

Supplement – Kimball et al., 2015. Biogeosciences Discussions.

Table S1: Raw data for equilibrated gases, standards, and samples.

Figure S1: Equilibrated gas lines for February 2013.

Figure S2: Equilibrated gas lines for May-July 2013.

All data collected at UCLA

Table S1

Counter	Date	Sample ID	spec #'s	d13C (PDB)	d13C stdev	d18O gas (SMOW)	d18O stdev	d47 (v. Oz)	d47 stdev	D47 (v. Oz)	D47 stdev	D47 sterror	d48 (v. Oz)	D48 (v. Oz)	D48 stdev
	02/07/12	TV01	3160	2.271	0.004	29.996	0.014	10.527	0.016	-0.149	0.011	0.004	10.687	0.930	0.132
	2/1/13	86 Breakseal heated CO2 tank	2919	-37.281	0.003	3.260	0.027	-54.485	0.042	-1.076	0.031	0.011	-44.669	-2.673	0.122
	02/02/13	102-GC-A201	2935	0.335	0.004	23.967	0.009	2.561	0.030	-0.221	0.024	0.009	-2.029	0.005	0.092
	2/2/13	69 Heated reg DI+tank CO2	2964	-28.438	0.006	24.745	0.020	-25.170	0.022	-0.942	0.022	0.008	-0.682	-0.036	0.096
	2/2/13	66 Unheated Oztech	2973	-3.863	0.018	23.614	0.024	-1.561	0.050	0.062	0.019	0.007	-2.547	0.192	0.099
	2/2/13	64 heated Oztech	2981	-3.671	0.002	22.220	0.008	-3.631	0.044	-0.809	0.041	0.015	-5.862	-0.413	0.146
	02/03/13	Carmel Chalk	3005	-2.371	0.003	34.599	0.010	10.567	0.019	-0.182	0.014	0.005	20.348	1.557	0.112
	2/3/13	Breakseal 92 heated tank	3022	-28.066	0.002	23.965	0.009	-25.550	0.036	-0.925	0.038	0.013	-2.099	0.064	0.094
high voltage bellows overcomp?	2/3/13	Breakseal 67 Oztech 25C	3030	-3.263	0.003	26.693	0.008	2.055	0.026	0.037	0.019	0.007	3.605	0.338	0.112
	2/3/13	78 reg DI +tank CO2 heated	3039	-28.013	0.004	26.854	0.009	-22.704	0.030	-0.933	0.030	0.011	3.667	0.197	0.082
D47 and D48 are high	2/6/13	79 heated tank CO2 + reg DI	3126	-28.061	0.003	27.808	0.018	-21.742	0.054	-0.848	0.043	0.015	6.496	1.158	0.327
	2/6/13	75 heated tank CO2 + reg DI	3140	-28.460	0.004	24.944	0.018	-25.020	0.039	-0.965	0.025	0.009	-0.326	-0.068	0.167
	02/08/13	102-GC-A201	3205	0.247	0.003	23.849	0.017	2.382	0.018	-0.196	0.023	0.008	-1.997	0.268	0.186
	2/8/13	98 Seawater+Oztech	3240	-3.951	0.002	34.956	0.013	9.633	0.019	0.068	0.024	0.008	21.082	1.593	0.130
	02/08/13	Fast HAGA	3254	3.044	0.002	32.861	0.008	14.117	0.035	-0.176	0.032	0.011	16.607	1.217	0.084
	02/09/13	Carmel Chalk	3262	-2.290	0.003	34.502	0.010	10.529	0.035	-0.202	0.029	0.010	20.129	1.529	0.157
