

TABLE DR1: Stable isotopes (oxygen and carbon) values and carbonate content

A	B	C	D	E	F	G
Sample Name	Height	Height (composite)	Carbon isotope (per mil VPDB)	Oxygen isotope (per mil VPDB)	TIC (wt%)	Carbonate Content (wt%)
Q13	9.9	9.9	0.681	-2.333	10.69	89.08
Q14	10.7	10.7	0.084	-0.111	8.92	74.33
Q15	11.2	11.2	-0.199	-0.464	9.95	82.92
Q16	11.6	11.6	0.086	-0.242	9.94	82.83
Q17	12.8	12.8	-0.019	-0.061	9.81	81.75
Q18	13.8	13.8	-0.237	-0.278	9.88	82.33
Q19	14.8	14.8	-0.254	-0.049	9.70	80.83
Q20	15.8	15.8	-0.168	0.184	9.77	81.42
Q21	16.8	16.8	-0.229	0.109	9.77	81.42
Q22	18	18	0.130	0.248	9.67	80.58
Q23	19	19	0.144	0.372	9.69	80.75
Q24	20	20	0.204	0.450	9.60	80.00
Q25	21	21	0.259	0.439	9.61	80.08
Q26	26	26 N/A	N/A		9.24	77.00
Q27	23	23	0.325	0.503	9.59	79.92
Q28	24	24	0.376	0.827	9.52	79.33
Q29	25	25	0.452	0.713	9.62	80.17
Q30	26	26	0.477	0.978	9.97	83.08
M0100	1	26.5	0.408	-1.128	8.88	74.00
M0110	1.1	26.6	0.361	-1.048	9.44	78.67
M0120	1.2	26.7	0.244	-1.347	9.54	79.47
M0130	1.3	26.8	0.557	-1.089	9.39	78.25
M0140	1.4	26.9	0.321	-1.48	9.49	79.08
M0150	1.5	27	0.348	-2.694	9.33	77.75
M0160	1.6	27.1	0.657	-1.169	9.21	76.75
M0170	1.7	27.2	0.677	-1.248	9.04	75.32
M0180	1.8	27.3	0.827	-1.43	8.94	74.48
M0190	1.9	27.4	0.797	-1.301	9.05	75.44
M0200	2	27.5	0.734	-1.23	8.49	70.75
M0210	2.1	27.6	0.789	-1.205	8.99	74.89
M0220	2.2	27.7	0.78	-1.435	8.92	74.30
M0230	2.3	27.8	0.798	-1.245	9.12	75.96
M0240	2.4	27.9	0.667	-1.495	9.22	76.85
M0250	2.5	28	0.833	-1.334	8.64	71.99
M0260	2.6	28.1	0.833	-1.179	8.67	72.24
M0270	2.7	28.2	0.685	-1.362	8.80	73.33
M0280	2.8	28.3	0.873	-1.089	8.47	70.58
M0290	2.9	28.4	0.733	-1.346	8.93	74.44
M0300	3	28.5	0.928	-1.011	8.29	69.08
M0310	3.1	28.6	0.946	-1.272	8.54	71.19
M0320	3.2	28.7	0.712	-1.511	9.24	76.98
M0330	3.3	28.8	0.77	-1.194	8.69	72.45
M0340	3.4	28.9	0.772	-1.248	8.56	71.33
M0350	3.5	29	0.932	-1.078	8.37	69.75
M0360	3.6	29.1	0.821	-1.056	8.66	72.13
M0370	3.7	29.2	0.937	-1.061	8.46	70.47
M0380	3.8	29.3	0.648	-1.4	9.24	76.97
M0390	3.9	29.4	0.564	-2.45	8.90	74.17
M0400	4	29.5	0.997	-0.915	8.70	72.53
M0410	4.1	29.6	0.985	-0.917	8.56	71.36
M0420	4.2	29.7	0.889	-0.896	8.53	71.12
M0430	4.3	29.8	0.817	-1.089	8.45	70.44
M0440	4.4	29.9	0.926	-1.049	8.74	72.87
M0450	4.5	30	0.772	-1.171	8.62	71.86
M0460	4.6	30.1	0.7	-1.174	7.74	64.49
M0470	4.7	30.2	0.796	-1.246	8.51	70.95
M0480	4.8	30.3	0.837	-1.139	8.22	68.49
M0490	4.9	30.4	0.857	-1.003	8.26	68.80
M0500	5	30.5	0.832	-0.959	8.19	68.22
M0510	5.1	30.6	0.907	-0.821	8.56	71.36
M0520	5.2	30.7	0.832	-0.929	8.38	69.83
M0530	5.3	30.8	0.188	-1.439	9.25	77.09
M0540	5.4	30.9	0.222	-1.39	8.80	73.37
M0550	5.5	31	0.776	-1.008	7.53	62.76
M0560	5.6	31.1	0.786	-1.039	8.49	70.74
M0570	5.7	31.2	0.935	-0.931	8.33	69.45
M0580	5.8	31.3	0.83	-0.877	7.30	60.80
M0590	5.9	31.4	0.899	-0.703	7.02	58.46
M0600	6	31.5	1.009	-0.671	7.41	61.78
M0610	6.1	31.6	1.065	-0.771	7.49	62.45
M0620	6.2	31.7	1.125	-0.826	7.89	65.72
M0630	6.3	31.8	1.116	-0.788	7.53	62.75

M0710	7.1	32.6	0.748	-0.282	6.13	51.04
M0720	7.2	32.7	0.691	-0.131	6.10	50.81
M0730	7.3	32.8	0.696	-0.282	6.46	53.83
M0740	7.4	32.9	0.668	-0.205	5.19	43.23
M0750	7.5	33	0.744	-0.013	5.40	44.99
M0760	7.6	33.1	0.654	-0.051	5.00	41.68
M0770	7.7	33.2	0.843	-0.527	6.17	51.38
M0780	7.8	33.3	0.93	-0.522	6.35	52.94
M0790	7.9	33.4	0.918	-0.542	6.15	51.29
M0800	8	33.5	0.893	-0.426	6.18	51.52
M0810	8.1	33.6	0.875	-0.5	5.95	49.60
M0820	8.2	33.7	0.804	-0.204	5.71	47.55
M0830	8.3	33.8	0.827	-0.004	5.67	47.21
M0840	8.4	33.9	0.861	-0.319	5.64	46.97
M0850	8.5	34	0.781	-0.192	5.78	48.13
M0860	8.6	34.1	0.467	-0.567	6.44	53.69
