blank	filtered in line	Geosub pump					BQL (0.355)	

All blanks used laboratory deioned water.

For DOC blanks, all samples except B-VS4 used low organic carbon blank water, for B-VS4, laboratory deionized water was used.

Blank samples used new tubing for each sample, except for B-VS3 which used new peristaltic pump tubing, but sampled water after going through a reused sampling "T" connection.

Sulfur-34 isotopes analytical precision is 0.15 for 1 SD.

Abbreviations

USEPA = United States Environmental Protection Agency
USGS = United States Geological Survey
OES = optical emission spectrometry
ICPMS = inductively coupled plasma - mass spectrometry
VSMOW = Vienna standard mean ocean water
SD = standard deviation
TU = tritium units
MDL = method detection limit
QL = quantitation limit
ND = not detected
BQL = below quantitation limit, but number reported if above method detection limit
NTU = national tubidity units
mg/L - milligrams per liter
µg/L = micrograms per liter
µS/cm = microSiemens per centimeter

USGS-Menlo Park Tritium 1 SD TU	Field Param. pH	Field parameter oxidation reduction potential (ORP) mV	ORP converted to Eh mV	Eh converted to pe mV	Field parameter Temperature degrees Celsius	Field parameter Dissolved oxygen mg/L	Field parameter Specific conductance µS/cm	Field parameter Turbidity NTU	Field parameter Alkalinity mg/L as $CaCO_3$	USEPA-OES Silver (Ag) mg/L	USEPA-OES Aluminum (Al) mg/L
										0.004	0.148
										0.014	0.494
0.6	6.78	-139	71.9	1.2	12.8	1.2	2,668	3.14	269	ND	ND
0.5	6.86	-107	104	1.8	12.8	1.3	2,679	3.44	267	ND	ND
0.6	6.95	206	418	7.1	12.0	11.7	2,745	7.38	138	ND	ND
0.6	6.96	196	408	6.9	11.5	11.6	2,746		142	ND	ND
0.6	6.94	-101	111	1.9	12.2	0.25	1,372	0.76	174	ND	ND
0.6	7.35	-124	88.0	1.5	12.1	0.32	1,373	0.54	172	ND	ND
										ND	ND
										ND	ND
										ND	ND
										ND	ND
										ND	ND

USEPA-OES Arsenic (As) mg/L	USEPA-ICPMS Arsenic (As) µg/L	USEPA-OES Boron (B) mg/L	USEPA-OES Barium (Ba) mg/L	USGS-ICPMS Barium (Ba) µg/L	USEPA-OES Beryllium (Be) mg/L	USEPA-OES Calcium (Ca) mg/L	USGS-ICPMS Calcium (Ca) mg/L	USEPA-OES Cadmium (Cd) mg/L	USEPA-ICPMS Cadmium (Cd) µg/L	USEPA-IC Chloride (Cl) mg/L	USEPA-OES Cobalt (Co) mg/L	USEPA-OES Chromium (Cr) mg/L
0.006	0.018	0.100	0.001	2.0	0.003	0.086	2.0	0.001	0.008	0.136	0.001	0.002
0.020	0.060	0.333	0.004		0.010	0.287		0.004	0.025	1.00	0.004	0.007
ND	4.72	BQL(0.143)	0.012	12.3	ND	365	358	ND	BQL(0.008)	9.67	BQL(0.001)	ND
ND	4.53	BQL(0.148)	0.012	13.2	ND	362	365	ND	ND	9.20	ND	ND
ND	2.07	0.430	0.009	9.1	ND	462	557	ND	0.045	8.76	ND	ND
ND	1.92	0.435	0.009	8.6	ND	480	552	ND	0.027	8.04	ND	ND
ND	1.62	ND	0.009	9.1	ND	48.9	43.9	ND	ND	11.3	ND	ND
ND	1.62	ND	0.009	10.1	ND	49.4	47.2	ND	ND	11.7	ND	ND
ND	BQL(0.021)	ND	ND	ND	ND	0.381	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	BQL(0.088)	ND	ND	ND	ND	ND	ND

USEPA-OES Copper (Cu) mg/L	USEPA-IC Flouride (F) mg/L	USEPA-OES Iron (Fe) mg/L	USGS-Ferrozine Iron (Fe) mg/L	USEPA-ICPMS Iron (Fe) µg/L	USGS-ICPMS Iron (Fe) µg/L	USGS-Ferrozine Percent Ferrous	Field test Iron (Fe) mg/L	USEPA-OES Potassium (K) mg/L	USGS-ICPMS Potassium (K) mg/L	USGS-ICPMS Lithium (Li) µg/L	USEPA-OES Magnesium (Mg) mg/L	USGS-ICPMS Magnesium (Mg) mg/L
0.006	0.056	0.020	0.010	0.055	500		0.05	0.106	0.3	1.0	0.030	0.1
0.020	0.200	0.067		0.182				0.354			0.100	
ND	ND	1.57	1.50	1,830	1670	100	1.5	18.5	17.8	169.8	117	122
ND	ND	1.58	1.50	1,810	1630	98.6	0.3	18.4	18.0	160.8	118	126
ND	ND	ND	0.0	3.55	ND	ND	0	10.4	11.9	67.0	101	111
ND	ND	ND	0.0	3.86	ND	ND	0	10.5	12.2	58.3	101	117
ND	0.535	0.128	0.14	154	ND	100	0.05	8.07	7.4	83.0	17.0	16.5
ND	0.522	0.132	0.13	143	ND	100	0.1	8.11	8.2	90.5	17.1	17.4
ND	ND	ND		0.839				ND	ND	ND	BQL(0.033)	ND
ND	ND	ND		ND				ND	ND	ND	ND	ND
ND	ND	ND		0.229				ND	ND	ND	ND	ND
ND	ND	ND		3.72				ND	ND	ND	ND	ND
ND	ND	ND		0.290				ND	ND	ND	ND	ND