	02/13/13	102-GC-AZ01	3477	0.278	0.005	23.894	0.018	2.532	0.064	-0.121	0.048	0.017	-1.649	0.529	0.190
	2/13/13	509-CO2-5.99mB-H	3497	-37.384	0.004	4.568	0.009	-53.438	0.018	-1.194	0.017	0.006	-42.476	-2.983	0.149
	2/14/13	100 Bone dry CO2 5.86 UH	3542	-37.868	0.005	2.671	0.014	-54.834	0.028	-0.259	0.026	0.009	-45.774	-2.656	0.155
	02/14/13	Carmel Chalk	3555	-2.244	0.008	34.670	0.013	10.758	0.020	-0.186	0.014	0.005	20.499	1.567	0.153
	02/15/13	Carrera Marble	3590	2.285	0.003	37.307	0.017	17.608	0.035	-0.388	0.030	0.011	25.971	1.808	0.271
	02/15/13	101 bone dry tank CO2 - heated	3611	-37.456	0.001	4.424	0.005	-53.630	0.016	-1.179	0.018	0.006	-42.784	-3.018	0.072
	02/16/13	146-6	3636	-2.832	0.004	40.636	0.013	16.252	0.043	-0.057	0.035	0.012	33.021	2.279	0.158
	2/16/13	bone dry tank CO2 - heated	3648	-37.478	0.003	3.589	0.019	-54.450	0.029	-1.176	0.034	0.012	-44.443	-3.091	0.186
	02/16/13	513 bone dry tank CO2 - heated	3648	-37.478	0.003	3.590	0.018	-54.443	0.026	-1.171	0.035	0.012	-44.436	-3.086	0.193
	2/16/13	501 Evap DI + Oz H	3656	-3.949	0.007	40.853	0.013	14.740	0.024	-0.679	0.029	0.010	33.330	2.166	0.146
	2/16/13	102 Bonedry CO2 heated	3664	-38.482	0.006	2.197	0.022	-56.741	0.035	-1.184	0.024	0.009	-47.100	-3.098	0.181
	2/16/13	TV-01	3676	2.294	0.004	30.154	0.011	10.703	0.030	-0.154	0.024	0.008	11.044	0.976	0.144
	2/17/13	103 Bonedry heated	3697	-37.467	0.007	3.826	0.024	-54.212	0.040	-1.175	0.030	0.011	-43.748	-2.836	0.152
	2/18/13	514 Bonedry CO2 6 mB - UH	3762	-37.547	0.002	3.019	0.006	-54.195	0.026	-0.259	0.025	0.009	-45.090	-2.634	0.044
	2/18/13	106 Bonedry CO2 5.55 mB H	3770	-37.311	0.007	3.378	0.009	-54.462	0.030	-1.141	0.021	0.007	-44.639	-2.877	0.252
	2/18/13	694-3	3778	-1.129	0.002	38.977	0.009	16.186	0.036	-0.139	0.029	0.010	29.507	2.052	0.132
GC column changed	2/19/13	Antartic Mollusc	3786	1.737	0.003	43.283	0.007	23.422	0.025	-0.017	0.024	0.008	38.687	2.655	0.186
GC column changed	2/19/13	Antartic Mollusc	3786	1.737	0.003	43.283	0.007	23.422	0.025	-0.017	0.024	0.008	38.687	2.655	0.186
	02/19/13	108 Bonedry CO2 5.5 mB UH	3797	-37.060	0.002	3.117	0.014	-53.599	0.030	-0.215	0.027	0.010	-44.684	-2.407	0.206
	2/20/13	Spel-2-8E	3805	-9.571	0.003	32.409	0.005	1.300	0.034	-0.260	0.032	0.011	15.935	1.486	0.076
	02/20/13	102-GC-AZ01	3813	0.443	0.002	23.759	0.008	2.490	0.025	-0.187	0.025	0.009	-2.315	0.123	0.149