M0870	8.7	34.2	0.486	-0.195	6.73	56.05
M0880	8.8	34.3	0.435	-0.444	7.45	62.05
M0890	8.9	34.4	0.54	-0.166	6.69	55.75
M0900	9	34.5	0.93	-0.424	5.93	49.43
M0910	9.1	34.6	0.865	-0.239	5.71	47.62
M0920	9.2	34.7	0.675	-0.15	5.37	44.72
M0930	9.3	34.8	0.726	-0.056	4.99	41.55
M0940	9.4	34.9	0.706	-0.011	5.06	42.14
M0950	9.5	35	0.7	0.019	4.98	41.47
M0960	9.6	35.1	0.804	-0.123	4.87	40.62
M0970	9.7	35.2	0.644	-0.401	5.15	42.92
M0980	9.8	35.3	0.61	0.019	4.79	39.92
M0990	9.9	35.4	0.643	-0.163	4.93	41.08
M1000	10	35.5	0.657	-0.093	4.99	41.58
M1010	10.1	35.6	0.717	-0.149	4.66	38.85
M1020	10.2	35.7	0.82	0.378	4.66	38.85
M1030	10.3	35.8	0.322	-1.321	9.26	77.14
M1040	10.4	35.9	0.591	-1.035	8.66	72.17
M1050	10.5	36	0.631	-0.83	8.35	69.61
M1060	10.6	36.1	0.616	-0.783	8.05	67.06
M1070	10.7	36.2	0.587	-0.781	7.94	66.19
M1080	10.8	36.3	0.512	-0.885	8.00	66.64
M1090	10.9	36.4	0.437	-0.937	7.68	63.98
M1100	11	36.5	0.379	-0.846	7.53	62.75
M1110	11.1	36.6	0.414	-0.821	7.42	61.82
M1120	11.2	36.7	-0.893	-1.58	9.22	76.83
M1130	11.3	36.8	-0.124	-1.116	8.09	67.38
M1140	11.4	36.9	-0.301	-1.11	8.14	67.80
M1150	11.5	37	-0.068	-0.808	8.03	66.93
M1160	11.6	37.1	-0.009	-0.713	8.21	68.44
M1170	11.7	37.2	-0.301	-1.251	9.21	76.75
M1180	11.8	37.3	0.145	-0.834	7.91	65.88
M1190	11.9	37.4	-0.518	-1.241	8.59	71.62
M1200	12	37.5	0.177	-0.925	8.13	67.77
M1210	12.1	37.6	0.257	-0.894	8.08	67.37
M1220	12.2	37.7	0.131	-0.864	8.52	70.99
M1230	12.3	37.8	-0.182	-1.118	8.87	73.94
M1240	12.4	37.9	-0.029	-0.972	8.51	70.93
M1250	12.5	38	0.029	-0.95	8.64	72.01
M1260	12.6	38.1	0.15	-1.873	8.28	68.98
M1270	12.7	38.2	0.091	-0.963	8.56	71.37
M1280	12.8	38.3	-0.753	-1.376	8.99	74.92
M1290	12.9	38.4	-0.274	-1.029	7.59	63.25
M1300	13	38.5	-0.344	-0.976	7.41	61.78
M1310	13.1	38.6	-0.454	-1.011	7.53	62.71
M1320	13.2	38.7	-0.77	-1.237	7.79	64.90
M1330	13.3	38.8	-0.885	-1.372	8.17	68.12
M1340	13.4	38.9	-1.104	-1.624	8.42	70.17
M1350	13.5	39	-0.458	-1.099	7.83	65.25
M1360	13.6	39.1	-0.676	-1.368	9.37	78.09
M1370	13.7	39.2	-0.574	-1.187	9.60	80.02
M1380	13.8	39.3	-0.384	-1.146	9.38	78.13
M1390	13.9	39.4	-0.447	-1.252	9.53	79.43
M1400	14	39.5	-0.156	-0.615	8.79	73.24
M1410	14.1	39.6	-0.236	-1.145	9.40	78.33
M1420	14.2	39.7	-0.071	-1.3	9.10	75.82
M1430	14.3	39.8	-0.159	-1.115	9.63	80.23
M1440	14.4	39.9	-0.091	-1.045	8.70	72.53
M1450	14.5	40	-0.207	-1.219	8.91	74.25
M1460	14.6	40.1	-0.187	-0.995	9.41	78.40
M1470	14.7	40.2	-0.207	-1.189	8.90	74.19
M1480	14.8	40.3	-0.002	-1.11	8.87	73.96
M1490	14.9	40.4	-0.058	-1.091	8.86	73.83

M1570	15.7	41.2	-0.272	-1.135	8.59	71.61
M1580	15.8	41.3	-0.23	-1.081	8.44	70.31
M1590	15.9	41.4	-0.103	-1.065	8.70	72.48
M1600	16	41.5 N/A	N/A		8.24	68.69
M 1610	16.1	41.6 N/A	N/A		8.56	71.35
M 1620	16.2	41.7 N/A	N/A		8.21	68.38
M1630	16.3	41.8	0.04	-0.937	8.32	69.35
M1640	16.4	41.9	-0.082	-0.993	8.12	67.63
M1650	16.5	42	0.034	-0.908	8.09	67.42
M1660	16.6	42.1	0.021	-0.888	8.08	67.32
M1670	16.7	42.2	0.193	-0.818	7.77	64.73
M1680	16.8	42.3	0.267	-0.829	7.77	64.74
M1690	16.9	42.4	0.097	-0.772	7.83	65.28
M1700	17	42.5	0.31	-0.749	8.19	68.27
M1710	17.1	42.6	0.444	-0.674	8.04	67.03
M1720	17.2	42.7	0.61	-0.632	7.84	65.33
M1730	17.3	42.8	0.292	-1.141	8.56	71.36
M1740	17.4	42.9	0.75	-0.114	3.81	31.77
M1750	17.5	43	0.796	-0.232	4.07	33.94
M1760	17.6	43.1	0.753	-0.149	4.03	33.56
M1770	17.7	43.2	0.815	-0.076	3.49	29.07
M1780	17.8	43.3	0.832	0.092	3.13	26.08
M1790	17.9	43.4	0.882	0.079	3.17	26.39
M1800	18	43.5	0.958	0.003	2.91	24.27
M1810	18.1	43.6	1.112	0.231	2.89	24.08
M1820	18.2	43.7	0.933	-0.137	3.54	29.51
M1830	18.3	43.8	1.154	0.29	1.90	15.85