USEPA-OES Manganese (Mn) mg/L	USGS-ICPMS Manganese (Mn) µg/L	USEPA-OES Molybdenum (Mo) mg/L	USEPA-OES Sodium (Na) mg/L	USGS-ICPMS Sodium (Na) mg/L	USEPA-OES Nickel (Ni) mg/L	USEPA-ICPMS Nickel (Ni) µg/L	USEPA-OES Lead (Pb) mg/L	USEPA-ICPMS Lead (Pb) µg/L	USEPA-OES Antimony (Sb) mg/L	USEPA-OES Selenium (Se) mg/L	USEPA-ICPMS Selenium (Se) µg/L	USGS-ICPMS Selenium (Se) µg/L	USEPA-IC Sulfate(SO_4) mg/L
0.004	2.0	0.005	0.513	0.1	0.025	0.023	0.005	0.027	0.005	0.009	0.060	10	0.103
0.014		0.017	1.710		0.084	0.077	0.017	0.090	0.017	0.030	0.198		1.00
0.552	541	ND	118	113	ND	4.17	ND	ND	ND	ND	0.883	< 10	1460
0.545	536	ND	117	116	ND	4.20	ND	ND	BQL(0.007)	ND	0.676	< 10	1440
ND	<2	ND	81.7	87.3	ND	5.44	ND	ND	ND	BQL(0.012)	18.0	14	1660
ND	<2	BQL(0.013)	84.1	88.7	ND	4.98	ND	ND	BQL(0.013)	BQL(0.011)	17.9	12.6	1680
0.081	78.8	BQL(0.005)	231	212	ND	0.418	ND	ND	BQL(0.006)	ND	0.540	< 10	568
0.082	82.6	0.023	232	224	ND	0.427	ND	ND	0.029	ND	0.729	< 10	537
ND	ND	ND	ND	ND	ND	0.129	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BQL (0.253)
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

USGS-ICPMS Sulfate(SO_4) mg/L	U of A ^{34}S ‰	USEPA-OES Strontium (Sr) mg/L	USGS-ICPMS Strontium (Sr) µg/L	USEPA-OES Titanium (Ti) mg/L	USEPA-OES Thallium (Tl) mg/L	USEPA-ICPMS Uranium (U) µg/L	USGS-ICPMS Uranium (U) µg/L	NAU-ICPMS Uranium (U) µg/L	NAU-ICPMS $^{234}U/^{238}U$ Activity Ratio	NAU-ICPMS $^{234}U/^{238}U$ Activity Ratio - 1 SD	USEPA-OES Vanadium (V) mg/L	USEPA-ICPMS Vanadium (V) µg/L	USEPA-OES Zinc (Zn) mg/L
20		0.001	5.0	0.002	0.005	0.002	10.0	0.010			0.003	0.002	0.015
		0.004		0.007	0.017	0.007					0.010	0.006	0.050
1500	-15.5	7.37	7710	ND	0.117	22.1	24.1	24.65	4.07	0.02	ND	0.873	0.067
1500	-15.5	7.37	7760	ND	0.109	22.6	24.3	20.37	4.07	0.02	ND	0.870	0.071
1800	6.4	7.78	7990	ND	0.153	13.7	18.4	13.25	1.84	0.02	ND	0.400	0.085
1800	6.4	7.74	8020	ND	0.160	14.1	18.0	13.30	1.82	0.01	BQL(0.005)	0.388	BQL(0.047)
480	-3.8	0.926	959	ND	BQL(0.007)	2.86	ND	2.82	3.33	0.04	ND	0.109	ND
530	-3.9	0.935	980	ND	BQL(0.009)	2.92	ND	2.87	3.30	0.01	ND	0.089	ND
ND		BQL(0.004)	ND	ND	BQL(0.005)	BQL(0.007)	ND				ND	ND	ND
ND		ND	ND	ND	BQL(0.007)	ND	ND				ND	ND	ND
ND		BQL(0.001)	ND	ND	BQL(0.006)	BQL(0.002)	ND				ND	ND	ND
ND		ND	ND	ND	BQL(0.007)	ND	ND				ND	ND	ND
ND		ND	ND	ND	BQL(0.006)	ND	ND				ND	ND	ND

USGS-ICPMS Zinc (Zn) µg/L	USEPA-OES Silicon (Si) mg/L	USGS-ICPMS Silicon (Si) as SiO_2 mg/L	USGS-ICPMS Silicon (Si) mg/L
30	0.130	2.0	0.93
	0.434		
ND	4.90	9.3	4.3
ND	4.79	9.6	4.5
ND	6.95	14	6.5
ND	6.98	13	6.1
ND	4.03	7.2	3.4
ND	4.11	7.5	3.5
ND	ND	ND	
ND	0.473	ND	
ND	ND	ND	
ND	ND	ND	
ND	ND	ND	