	02/20/13	90 CO2 tank 6.11 mB H	3821	-28.194	0.003	24.274	0.006	-25.437	0.026	-0.989	0.020	0.007	-1.723	-0.160	0.124
	2/20/13	3808-4	3831	-2.907	0.003	40.032	0.004	15.499	0.032	-0.133	0.028	0.010	31.761	2.219	0.086
	2/20/13	Antarctic Mollusc	3839	1.774	0.003	43.241	0.012	23.421	0.046	-0.014	0.040	0.014	38.774	2.818	0.096
	2/20/13	Antarctic Mollusc	3839	1.774	0.003	43.241	0.012	23.421	0.046	-0.014	0.040	0.014	38.774	2.818	0.096
	2/21/13	516 Oz+Evap DI H	3847	-3.683	0.002	42.620	0.008	16.722	0.032	-0.713	0.025	0.009	36.839	2.166	0.182
	2/21/13	146-6	3855	-2.663	0.004	40.600	0.010	16.367	0.032	-0.072	0.027	0.010	32.925	2.254	0.200
	2/21/13	148-2	3863	-2.409	0.004	40.257	0.009	16.307	0.024	-0.040	0.022	0.008	32.179	2.190	0.098
	2/21/13	110 Evap DI+oz UH	3872	-3.600	0.005	44.962	0.011	19.955	0.032	0.095	0.024	0.008	42.209	2.851	0.135
	2/21/13	518 Bonedry UH	3882	-37.295	0.003	3.233	0.012	-53.723	0.017	-0.229	0.017	0.006	-44.582	-2.529	0.126
	2/21/13	519 Bonedry UH	3891	-37.340	0.003	3.403	0.007	-53.645	0.022	-0.276	0.030	0.011	-44.352	-2.627	0.124
	2/22/13	592-1	3916	-2.390	0.003	39.210	0.006	15.203	0.028	-0.119	0.025	0.009	30.210	2.292	0.158
	2/22/13	3808-4	3924	-2.914	0.004	40.120	0.022	15.622	0.027	-0.092	0.024	0.008	32.191	2.467	0.166
	2/22/13	520 CO2 bonedry UH	3933	-37.709	0.003	3.227	0.018	-47.380	0.037	-0.227	0.095	0.034	-44.620	-2.236	0.911
	2/22/13	109 Oz+Evap DI H	3941	-3.834	0.002	42.474	0.007	16.419	0.016	-0.723	0.016	0.006	36.519	2.137	0.094
	2/22/13	522 CO2 Heated	3952	-37.790	0.005	4.074	0.009	-54.207	0.030	-1.100	0.034	0.012	-42.845	-2.386	0.158
	2/22/13	Carrera Marble	3961	2.193	0.002	36.988	0.006	17.196	0.019	-0.390	0.018	0.006	25.395	1.863	0.105
	2/23/13	703-2	3969	-1.873	0.009	41.513	0.015	18.100	0.039	-0.024	0.041	0.014	35.081	2.585	0.153
	2/23/13	502 CO2 tank Heated	3988	-37.459	0.002	4.289	0.011	-53.765	0.028	-1.182	0.032	0.011	-42.898	-2.869	0.088
	2/23/13	115 Oz+Evap DI UH	3999	-3.913	0.002	47.415	0.004	22.174	0.040	0.181	0.039	0.014	47.467	3.201	0.111
changed acid	2/23/13	TV01	4007	2.464	0.004	30.063	0.006	10.774	0.023	-0.157	0.019	0.007	10.794	0.905	0.087
	02/23/13	Spel 2-8-E	4016	-9.518	0.002	32.299	0.006	1.263	0.027	-0.240	0.024	0.008	15.491	1.261	0.117
	2/24/13	703-5 outer	4032	-4.759	0.004	38.879	0.009	12.528	0.039	-0.143	0.031	0.011	29.152	1.910	0.126
	2/24/13	3808-5	4040	-5.606	0.003	39.128	0.008	11.957	0.022	-0.132	0.023	0.008	29.765	2.030	0.125
	2/24/13	3806-1	4048	-4.139	0.002	39.669	0.007	13.932	0.033	-0.132	0.034	0.012	30.987	2.170	0.117
47 (neg. T) same as last Oz+Eva	2/24/13	114 Oz + Evap heated	4057	-3.748	0.003	48.058	0.008	23.002	0.032	0.206	0.031	0.011	49.165	3.596	0.175
	02/24/13	Carrera Marble	4065	2.239	0.003	36.980	0.008	17.192	0.026	-0.431	0.022	0.008	25.234	1.720	0.129
	2/24/13	3803-3	4074	-4.619	0.004	39.383	0.006	13.169	0.026	-0.140	0.026	0.009	30.395	2.148	0.114
	2/25/13	Carrera Marble	4110	2.282	0.002	36.930	0.010	17.179	0.023	-0.436	0.023	0.008	24.937	1.527	0.144
	2/25/13	523	4127	-37.387	0.004	4.131	0.015	-53.818	0.010	-1.150	0.023	0.008	-43.073	-2.738	0.151
	02/26/13	102-GC-AZ01	4143	0.436	0.004	23.829	0.018	2.543	0.034	-0.198	0.037	0.013	-1.750	0.553	0.101
	2/26/13	524-tank-heated	4159	-37.277	0.002	4.588	0.003	-53.312	0.027	-1.189	0.029	0.010	-42.233	-2.771	0.196
changed acid	2/26/13	Fast HAGA	4168	3.068	0.002	32.765	0.004	14.047	0.020	-0.174	0.022	0.008	16.384	1.184	0.118
	2/26/13	Carmel Chalk	4176	-2.155	0.002	34.640	0.008	10.810	0.022	-0.191	0.024	0.009	20.319	1.448	0.181
	2/26/13	703-5 outer	4184	-4.923	0.003	38.834	0.006	12.339	0.044	-0.128	0.046	0.016	29.173	2.017	0.075
	2/27/13	116-Oz+Evap-5.7mB-U	4221	-3.616	0.004	48.473	0.005	23.512	0.019	0.172	0.022	0.008	49.576	3.194	0.068
*only 7 acquisitions	2/27/13	526 CO2 5.54 mB UH	4231	-32.547	13.356	7.392	11.976	-39.468	24.558	-0.222	0.093	0.033	-35.971	-1.752	1.730
	02/28/13	TV01	4241	2.468	0.002	30.095	0.004	10.804	0.022	-0.164	0.020	0.007	10.863	0.911	0.137
	2/28/13	112 Evap DI + Oz 5.91 mB UH	4266	-3.648	0.003	48.587	0.006	23.598	0.024	0.178	0.022	0.008	49.813	3.204	0.089
	2/28/13	118 Bonedry CO2 5.97 UH	4275	-37.415	0.006	3.076	0.015	-53.939	0.022	-0.179	0.024	0.008	-44.623	-2.261	0.437