M1840	18.4	43.9	1.04	0.212	1.66	13.84
M1850	18.5	44	1.117	0.371	1.41	11.75
M1860	18.6	44.1	0.966	0.329	1.49	12.46
M1870	18.7	44.2	0.97	0.328	2.26	18.85
M1880	18.8	44.3	0.605	0.091	2.07	17.25
M1890	18.9	44.4	0.759	0.386	1.91	15.93
M1900	19	44.5	0.888	-0.373	7.13	59.39
M1910	19.1	44.6	0.854	-0.168	5.16	42.98
M1920	19.2	44.7	0.963	-0.13	4.17	34.75
M1930	19.3	44.8	0.94	0.243	2.64	21.99
M1940	19.4	44.9	1.028	0.307	2.66	22.17
M1950	19.5	45	1.095	0.497	2.58	21.52
M1960	19.6	45.1	1.066	0.356	3.89	32.45
M1970	19.7	45.2	0.915	-0.069	4.25	35.45
M1980	19.8	45.3	0.569	0.062	3.50	29.20
M1990	19.9	45.4	0.861	0.261	3.54	29.53
M2000	20	45.5	0.853	-0.060	4.66	38.83
M2010	20.1	45.6	0.860	0.209	4.68	39.02
M2020	20.2	45.7	0.989	0.157	5.01	41.75
M2030	20.3	45.8	1.080	0.012	3.84	31.97
M2040	20.4	45.9	1.259	-0.130	5.17	43.05
M2050	20.5	46	1.397	-0.103	3.14	26.13
M2060	20.6	46.1	1.328	0.408	2.13	17.76
M2070	20.7	46.2	1.190	0.290	1.80	15.01
M2080	20.8	46.3	1.234	0.361	1.44	11.99
M2090	20.9	46.4	1.122	0.802	1.63	13.58
M2100	21	46.5	1.247	0.380	1.87	15.57
M2110	21.1	46.6	1.417	0.838	1.97	16.43
M2120	21.2	46.7	1.346	0.603	2.10	17.52
M2130	21.3	46.8	1.354	0.906	2.11	17.56
M2140	21.4	46.9	1.437	0.846	2.23	18.62
M2150	21.5	47	1.453	0.717	2.27	18.90
M2160	21.6	47.1	1.261	0.923	1.91	15.93
M2170	21.7	47.2	1.086	0.623	1.73	14.39
M2180	21.8	47.3	0.862	0.104	1.71	14.25
M2190	21.9	47.4	1.134	0.115	2.02	16.81
M2200	22	47.5	0.977	0.392	1.95	16.22
M2210	22.1	47.6	0.613	-0.324	4.22	35.20
M2220	22.2	47.7	0.460	-0.304	4.53	37.72
M2230	22.3	47.8	0.629	-0.523	3.80	31.69
M2240	22.4	47.9	1.041	-0.378	2.47	20.59
M2250	22.5	48	0.872	0.263	2.03	16.90
M2260	22.6	48.1	0.600	0.232	1.95	16.26
M2270	22.7	48.2	0.778	-0.203	1.75	14.60
M2280	22.8	48.3	0.790	-0.073	1.92	15.97
M2290	22.9	48.4	1.128	-0.725	3.31	27.59
M2300	23	48.5	0.849	-0.033	2.15	17.92
M2310	23.1	48.6	0.262	-0.424	2.41	20.09
M2320	23.2	48.7	0.166	-0.188	2.15	17.94
M2330	23.3	48.8	0.390	-0.357	2.07	17.26
M2340	23.4	48.9	0.798	0.094	2.39	19.92
M2350	23.5	49	0.744	-0.450	2.52	21.01

M2430	24.3	49.8	0.868	-0.050	2.46	20.48
M2440	24.4	49.9	0.877	-0.139	2.27	18.93
M2450	24.5	50	0.623	0.009	1.51	12.54
M2460	24.6	50.1	0.582	0.172	1.62	13.48
M2470	24.7	50.2	0.652	0.129	1.71	14.23
M2480	24.8	50.3	0.811	0.034	1.83	15.27
M2490	24.9	50.4	0.889	-0.520	2.85	23.77
M2500	25	50.5	0.753	-0.434	2.10	17.47
M2510	25.1	50.6	0.830	-0.587	2.38	19.85
M2520	25.2	50.7	-0.067	-0.185	1.18	9.84
M2530	25.3	50.8	-0.255	-0.409	1.01	8.43
M2540	25.4	50.9	0.059	-0.542	1.72	14.35
M2550	25.5	51	0.037	-0.382	1.65	13.72
M2560	25.6	51.1	0.090	-0.749	1.64	13.68
M2570	25.7	51.2	0.197	-0.553	2.23	18.60
M2580	25.8	51.3	0.324	-0.299	4.88	40.68
M2590	25.9	51.4	0.331	-0.103	4.27	35.55
M2600	26	51.5	0.256	-0.041	4.09	34.06
M2610	26.1	51.6	0.296	-0.047	4.13	34.45
M2620	26.2	51.7	0.419	0.201	3.58	29.79
M2630	26.3	51.8	0.399	0.182	2.43	20.27
M2640	26.4	51.9	0.488	0.086	2.60	21.66
M2650	26.5	52	0.435	-0.336	2.99	24.94
M2660	26.6	52.1	1.136	-0.315	N/A	N/A
M2670	26.7	52.2	0.977	0.124	2.74	22.84
M2680	26.8	52.3	1.078	0.067	2.86	23.87
M2690	26.9	52.4	0.647	0.005	1.71	14.24
M2700	27	52.5	0.688	-0.022	1.73	14.41
M2710	27.1	52.6	0.451	-0.086	1.21	10.07
M2720	27.2	52.7	0.409	-0.074	1.44	12.00
M2730	27.3	52.8	0.352	-0.207	1.29	10.76
M2740	27.4	52.9	0.728	-0.470	7.31	60.89
M2750	27.5	53	0.457	-0.299	7.51	62.55
M2760	27.6	53.1	0.600	0.126	5.11	42.60
M2770	27.7	53.2	0.965	0.609	3.95	32.95
M2780	27.8	53.3	0.880	0.729	3.67	30.59
M2790	27.9	53.4	0.627	0.616	4.04	33.70
M2800	28	53.5	0.741	0.480	4.17	34.79
M2810	28.1	53.6	0.745	0.573	4.35	36.28
M2820	28.2	53.7	0.483	0.463	4.23	35.22
M2830	28.3	53.8	0.550	0.544	4.28	35.64
M2840	28.4	53.9	0.569	0.375	4.81	40.12
M2850	28.5	54	0.592	0.491	4.44	36.98
M2860	28.6	54.1	0.313	0.280	4.42	36.85
M2870	28.7	54.2	0.697	<b>1.279</b>	4.31	35.96
M2880	28.8	54.3	-0.045	0.434	4.30	35.80
M2890	28.9	54.4	-0.093	0.270	4.55	37.89
M2900	29	54.5	0.131	0.288	4.55	37.89
M2910	29.1	54.6	0.176	0.166	4.73	39.45
M2920	29.2	54.7	1.018	-0.063	5.20	43.32
M2930	29.3	54.8	0.446	0.084	5.57	46.40
M2940	29.4	54.9	0.496	0.176	5.61	46.79
M2950	29.5	55	0.475	0.316	5.18	43.20
M2960	29.6	55.1	0.780	0.302	4.01	33.45
M2970	29.7	55.2	0.636	0.257	3.00	24.98
M2980	29.8	55.3	N/A	N/A	2.31	19.25
M2990	29.9	55.4	0.771	0.298	2.60	21.65
M3000	30	55.5	0.815	0.515	2.56	21.34
M3010	30.1	55.6	0.688	0.470	2.51	20.92
M3020	30.2	55.7	0.383	0.300	2.96	24.64
M3030	30.3	55.8	0.428	0.231	2.89	24.04
M3040	30.4	55.9	0.594	0.409	2.92	24.35
M3050	30.5	56	0.794	0.297	2.96	24.65
M3060	30.6	56.1	1.053	0.449	2.19	18.26
M3070	30.7	56.2	0.765	0.504	2.29	19.08
M3080	30.8	56.3	0.602	0.348	2.65	22.04
M3090	30.9	56.4	0.586	0.101	2.93	24.39
M3100	31	56.5	0.137	-0.022	3.35	27.93
M3110	31.1	56.6	0.415	-0.065	2.58	21.52
M3120	31.2	56.7	0.306	0.143	2.59	21.58
M3130	31.3	56.8	0.447	-0.129	1.57	13.07
M3140	31.4	56.9	0.324	-0.030	1.47	12.28
M3150	31.5	57	0.392	0.051	1.44	12.02
M3160	31.6	57.1	0.482	0.006	1.51	12.59
M3170	31.7	57.2	0.820	0.436	1.38	11.51
M3180	31.8	57.3	0.568	0.252	1.43	11.88
M3190	31.9	57.4	0.646	-0.004	1.78	14.84
M3200	32	57.5	0.752	0.135	1.79	14.93
M3210	32.1	57.6	0.814	-0.017	2.14	17.87

X0630	6.3	58.4	0.726	0.271	3.03	25.27
X0640	6.4	58.5	0.668	0.332	3.00	25.04
X0650	6.5	58.6	0.306	-0.036	3.50	29.21
X0660	6.6	58.7	0.499	0.236	3.44	28.67
X0670	6.7	58.8	0.617	0.394	4.07	33.92
X0680	6.8	58.9	0.814	0.759	3.12	26.03
X0690	6.9	59	1.6	<b>2.928</b>	2.60	21.69
X0700	7	59.1	0.448	0.833	2.46	20.50
X0710	7.1	59.2	0.525	0.919	2.74	22.84
X0720	7.2	59.3	0.545	0.576	3.14	26.15
X0730	7.3	59.4	0.362	0.154	4.41	36.76
X0740	7.4	59.5	0.193	0.023	4.42	36.80
X0750	7.5	59.6	0.044	0.032	4.58	38.13
X0760	7.6	59.7	0.56	0.024	4.00	33.35
X0770	7.7	59.8	0.543	-0.07	3.53	29.41
X0780	7.8	59.9	0.262	0.295	2.90	24.18
X0790	7.9	60	0.572	0.322	2.61	21.76
X0800	8	60.1	0.486	0.428	2.24	18.66
X0810	8.1	60.2	0.395	0.4	2.02	16.84
X0820	8.2	60.3	-0.137	0.935	2.10	17.51
X0830	8.3	60.4	0.835	-0.105	2.10	17.49
X0840	8.4	60.5	0.666	0.198	1.78	14.85
X0850	8.5	60.6	0.624	-0.013	1.69	14.07
X0860	8.6	60.7	0.9	-0.12	1.52	12.68
X0870	8.7	60.8	0.539	-0.153	2.39	19.89
X0880	8.8	60.9	0.347	-0.036	1.99	16.58
X0890	8.9	61	0.271	-0.121	2.07	17.22
X0900	9	61.1	0.289	-0.051	2.04	16.96
X0910	9.1	61.2	0.202	-0.018	2.09	17.43
X0920	9.2	61.3	-0.18	-0.337	2.30	19.17
X0930	9.3	61.4	0.215	-0.169	2.76	23.03
X0940	9.4	61.5	1.184	<b>4.389</b>	2.89	24.10
X0950	9.5	61.6	0.616	0.348	2.30	19.18
X0960	9.6	61.7	0.366	0.121	2.50	20.81
X0970	9.7	61.8	0.368	0.243	2.39	19.88
X0980	9.8	61.9	0.787	0.543	2.42	20.18
X0990	9.9	62	0.759	0.635	2.67	22.23
X1000	10	62.1	0.5	0.406	2.31	19.25
X1010	10.1	62.2	0.357	0.099	2.10	17.46
X1020	10.2	62.3	0.42	-0.049	2.03	16.92
X1030	10.3	62.4 N/A	N/A		2.12	17.67
X1040	10.4	62.5	0.731	0.388	2.10	17.51
X1050	10.5	62.6	0.634	0.75	1.85	15.40
X1060	10.6	62.7	0.729	0.734	2.01	16.71
X1070	10.7	62.8	0.575	0.711	1.91	15.93
X1080	10.8	62.9	0.826	0.9	1.39	11.60
X1090	10.9	63	0.254	0.046	1.51	12.55
X1100	11	63.1	0.527	0.73	1.23	10.21
X1110	11.1	63.2	0.458	0.624	1.24	10.35
X1120	11.2	63.3 N/A	N/A		1.21	10.05
X1130	11.3	63.4 N/A	N/A		1.18	9.84
X1140	11.4	63.5	0.854	0.598	1.24	10.34
X1150	11.5	63.6	0.881	0.634	1.43	11.89