	2/28/13	Antarctic mollusc	4285	1.750	0.003	43.257	0.003	23.385	0.030	-0.040	0.030	0.011	38.497	2.521	0.138
	03/01/13	47407 coral	4293	-1.976	0.003	41.513	0.010	17.978	0.019	-0.044	0.018	0.006	34.749	2.264	0.098
	3/1/13	703-2	4301	-2.056	0.002	41.435	0.014	17.838	0.029	-0.029	0.032	0.011	34.712	2.377	0.091
*only 7 acquisitions!	3/1/13	705-3 inner	4309	-7.683	0.002	37.877	0.014	7.586	0.021	-0.126	0.053	0.019	27.106	1.629	0.669
	3/1/13	533 Evap DI + Oz UH 6.02 mB	4317	-4.397	0.003	44.413	0.004	18.692	0.026	0.161	0.026	0.009	40.912	2.658	0.084
	3/1/13	CM	4325	2.247	0.002	36.967	0.009	17.157	0.028	-0.460	0.027	0.010	25.083	1.597	0.112
	3/1/13	534 Evap DI+Oz UH 5.86mB	4334	-3.756	0.003	44.458	0.006	19.384	0.021	0.177	0.021	0.007	41.201	2.847	0.045
changed acid	3/1/13	102-GC-AZOL	4343	0.550	0.003	23.955	0.009	2.787	0.034	-0.189	0.032	0.011	-1.816	0.242	0.236
	3/2/13	spel-2-8-E	4351	-9.775	0.003	32.372	0.010	1.081	0.009	-0.244	0.011	0.004	15.704	1.331	0.108
	3/2/13	592-1	4367	-2.448	0.006	39.069	0.009	14.997	0.026	-0.128	0.023	0.008	29.884	2.246	0.680
V too low???7 acquisitions	3/2/13	535 Evap DI+Oz UH 5.51 mB	4375	-3.444	0.002	43.420	0.010	16.340	0.042	0.168	0.077	0.027	39.225	2.567	1.045
	3/2/13	123 Bonedry UH 6.21mB	4383	-37.533	0.003	3.576	0.010	-53.721	0.021	-0.338	0.024	0.008	-44.141	-2.750	0.055
	3/2/13	148-2	4392	-2.724	0.002	40.131	0.003	15.842	0.032	-0.070	0.029	0.010	31.741	2.008	0.094
	3/2/13	146-6	4400	-2.511	0.004	40.606	0.009	16.555	0.016	-0.039	0.016	0.006	32.968	2.283	0.116
	3/3/13	Carmel Chalk	4408	-2.157	0.003	34.656	0.005	10.818	0.027	-0.197	0.027	0.009	20.371	1.466	0.081
	3/3/13	703-5 outer	4426	-5.160	0.003	38.788	0.008	12.057	0.032	-0.131	0.029	0.010	28.965	1.905	0.109
	3/3/13	3804-4	4444	-2.982	0.002	40.003	0.010	15.419	0.026	-0.112	0.028	0.010	31.658	2.174	0.160
	3/3/13	CM	4453	2.206	0.004	37.046	0.012	17.222	0.030	-0.434	0.027	0.010	25.365	1.720	0.149
	3/4/13	3808-1	4462	-3.198	0.003	39.745	0.012	14.935	0.029	-0.127	0.032	0.011	31.221	2.249	0.164
	3/4/13	3808-5	4471	-6.013	0.003	39.026	0.012	11.461	0.029	-0.128	0.023	0.008	29.578	2.048	0.135
	3/4/13	Carrer Marble	4480	2.163	0.003	36.911	0.015	17.055	0.024	-0.425	0.025	0.009	25.205	1.827	0.172
	3/4/13	119 Bonedry UH	4489	-37.327	0.003	3.672	0.010	-53.338	0.036	-0.237	0.034	0.012	-44.017	-2.812	0.095
	3/4/13	120 Bonedry H	4498	-37.738	0.002	3.811	0.007	-54.368	0.025	-1.055	0.025	0.009	-43.308	-2.347	0.122
	03/04/13	125 Evap DI Oztech UH	4510	-13.785	0.003	32.252	0.007	-2.596	0.029	0.101	0.035	0.012	15.529	1.410	0.136
	3/5/13	527 tank CO2 - Unheated	4526	-37.519	0.003	2.456	0.008	-54.713	0.022	-0.262	0.021	0.007	-46.330	-2.811	0.225
	3/6/13	SPEL-28-E	4545	-9.068	0.003	32.378	0.009	1.793	0.023	-0.226	0.024	0.008	15.557	1.171	0.196
	3/6/13	3808-4 1	4553	-2.955	0.005	40.296	0.018	15.767	0.033	-0.083	0.029	0.010	32.307	2.241	0.187
Sample mislabeled as 538 in Aq.	3/6/13	528-CO2-5.42mB-U	4566	-37.501	0.004	3.099	0.020	-54.081	0.040	-0.265	0.034	0.012	-44.963	-2.660	0.150
	3/6/13	536-Evap+Oz-5.39mB-U	4575	-3.042	0.005	43.663	0.009	19.312	0.026	0.192	0.025	0.009	39.907	3.123	0.126
	3/6/13	3808-1	4584	-3.120	0.004	39.930	0.013	15.210	0.023	-0.113	0.016	0.006	31.588	2.248	0.151
	3/7/13	carmel chalk	4600	-2.151	0.003	34.691	0.020	10.863	0.039	-0.192	0.044	0.015	20.482	1.509	0.128
	3/7/13	539-Evap DI Oz-6.15-H	4614	-28.125	0.003	38.084	0.019	-11.887	0.028	-0.903	0.026	0.009	27.407	1.846	0.183
	3/7/13	703-5 inner	4624	-7.780	0.004	37.495	0.009	8.184	0.034	-0.157	0.037	0.013	26.377	1.886	0.168
	3/7/13	703-5 inner	4632	-7.807	0.005	37.291	0.023	7.971	0.022	-0.141	0.031	0.011	26.164	2.074	0.143
	3/7/13	3803-4	4641	-4.186	0.005	39.568	0.016	13.763	0.043	-0.154	0.032	0.011	30.628	2.016	0.130
	3/8/13	CM	4649	2.224	0.005	37.039	0.012	17.223	0.018	-0.444	0.021	0.008	25.248	1.620	0.151
	3/8/13	3808-1	4657	-3.136	0.007	39.956	0.020	15.214	0.015	-0.119	0.015	0.005	31.712	2.318	0.135
	3/8/13	3806-1	4666	-4.026	0.006	39.615	0.020	14.012	0.036	-0.109	0.022	0.008	31.072	2.358	0.184
	3/8/13	3806-1	4666	-4.026	0.006	39.615	0.020	14.012	0.036	-0.109	0.022	0.008	31.072	2.358	0.184