X1160	11.6	63.7	0.92	0.488	1.47	12.26
X1170	11.7	63.8	0.632	0.49	1.47	12.26
X1180	11.8	63.9	1.215	0.703	1.40	11.64
X1190	11.9	64 N/A	N/A		1.36	11.35
X1200	12	64.1	0.474	0	1.27	10.61
X1210	12.1	64.2	0.606	0.172	1.29	10.71
X1220	12.2	64.3	1.112	0.718	1.20	10.01
X1230	12.3	64.4	0.645	0.423	1.25	10.38
X1240	12.4	64.5	0.848	0.404	1.65	13.78
X1250	12.5	64.6	0.743	0.324	1.71	14.26
X1260	12.6	64.7	0.62	-0.01	1.50	12.53
X1270	12.7	64.8	0.61	0.287	1.62	13.52
X1280	12.8	64.9	0.333	-0.274	1.62	13.54
X1290	12.9	65	0.231	0.366	1.87	15.62
X1300	13	65.1	0.562	0.64	1.99	16.59
X1310	13.1	65.2	-0.086	0.128	2.23	18.61
X1320	13.2	65.3	0.426	0.911	2.46	20.50
X1330	13.3	65.4	0.324	0.531	2.43	20.26
X1340	13.4	65.5 N/A	N/A		2.48	20.68
X1350	13.5	65.6	0.067	0.356	2.62	21.86
X1360	13.6	65.7	0.402	0.261	2.59	21.60
X1370	13.7	65.8	0.304	0.546	2.29	19.05
X1380	13.8	65.9	0.286	0.485	2.18	18.17
X1390	13.9	66	0.393	0.137	2.32	19.33
X1400	14	66.1	0.403	0.371	2.44	20.31
X1410	14.1	66.2	0.604	0.392	2.37	19.72

X1490	14.9	67	0.447	0.271	1.99	16.59
X1500	15	67.1	-0.095	-0.082	1.94	16.18
X1510	15.1	67.2	0.385	0.332	1.79	14.92
X1520	15.2	67.3	0.289	0.241	2.02	16.82
X1530	15.3	67.4	0.136	1.046	1.74	14.54
X1540	15.4	67.5	0.121	-0.215	1.55	12.93
X1550	15.5	67.6	0.159	-0.196	1.63	13.62
X1560	15.6	67.7	0.161	-0.28	N/A	N/A
X1570	15.7	67.8	0.323	0.05	1.58	13.17
X1580	15.8	67.9	0.207	-0.504	1.80	15.02
X1590	15.9	68	0.161	-0.122	2.21	18.44
X1600	16	68.1	0.398	0.558	2.60	21.64
X1610	16.1	68.2	0.604	0.469	2.32	19.36
X1620	16.2	68.3	0.299	0.452	2.09	17.41
X1630	16.3	68.4	0.608	0.521	1.79	14.93
X1640	16.4	68.5	0.289	-0.204	1.91	15.92
X1650	16.5	68.6	-0.05	-0.049	1.53	12.76
X1660	16.6	68.7	-0.015	-0.093	1.81	15.06
X1670	16.7	68.8	-0.288	-0.153	1.94	16.16
X1680	16.8	68.9	0.209	0.214	1.57	13.05
X1690	16.9	69	-0.265	-0.201	1.58	13.21
X1700	17	69.1	0.091	-0.123	1.51	12.56
X1710	17.1	69.2	-1.405	-0.642	1.96	16.34
X1720	17.2	69.3	-0.414	-0.092	1.40	11.67
X1730	17.3	69.4	0.239	0.276	1.58	13.21
X1740	17.4	69.5	0.239	0.276	1.60	13.35
X1750	17.5	69.6	N/A		1.86	15.54
X1760	17.6	69.7	-0.044	0.233	1.91	15.91
X1770	17.7	69.8	0.015	0.205	1.79	14.95
X1780	17.8	69.9	-0.058	0.239	1.86	15.52
X1790	17.9	70	-0.569	0.012	2.12	17.63
X1800	18	70.1	-0.31	0.219	2.18	18.18
X1810	18.1	70.2	-0.478	0.07	2.41	20.08
X1820	18.2	70.3	-0.238	0.172	2.21	18.43
X1830	18.3	70.4	-0.242	0.08	1.82	15.19
X1840	18.4	70.5	-0.399	-0.039	2.05	17.05
X1850	18.5	70.6	N/A		1.93	16.12
X1860	18.6	70.7	0.319	0.215	1.80	15.01
X1870	18.7	70.8	-0.342	-0.007	2.14	17.80
X1880	18.8	70.9	0.121	0.204	2.29	19.08
X1890	18.9	71	-0.045	0.144	2.46	20.51
X1900	19	71.1	-0.855	-0.071	2.87	23.95
X1910	19.1	71.2	-1.428	-0.222	2.35	19.59
X1920	19.2	71.3	-0.591	-0.139	2.79	23.26
X1930	19.3	71.4	0.231	0	2.06	17.19
X1940	19.4	71.5	0.355	0.247	1.84	15.29
X1950	19.5	71.6	-0.663	-0.201	2.13	17.74
X1960	19.6	71.7	0.377	0.348	1.96	16.34
X1970	19.7	71.8	0.094	0.236	2.54	21.19
X1980	19.8	71.9	0.277	0.502	2.59	21.60
X1990	19.9	72	-0.177	0.15	2.16	17.99
X2000	20	72.1	0.166	0.195	2.22	18.49
X2010	20.1	72.2	0.242	0.134	2.46	20.50
X2020	20.2	72.3	0.477	0.304	2.00	16.63
X2030	20.3	72.4	0.468	0.317	2.01	16.76
X2040	20.4	72.5	0.415	0.252	2.06	17.18
X2050	20.5	72.6	1.176	1.226	2.24	18.68
X2060	20.6	72.7	0.312	-0.077	1.28	10.70
X2070	20.7	72.8	-0.032	-0.053	0.95	7.94
X2080	20.8	72.9	-0.225	-0.159	2.03	16.93

**TABLE DR2: Mineralogy of the bulk-rock fraction**

**DR2A: XRD Bulk-rock data (raw data, values in CPS)**

Sample	Height (m)	Phyllo	Quartz	K-Felspar	Plagioclase	Calcite	Ankerite	Apatite	Kaol 24.98	Halite
Q1	1.80	0	0	0	0	4691.2	0	0	0	349.43
Q3	2.50	0	68.88	0	0	3891.4	99.2	0	0	76.67
Q5	3.70	0	0	0	0	4146.03	0	7.26	0	0
Q8	6.60	0	0	0	0	4652.22	0	18.39	0	96.5
Q9	8.80	0	0	0	0	4369.18	0	13.72	0	486.67
Q10	9.70	9.8	0	0	0	2976.27	0	542.22	0	188.38
Q14	10.70	53.12	401.1	0	0	4802.07	240.17	6.57	0	0
Q16	11.60	11.01	71.38	0	0	4117.47	149.65	35.75	0	0
Q17	12.80	21.76	141.1	0	0	4504.32	579.57	14.98	0	0
Q18	13.80	17.89	251.67	0	0	4113.35	612.38	20.92	0	0
Q19	14.80	26.32	241.67	0	0	4568.2	693.18	6.68	0	0
Q20	15.80	20.42	176.67	0	0	3995.27	707.65	19.71	0	132.7
Q21	16.80	28.97	254.43	0	0	4507.13	835.1	11.23	0	0
Q22	18.00	17.61	114.18	0	0	3823.42	0	22.01	0	107.1
Q23	19.00	26.57	116.1	0	0	4454.08	813.67	34.09	0	0
Q25	21.00	27.85	75	0	0	4301.32	978.02	14.84	0	0
Q27	23.00	28.93	134.43	0	0	3929.62	1532.18	23.66	0	258.88
Q28	24.00	23.98	81.67	0	0	3442.02	1354.92	71.63	0	115.72
Q30	26.00	28.41	158.88	0	0	3146.33	2053.82	117.12	0	121.9
Q31	26.40	12.19	174.35	0	0	2881.4	0	409.57	0	54.25
Q32	26.59	27.66	291.67	0	0	4464.25	96.67	93.55	0	92.77
Q35	27.60	43.42	372.77	0	0	4423.57	106.67	20.07	0	181.1
Q39	28.80	31.19	432.07	0	0	3856.77	64.37	8.59	0	240
Q40	29.18	50.28	373.8	0	0	4721.55	126.35	14.04	0	371.67
Q42	30.00	23.11	261.98	0	0	3557.42	0	12.44	0	262.3
Q44	31.20	81.37	365.97	118.35	0	2608.82	85.53	43.01	0	1263.72
Q48	32.64	63.97	846.2	0	0	3210.48	131.35	51.43	56	1310.35
Q51	33.55	52.93	608.72	203.13	0	2808.33	166.72	98.88	80.55	2104.63
Q53	34.18	62.03	820.43	0	0	2637.17	74.43	60	89.52	1222.08
Q55	34.80	41.82	1116.16	0	0	3585.88	163.88	9.15	0	112.77
Q57	35.42	39.5	714.43	0	0	4483.93	103.58	8.43	0	0
Q58	35.71	36.95	436.68	0	0	4447.7	154.82	11.47	0	171.1
Q59	36.00	30.12	555	0	0	4692.6	163.83	7.83	0	224.43
Q62	37.06	34.31	431.2	0	0	4213.55	122.28	0	0	264.43
Q65	37.97	33.7	429.72	0	0	3824.32	168.53	11.35	0	97.22
Q67	38.64	16.52	401.1	0	0	5026.42	110.58	17.1	0	120.1
Q70	40.08	15.5	385.82	0	0	3867.48	187.77	50.17	0	0
Q73	41.42	25.23	608.82	0	0	4314.7	0	3	0	106.62
M1700	42.50	0	959.2	0	0	3997.95	0	0	0	270
Q77	42.72	39.97	578.5	0	0	4191.17	0	11.34	0	133.65
M1800	43.50	78.7	567.1	46.1	0	1206.17	49.92	0	99.45	283.35
M1900	44.50	50.55	872.17	0	0	3456.78	63.88	0	0	171.7
M2000	45.50	70.92	1410.55	0	0	2257.75	0	0	77.12	152.77
M2100	46.50	107.92	1225.47	0	46.67	1193.82	0	0	139.32	94.43
M2200	47.50	116.1	1378.88	0	62.22	1828.88	0	0	0	0
M2300	48.50	97.23	187.87	0	0	1390.33	0	0	0	187.78
M2400	49.50	102.55	1016.18	0	0	1303.9	0	0	0	130.05
M2500	50.50	100.38	184.57	0	0	1179.57	0	0	0	190
M2600	51.50	74.43	759.13	0	0	1489.47	0	0	0	111.03
M2700	52.50	98.23	937.47	107.63	0	832.13	0	0	0	139.22
X0000	52.90	75.63	774.77	0	0	2194.05	0	0	0	61.95
X0100	53.90	70	607.38	0	0	1990.1	0	0	0	152.83
X0200	54.90	53.65	1172.45	0	0	1963.95	0	0	0	99.97
X0300	55.90	113.88	937.77	35.55	0	1190.05	0	0	0	159.38
X0400	56.90	86.5	1136.13	94.85	0	1646.17	0	0	0	112.22
X0500	57.90	108.33	1140.53	39.43	60.08	844.72	0	0	0	208.58
X0600	58.10	123.38	1328.05	65	0	277.9	0	0	0	389.43
X0700	59.10	102.77	1143.33	98.33	0	1383.07	0	0	0	739.43
X0800	60.10	107.6	1602.43	0	0	1365.43	0	0	0	124.33
X0900	61.10	115	865.8	0	0	1221.67	0	0	0	191.13
X1000	62.10	101.67	1292.77	0	0	1281.83	0	0	0	138.88
X1100	63.10	118.82	1060.32	0	0	859.43	0	0	0	390.55
X1200	64.10	132.22	945.68	0	40.55	800.17	0	0	0	282.22
X1300	65.10	103.57	1286.38	37.22	0	1308.9	0	0	0	381.4
X1400	66.10	118.88	898	0	0	1556.82	0	0	0	270
X1600	68.10	82.83	968.45	51.67	0	1759.97	0	0	0	203.88
X1700	69.10	129.05	1243.87	0	0	965	0	0	0	278.88
X1800	70.10	92.77	138.6	0	0	1023.92	0	0	0	144.12
X1900	71.10	89.73	1514.43	0	0	1480.4	0	0	0	158.33
X2000	72.10	86.13	1058.33	0	0	795.12	0	0	0	0