	3/8/13	703-2	4674	-3.055	0.013	40.006	0.013	15.441	0.025	-0.023	0.025	0.009	32.138	2.635	0.171
	3/8/13	542 Evap DI + Oz 5.8- UH	4683	-28.243	0.005	40.216	0.012	-9.134	0.032	-0.097	0.025	0.009	31.947	2.158	0.078
	3/9/13	CM	4699	2.306	0.008	37.128	0.026	17.392	0.037	-0.445	0.025	0.009	25.561	1.753	0.111
7 acquisitions	3/9/13	545 Evap DI UH 4719	4719	-3.661	0.003	45.889	0.005	18.313	0.025	0.180	0.075	0.027	44.048	2.488	1.010
	3/10/13	Carmel Chalk	4740	-2.160	0.003	34.705	0.008	10.891	0.027	-0.170	0.022	0.008	20.533	1.531	0.167
	3/10/13	533-tank CO2-5.65mB-H	4749	-37.398	0.005	3.780	0.014	-54.177	0.021	-1.161	0.023	0.008	-43.883	-2.886	0.170
	3/10/13	544-Evap DI+Oz-6.32mB-UH	4758	-3.649	0.004	45.917	0.005	20.952	0.024	0.188	0.021	0.007	44.053	2.793	0.098
	3/10/13	540-Evap DI+Oz-6.97mB-H	4767	-27.936	0.004	40.123	0.008	-9.712	0.021	-0.893	0.015	0.005	31.304	1.709	0.136
	03/11/13	542-Evap Dloz-6.52mB-UH	4789	-4.021	0.006	46.413	0.013	21.074	0.032	0.183	0.018	0.006	45.122	2.871	0.058
	3/11/13	543-Evap Dloz-6.33mB-UH	4798	-3.636	0.003	46.152	0.009	21.222	0.015	0.211	0.016	0.006	44.547	2.817	0.098
	5/19/13	SPEL-2-8-E	7205	-9.672	0.007	32.512	0.012	1.230	0.018	-0.333	0.017	0.006	16.254	1.602	0.235
	5/19/13	596 Evap DI oz 6.37mB UH	7215	-4.173	0.003	46.394	0.007	20.849	0.032	0.130	0.031	0.011	45.409	3.184	0.088
	5/20/13	579 Evap DI oz UH	7264	-4.081	0.006	45.408	0.021	20.041	0.033	0.208	0.018	0.006	43.947	3.669	0.278
	5/20/13	Carmel Chalk	7272	-2.150	0.007	34.801	0.016	10.893	0.039	-0.271	0.027	0.010	20.793	1.601	0.115
	5/21/13	CM	7306	2.340	0.027	37.114	0.037	17.335	0.062	-0.519	0.025	0.009	25.803	2.017	0.155
	5/21/13	598 bonedry 6.7mB uh	7343	-37.430	0.002	3.539	0.009	-53.672	0.029	-0.352	0.025	0.009	-44.390	-2.936	0.071
	5/22/13	Carmel Chalk	7351	-2.174	0.009	34.743	0.016	10.816	0.031	-0.267	0.031	0.011	20.543	1.468	0.143
	5/23/13	Carmel Chalk	7416	-2.491	0.002	34.881	0.012	10.634	0.026	-0.278	0.025	0.009	20.921	1.573	0.136
	5/23/13	603 Evap DI ox 6.1mB UH	7456	-3.839	0.004	46.620	0.007	21.449	0.022	0.175	0.021	0.007	46.044	3.360	0.103
	5/24/13	CM	7465	2.288	0.005	37.170	0.011	17.359	0.029	-0.500	0.024	0.009	25.679	1.788	0.182
	5/24/13	Carmel Chalk	7473	-2.200	0.004	34.811	0.011	10.866	0.021	-0.261	0.016	0.006	20.779	1.567	0.159
	5/28/13	CM	7683	2.329	0.005	37.120	0.012	17.332	0.028	-0.518	0.019	0.007	25.533	1.741	0.126
	5/30/13	601 Bonedry 5.82mB UH	7754	-37.640	0.008	2.906	0.011	-54.452	0.031	-0.322	0.033	0.012	-45.502	-2.840	0.289
	5/30/13	CM	7762	2.266	0.002	37.128	0.009	17.275	0.025	-0.521	0.024	0.008	25.753	1.942	0.155
	5/31/13	614 Evap + Oz 6.46 mB - H	7798	-3.794	0.003	45.417	0.009	19.333	0.019	-0.772	0.019	0.007	43.063	2.801	0.119
	6/1/13	616 Bonedry 6.35 mB Heated	7830	-37.531	0.003	4.095	0.012	-54.115	0.031	-1.283	0.029	0.010	-43.941	-3.571	0.123
	6/2/13	611 bonedry ?mB UH	7860	-37.490	0.002	3.241	0.007	-54.041	0.028	-0.378	0.030	0.011	-45.264	-3.258	0.132
	6/3/13	609Bone6.11UH	7918	-37.605	0.003	3.332	0.009	-54.053	0.017	-0.369	0.020	0.007	-44.925	-3.082	0.190
	6/4/13	CM	7976	2.314	0.002	37.129	0.009	17.328	0.022	-0.516	0.020	0.007	25.710	1.898	0.127
	6/5/13	Bonedry 6.51mB-H	8049	-37.511	0.003	4.096	0.010	-54.110	0.030	-1.297	0.022	0.008	-44.104	-3.742	0.139
	6/6/13	168 Evap DI Oz 6.58 mB H	8060	-3.698	0.002	45.367	0.003	19.369	0.025	-0.780	0.021	0.007	43.021	2.856	0.119
	6/6/13	Carmel Chalk	8078	-2.185	0.003	34.699	0.010	10.747	0.027	-0.283	0.028	0.010	20.548	1.557	0.100
	6/6/13	Carmel Chalk	8087	-2.136	0.002	34.725	0.007	10.807	0.027	-0.296	0.024	0.009	20.533	1.492	0.120
	6/7/13	CM	8095	2.295	0.004	37.097	0.008	17.263	0.033	-0.530	0.030	0.011	25.430	1.686	0.113
	6/8/13	617 Bonedry 6.11mB UH	8146	-37.783	0.004	3.505	0.010	-54.064	0.027	-0.378	0.029	0.010	-44.810	-3.306	0.070
	6/9/13	CM	8231	2.329	0.014	37.020	0.030	17.244	0.057	-0.506	0.021	0.007	25.261	1.669	0.080
	6/10/13	172 Bonedry - 6.41 mB - H	8260	-37.595	0.002	3.761	0.008	-54.483	0.026	-1.270	0.025	0.009	-44.877	-3.885	0.193
Acid change (2 dummy run prior)	6/10/13	TV03	8271	3.390	0.002	30.286	0.005	11.802	0.023	-0.251	0.019	0.007	11.049	0.721	0.121
	6/11/13	TV01	8312	2.471	0.002	30.246	0.007	10.867	0.027	-0.253	0.028	0.010	11.022	0.775	0.120
	6/11/13	703-2	8347	-1.401	0.007	42.295	0.006	19.244	0.025	-0.121	0.024	0.008	36.858	2.800	0.056