X2080	72.90	119.43	2234.6	0	0	1399.03	0	0	0	0

Samples	Height (m)	Phyllo (%)	Quartz (%)	K-Feldspar (%)	Plagioclase (%)	Calcite (%)	Ankéríte (%)	Ca-Apatite (%)
Q1	1.80	0.00	0.00	0.00	0.00	100.00	0.00	0.00
Q3	2.50	0.00	0.65	0.00	0.00	98.60	0.75	0.00
Q5	3.70	0.00	0.00	0.00	0.00	99.44	0.00	0.56
Q8	6.60	0.00	0.00	0.00	0.00	98.14	0.00	1.86
Q9	8.80	0.00	0.00	0.00	0.00	98.85	0.00	1.15
Q10	9.70	3.49	0.00	0.00	0.00	47.54	0.00	48.98
Q14	10.70	21.43	5.10	0.00	0.00	70.37	2.43	0.67
Q16	11.60	3.41	0.70	0.00	0.00	91.91	1.16	2.81
Q17	12.80	8.67	1.77	0.00	0.00	82.25	5.79	1.52
Q18	13.80	5.64	2.50	0.00	0.00	85.35	4.84	1.67
Q19	14.80	10.59	3.06	0.00	0.00	78.66	7.00	0.68
Q20	15.80	6.49	1.77	0.00	0.00	84.51	5.64	1.59
Q21	16.80	11.69	3.23	0.00	0.00	75.48	8.45	1.15
Q22	18.00	5.30	1.08	0.00	0.00	91.94	0.00	1.68
Q23	19.00	10.74	1.48	0.00	0.00	76.04	8.25	3.50
Q25	21.00	11.10	0.94	0.00	0.00	76.68	9.78	1.50
Q27	23.00	11.87	1.74	0.00	0.00	68.15	15.77	2.47
Q28	24.00	7.67	0.82	0.00	0.00	74.83	10.86	5.81
Q30	26.00	9.42	1.66	0.00	0.00	61.99	17.08	9.86
Q31	26.40	3.96	1.78	0.00	0.00	60.47	0.00	33.78
Q32	26.59	11.10	3.69	0.00	0.00	74.70	0.97	9.53
Q35	27.60	17.06	4.61	0.00	0.00	75.27	1.05	2.00
Q39	28.80	9.49	4.14	0.00	0.00	85.21	0.49	0.66
Q40	29.18	20.99	4.91	0.00	0.00	71.29	1.32	1.49
Q42	30.00	8.23	2.94	0.00	0.00	87.71	0.00	1.12
Q44	31.20	30.16	4.27	4.67	0.00	56.05	0.80	4.05
Q48	32.64	25.42	10.59	0.00	0.00	57.50	1.31	5.19
Q51	33.55	23.23	8.41	9.50	0.00	46.01	1.83	11.02
Q53	34.18	22.91	9.54	0.00	0.00	61.24	0.69	5.63
Q55	34.80	12.22	10.27	0.00	0.00	75.63	1.20	0.68
Q57	35.42	15.17	8.64	0.00	0.00	74.37	1.00	0.82
Q58	35.71	14.53	5.41	0.00	0.00	77.40	1.53	1.14
Q59	36.00	12.26	7.12	0.00	0.00	78.14	1.67	0.81
Q62	37.06	13.19	5.22	0.00	0.00	80.42	1.18	0.00
Q65	37.97	10.14	4.07	0.00	0.00	83.64	1.27	0.87
Q67	38.64	6.94	5.31	0.00	0.00	84.76	1.17	1.83
Q70	40.08	4.71	3.69	0.00	0.00	86.30	1.43	3.87
Q73	41.42	9.55	7.26	0.00	0.00	82.90	0.00	0.29
M1700	42.50	27.92	8.54	0.00	0.00	61.67	0.00	0.00
Q77	42.72	15.01	6.84	0.00	0.00	77.06	0.00	1.08
M1800	43.50	77.62	4.05	1.12	0.00	14.94	0.69	0.00
M1900	44.50	39.68	7.39	0.00	0.00	50.76	1.04	0.00
M2000	45.50	58.54	10.74	0.00	0.00	29.81	0.00	0.00
M2100	46.50	75.51	8.60	0.00	0.86	14.52	0.00	0.00
M2200	47.50	65.53	10.09	0.00	1.19	23.19	0.00	0.00
M2300	48.50	80.10	1.36	0.00	0.00	17.47	0.00	0.00
M2400	49.50	75.97	7.23	0.00	0.00	16.08	0.00	0.00
M2500	50.50	83.02	1.32	0.00	0.00	14.60	0.00	0.00
M2600	51.50	75.21	5.49	0.00	0.00	18.67	0.00	0.00
M2700	52.50	80.32	6.47	2.51	0.00	9.95	0.00	0.00
X0000	52.90	64.76	5.90	0.00	0.00	28.97	0.00	0.00
X0100	53.90	68.53	4.58	0.00	0.00	25.99	0.00	0.00
X0200	54.90	65.30	8.74	0.00	0.00	25.38	0.00	0.00
X0300	55.90	77.04	6.63	0.85	0.00	14.59	0.00	0.00
X0400	56.90	67.93	8.28	2.34	0.00	20.81	0.00	0.00
X0500	57.90	78.97	7.84	0.92	1.08	10.06	0.00	0.00
X0600	58.10	84.47	8.83	1.46	0.00	3.20	0.00	0.00
X0700	59.10	67.52	8.34	2.43	0.00	17.49	0.00	0.00
X0800	60.10	71.17	11.36	0.00	0.00	16.78	0.00	0.00
X0900	61.10	77.76	6.15	0.00	0.00	15.03	0.00	0.00
X1000	62.10	74.35	9.15	0.00	0.00	15.73	0.00	0.00
X1100	63.10	80.17	7.36	0.00	0.00	10.34	0.00	0.00
X1200	64.10	81.68	6.51	0.00	0.73	9.55	0.00	0.00
X1300	65.10	71.54	9.20	0.90	0.00	16.23	0.00	0.00
X1400	66.10	72.24	6.55	0.00	0.00	19.68	0.00	0.00
X1600	68.10	67.84	7.15	1.29	0.00	22.53	0.00	0.00
X1700	69.10	78.20	8.65	0.00	0.00	11.63	0.00	0.00
X1800	70.10	85.70	0.98	0.00	0.00	12.53	0.00	0.00
X1900	71.10	69.87	10.85	0.00	0.00	18.39	0.00	0.00
X2000	72.10	83.37	7.22	0.00	0.00	9.41	0.00	0.00
X2080	72.90	67.28	15.69	0.00	0.00	17.03	0.00	0.00