6/12/13	CM	8355	2.329	0.002	37.146	0.008	17.356	0.030	-0.519	0.029	0.010	25.574	1.732	0.114
6/12/13	694-3	8363	-0.352	0.002	39.471	0.006	17.398	0.030	-0.181	0.025	0.009	30.702	2.259	0.123
6/12/13	148-2	8371	-4.183	0.004	39.873	0.012	14.099	0.017	-0.125	0.019	0.007	31.573	2.347	0.112
6/12/13	Bonedry 6.12 UH	8380	-37.590	0.002	3.089	0.008	-54.292	0.024	-0.390	0.025	0.009	-45.718	-3.430	0.125
6/12/13	CM	8391	2.314	0.003	37.156	0.005	17.371	0.034	-0.500	0.038	0.013	25.541	1.680	0.123
6/12/13	694-3	8407	-0.394	0.004	39.452	0.007	17.337	0.026	-0.181	0.021	0.008	30.591	2.188	0.094
6/13/13	TV01	8431	2.441	0.024	30.187	0.044	10.798	0.078	-0.234	0.018	0.006	10.998	0.868	0.140
6/13/13	148-2	8440	-4.440	0.002	40.170	0.005	14.158	0.027	-0.109	0.023	0.008	32.139	2.327	0.146
6/13/13	3806-1	8451	-3.470	0.003	40.384	0.006	15.260	0.033	-0.170	0.029	0.010	32.615	2.373	0.147
6/13/13	TV01	8467	2.585	0.001	30.238	0.007	10.965	0.033	-0.258	0.029	0.010	11.015	0.782	0.086
6/13/13	703-2	8475	-1.423	0.002	42.345	0.005	19.290	0.025	-0.105	0.022	0.008	36.941	2.782	0.105
6/14/13	148-2	8491	-4.685	0.002	40.034	0.008	13.754	0.038	-0.137	0.036	0.013	31.909	2.367	0.146
6/14/13	169 Bonedry - 6.15 mB - H	8502	-37.446	0.004	4.229	0.008	-53.899	0.033	-1.275	0.034	0.012	-43.963	-3.859	0.171
6/14/13	Carmel Chalk	8524	-2.120	0.002	34.858	0.005	10.974	0.024	-0.278	0.020	0.007	20.760	1.458	0.122
6/15/13	TV03	8566	3.138	0.002	30.272	0.005	11.542	0.026	-0.252	0.026	0.009	11.152	0.851	0.131
6/16/13	CM	8607	1.939	0.004	36.897	0.010	16.736	0.025	-0.510	0.024	0.008	25.153	1.802	0.060
6/16/13	Bonedry 6.26 mBUH	8624	-37.596	0.002	3.063	0.007	-54.310	0.034	-0.376	0.036	0.013	-45.895	-3.562	0.082
6/18/13	CM	8702	2.268	0.005	37.114	0.010	17.266	0.017	-0.518	0.020	0.007	25.672	1.890	0.135
6/18/13	618 Bonedry 6.03 mB UH	8738	-37.570	0.010	3.097	0.009	-54.238	0.045	-0.360	0.048	0.017	-45.573	-3.293	0.323
6/18/13	TV03	8746	3.274	0.003	30.357	0.004	11.801	0.020	-0.211	0.017	0.006	11.368	0.898	0.113
6/19/13	Carmel Chalk	8780	-2.017	0.003	35.099	0.005	11.323	0.030	-0.269	0.028	0.010	21.396	1.615	0.138
6/20/13	TV03	8807	3.305	0.019	30.289	0.036	11.737	0.057	-0.236	0.022	0.008	11.140	0.805	0.111
6/20/13	170 Bonedry 6.47H	8817	-37.732	0.003	3.690	0.002	-54.683	0.029	-1.272	0.031	0.011	-45.001	-3.872	0.119
6/20/13	3806-1 (run) (8833)	8833	-3.557	0.002	40.346	0.005	15.150	0.026	-0.157	0.023	0.008	32.518	2.353	0.114
6/20/13	694-13	8841	-0.697	0.003	39.427	0.006	17.027	0.015	-0.170	0.015	0.005	30.730	2.371	0.098
6/21/13	146-6	8849	-3.271	0.003	41.053	0.005	16.198	0.030	-0.094	0.027	0.010	34.114	2.538	0.108
6/21/13	3806-01 (run 2)	8857	-3.528	0.005	40.341	0.006	15.172	0.025	-0.159	0.029	0.010	32.604	2.446	0.136
6/21/13	CM	8865	2.325	0.005	37.109	0.007	17.318	0.029	-0.516	0.029	0.010	25.637	1.865	0.103
6/21/13	694-3 milled	8873	-0.292	0.001	39.014	0.007	16.955	0.033	-0.225	0.027	0.009	29.746	2.210	0.141
6/21/13	3806-1 (run 1)	8892	-3.541	0.002	40.277	0.008	15.084	0.029	-0.171	0.030	0.010	32.453	2.422	0.154
6/21/13	3806-1 (run 2)	8900	-3.726	0.013	40.291	0.024	14.903	0.038	-0.183	0.021	0.007	32.377	2.321	0.092
6/22/13	694-13	8909	-0.709	0.003	39.439	0.008	14.899	0.024	-0.148	0.063	0.022	30.587	1.933	0.785
6/22/13	CM	8917	2.326	0.002	37.161	0.006	17.373	0.014	-0.515	0.013	0.005	25.634	1.761	0.132
6/22/13	703-7 (run 1)	8925	-2.994	0.004	39.783	0.006	15.135	0.028	-0.164	0.024	0.009	31.417	2.365	0.128
6/22/13	703-7 (run 2)	8933	-3.186	0.002	39.726	0.007	14.880	0.036	-0.174	0.032	0.011	31.234	2.298	0.158
6/22/13	703-7 (run 3)	8941	-3.194	0.004	39.647	0.011	14.797	0.028	-0.171	0.024	0.009	31.177	2.393	0.233
6/22/13	694-13	8949	-0.748	0.002	39.412	0.007	16.952	0.034	-0.179	0.031	0.011	30.598	2.272	0.127
6/22/13	179 Bonedry CO2 6.79mB UH	8958	-37.585	0.001	3.512	0.009	-53.903	0.026	-0.413	0.026	0.009	-45.045	-3.566	0.127
6/22/13	CM	8966	2.222	0.002	37.126	0.006	17.253	0.024	-0.497	0.025	0.009	25.604	1.800	0.127
6/23/13	694-3 (run2)	8982	-0.419	0.003	39.432	0.009	17.292	0.041	-0.181	0.040	0.014	30.749	2.381	0.088

6/23/13	148-2 (run 1)	8991	-4.469	0.003	40.106	0.008	14.051	0.031	-0.123	0.026	0.009	32.204	2.512	0.133
6/23/13	148-2 (run 2)	8999	-4.398	0.004	40.104	0.013	14.123	0.029	-0.118	0.020	0.007	32.039	2.357	0.097
6/23/13	CM	9008	2.317	0.003	37.219	0.009	17.454	0.042	-0.484	0.037	0.013	25.847	1.858	0.075
6/23/13	703-2 (old)	9024	-1.884	0.283	40.084	3.185	17.603	0.027	-0.130	0.057	0.020	34.518	2.636	0.086
6/24/13	703-2 (new)	9032	-1.506	0.004	42.214	0.010	19.068	0.017	-0.113	0.016	0.006	36.734	2.835	0.071
6/24/13	146-6 (old)	9040	-2.383	0.008	40.632	0.008	16.616	0.038	-0.128	0.038	0.014	33.492	2.742	0.112
6/24/13	TV03	9048	3.339	0.015	30.388	0.008	11.873	0.028	-0.233	0.022	0.008	11.732	1.198	0.130
6/24/13	180-Bonedry-5.94-UH	9059	-37.525	0.003	2.836	0.008	-54.437	0.012	-0.351	0.010	0.003	-46.278	-3.512	0.128
6/24/13	694-13	9067	-0.734	0.006	39.377	0.009	16.927	0.038	-0.183	0.032	0.011	30.620	2.362	0.099
6/24/13	3808-5	9075	-5.981	0.003	39.179	0.007	11.562	0.024	-0.208	0.023	0.008	30.049	2.211	0.148
6/24/13	3808-4	9084	-2.948	0.007	40.023	0.009	15.378	0.022	-0.205	0.019	0.007	31.904	2.376	0.159
6/25/13	3808-3	9094	-4.540	0.002	39.436	0.008	13.228	0.022	-0.210	0.018	0.006	30.790	2.430	0.142
6/25/13	CM	9102	2.302	0.002	37.197	0.008	17.383	0.016	-0.517	0.017	0.006	25.863	1.916	0.111
6/25/13	Adamossi (run 1)	9111	1.832	0.010	43.420	0.013	23.569	0.020	-0.099	0.025	0.009	39.388	3.068	0.180
6/25/13	Adamossi (run 2)	9121	1.818	0.001	43.432	0.005	23.569	0.051	-0.097	0.050	0.018	39.329	2.988	0.124
6/26/13	Adamossi (run 3)	9129	1.826	0.004	43.450	0.009	23.586	0.043	-0.107	0.044	0.015	39.421	3.042	0.166
6/26/13	620 Evap + Oz - 5.97 mB - H	9138	-3.777	0.005	42.539	0.009	16.480	0.018	-0.781	0.019	0.007	37.081	2.556	0.094
6/27/13	703-2 (old) run 2	9189	-2.073	0.003	41.139	0.011	17.450	0.034	-0.103	0.026	0.009	34.539	2.780	0.159
6/27/13	TV03	9197	3.326	0.002	30.248	0.020	11.707	0.031	-0.246	0.022	0.008	11.334	1.076	0.169
6/27/13	146-6 (new) (run1)	9208	-3.426	0.004	40.994	0.006	15.954	0.020	-0.128	0.017	0.006	34.605	3.128	0.113
6/27/13	146-6 (new) (run2)	9216	-3.415	0.002	41.073	0.009	16.072	0.028	-0.099	0.033	0.012	34.243	2.626	0.081
6/28/13	694-13 (run 2)	9232	-0.658	0.004	39.485	0.009	16.977	0.359	-0.187	0.019	0.007	31.386	2.521	0.094
6/28/13	CM	9240	2.345	0.009	37.161	0.011	17.373	0.026	-0.532	0.025	0.009	25.938	2.058	0.137
6/29/13	171 Bonedry 6.13mB H	9311	-37.636	0.008	3.763	0.017	-54.542	0.024	-1.291	0.029	0.010	-44.817	-3.824	0.156
7/3/13	178 Bonedry- 6.53 mB- UH	9529	-37.864	0.002	3.192	0.007	-54.477	0.027	-0.416	0.027	0.009	-46.048	-3.976	0.122
7/5/13	176 Bonedry 5.97 mB-H	9641	-37.763	0.004	2.908	0.011	-55.473	0.036	-1.282	0.039	0.014	-47.058	-4.469	0.121
7/7/13	183 Bonedry CO2 6.33mB UH	9747	-37.759	0.002	2.383	0.008	-55.136	0.038	-0.396	0.034	0.012	-47.661	-4.057	0.099
7/10/13	185 Bonedry CO2- 6.51 mB- UH	9940	-37.856	0.002	2.651	0.007	-54.975	0.021	-0.400	0.027	0.010	-47.040	-3.939	0.139
7/11/13	623 Evap DI oz 5.77mB UH	9981	-3.834	0.004	46.136	0.015	20.890	0.020	0.092	0.018	0.007	45.307	3.579	0.097
7/14/13	Bonedry174 CO2 6.38mB H	10156	-37.638	0.002	4.306	0.004	-54.059	0.040	-1.330	0.040	0.014	-44.135	-4.190	0.155
7/16/13	624 Evap DI + Oz 5.9mB UH	10271	-3.777	0.023	46.662	0.047	21.448	0.087	0.072	0.024	0.008	46.375	3.595	0.142
7/18/13	626 Evap.DI+oz 6.17mB H	10372	-3.884	0.002	46.050	0.016	19.889	0.041	-0.756	0.030	0.011	45.033	3.480	0.125
7/18/13	177 Bonedry 6.22 mB UH	10409	-37.540	0.003	2.941	0.010	-54.417	0.015	-0.421	0.019	0.007	-46.543	-3.996	0.174
7/20/13	627 Evap DI+Oz 6.11mB H	10440	-3.860	0.002	45.605	0.008	19.481	0.021	-0.745	0.024	0.008	44.038	3.379	0.150
7/21/13	184 Bonedry 6.25 UH	10462	-37.362	0.004	3.866	0.014	-53.358	0.021	-0.420	0.023	0.008	-44.654	-3.860	0.140
7/28/13	632 Evap DI+Oz 6.35mB UH	10484	-3.814	0.003	46.665	0.007	21.466	0.051	0.122	0.043	0.015	46.285	3.503	0.193

Fig. S1

line	from multiple regression		emp. Transfer function
	intercept - observed	intercept - theoretical	
25oC	0.05506	0.9252	slope 1.033396
1000oC	-0.8145	0.0266	intercept 0.868301
common slope	0.005981		

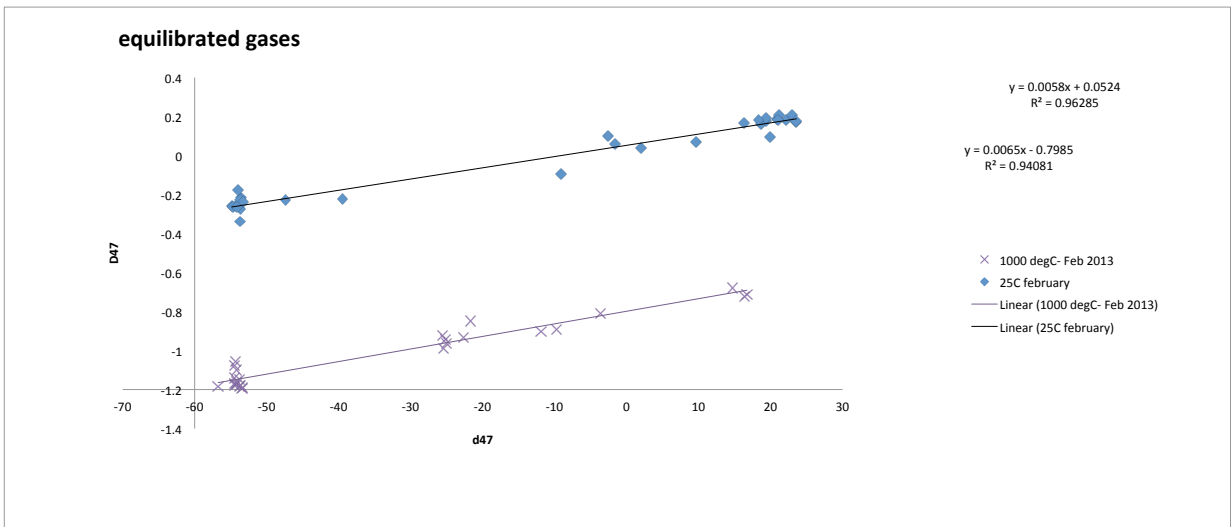
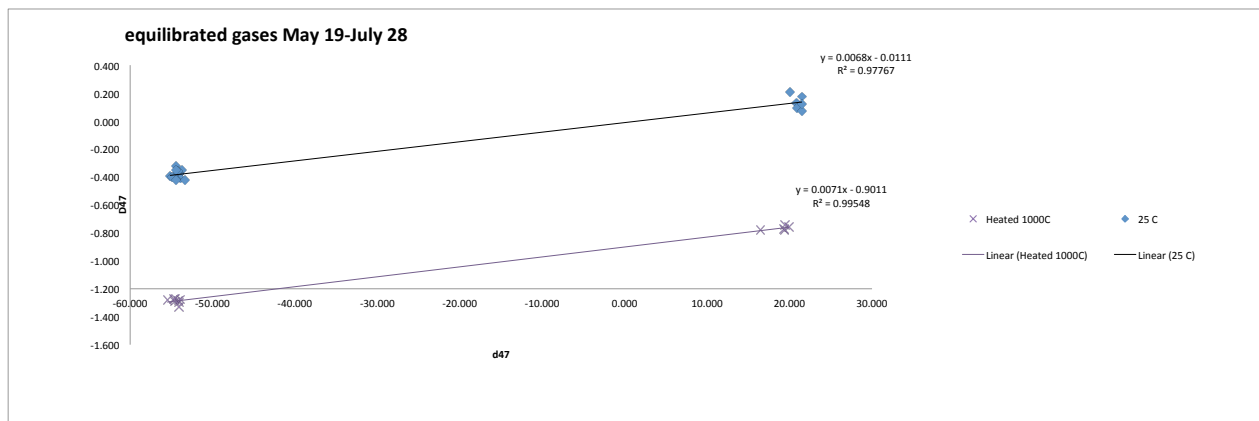




Fig. S2



Population 1

		May 19 - July 28			
line		intercept - observed	intercept - theoretical	emp. Transfer function	
25oC		-0.007724	0.9252	slope	1.001475577
1000oC		-0.905	0.0266	intercept	0.932935397
common slope	0.006952				