**TABLE DR3: Mineralogy of the fine-silt fraction (2-16 µm)**

**A) raw data in CPS**

Sample	Height (m)	M001	M002	M005	C002/K001	C004	K002	Zeolites	Quartz	K-Feldspar	Plagioclase
Q1	1.80	169.3	72.68	0	112.8	0	82.18	53.88	133.88	74.42	0
Q3	2.50	160.8	70	41.63	292.72	0	187.15	54.43	91.1	1627.22	0
Q5	3.70	191.92	63.23	30.4	213.67	43.33	146.32	0	66.67	652.77	105
Q8	6.60	259.43	40.55	0	67.22	18.34	55.35	0	68.33	335	55
Q9	8.80	203.88	63.88	0	70.55	33.33	10.38	0	0	134.93	71.67
Q10	9.70	183.35	80	34.95	96.67	26.67	58.33	76.1	84.43	250.55	66.1
Q14	10.70	112.08	77.22	0	112.08	17.87	82.18	0	133.88	74.42	0
Q16	11.60	183.77	71.1	45.5	40.55	11.47	18.5	26.1	185.95	422.88	0
Q17	12.80	275.93	0	0	0	13.13	3.23	0	91.1	110.55	40.55
Q18	13.80	89.43	0	0	0	0	0	0	105.42	91.17	35.52
Q19	14.80	40.55	138.15	66.85	40.55	66.6	24.74	0	414.28	683.37	220.08
Q20	15.80	197.22	59.03	37.22	0	0	0	33.88	221.83	268.88	93.88
Q21	16.80	235	103.15	60.85	0	29.12	0	0	213.88	236.02	116.1
Q22	18.00	0	0	0	0	5.96	5.26	84.43	0	0	0
Q23	19.00	120.27	68.88	0	0	9.7	8.13	7368.88	169.43	154.15	58.27
Q27	21.00	77.77	48.88	0	77.77	29.45	29.23	2503.77	182.77	173.88	84.63
Q29	23.00	68.33	48.05	0	0	1.15	13.37	699.28	101.67	46.1	0
Q30	26.00	63.33	18.88	0	92.73	20	69.43	43.88	78.38	80	30
Q31	26.40	351.17	165.55	91.08	258.45	55	194.78	185	237.55	334.52	118.38
Q32	26.59	284.88	137.67	32.77	284.88	19.07	218.91	433.88	344.43	256.62	71.33
Q35	27.60	413.88	203.88	56.1	1015.77	20.4	860.33	295	262.98	99.25	73.88
Q39	28.80	196.75	58.33	31.1	728.07	0	412.68	40.55	128.88	85	47.77
Q40	29.18	516.25	266.93	174.67	1436.52	89.6	1378.42	0	718.33	416.63	160
Q42	30.00	469.35	205.42	108.23	1459.3	95.83	1249.13	0	757.75	171.83	128.33
Q44	31.20	416.88	194.03	86.1	1341.23	71.53	1225.83	0	768.7	130.02	66.48
Q48	32.64	366.02	175.6	89.43	1394.5	118.78	942.36	0	536.67	137.15	47.22
Q51	33.55	323.23	108.23	56.12	1066.68	101.26	715.95	0	397.22	78.58	46.67
Q53	34.18	319.72	201.18	78.85	1165.17	107.55	1130.6	0	1013	170.55	113.33
Q55	34.80	516.25	266.93	0	1436.52	7.41	1378.42	0	718.33	414.3	160
Q57	35.42	409.17	148.02	63.88	1248.33	64.96	850.5	0	277.77	152.22	42.77
Q58	35.71	308.23	178.95	105.77	1258.25	116	971.08	0	936.23	151.92	102.9
Q59	36.00	315.58	175.37	80.4	1102.92	0	794.45	0	791.1	166.67	82.05
Q62	37.06	444.8	244.05	130.13	1468.5	119.53	1541.12	0	705.62	200.37	86.4
Q65	37.97	266.33	149.67	102.28	906.33	155	892.88	55.55	748.88	165.88	115.28
Q67	38.64	372.33	191.3	101.08	1069.28	124.18	767.49	0	868.33	312.75	188.88
Q70	40.08	238.78	126.8	81.53	704.53	172.22	658.68	60.95	631.1	177.58	75.67
Q73	41.42	484.08	173.62	78.98	1517.97	88.19	1137.6	0	358.68	95.35	39.43
M1700	42.50	267.95	110.05	48.88	960.63	68.33	703.32	0	283.3	114.43	0
M1800	43.50	418.38	182.87	64.27	1592.43	0	1207.32	60.55	492.28	242.77	82.22
M1900	44.50	355.85	180.98	146.1	1426.88	201.68	1255.2	53.88	468.88	221.1	83.8
M2000	45.50	372.57	144.77	67.22	1327.77	197.22	933.2	80	420.63	133.58	99.43
M2100	46.50	398.33	75	34.43	1079.18	29.43	645.45	30	43.33	59.43	52.22
M2200	47.50	468.63	147.92	100.92	1767.87	284.78	1348.35	0	373.88	145.4	78.88
M2300	48.50	463.48	177.9	84.62	1297.92	164.43	924.7	91.1	383.6	121.08	55.55
M2400	49.50	359.25	185.98	126.55	1379.07	183.33	1149.95	44.43	451.88	85.55	80
M2500	50.50	662.73	243.45	140.48	1487.22	189.33	1087.12	60.55	370.98	207.25	59.95
M2600	51.50	731.53	407.1	214.57	1246.83	171.62	925.98	0	822.77	583.37	280.1
M2700	52.50	886.1	293.4	185.97	2377.22	310.98	1892.88	157.22	513.33	211.82	114.43
X0000	52.90	468.03	138.98	103.88	1018.15	82.68	679.52	40.55	246.1	153.6	78.33
X0100	53.90	495.07	148.33	85.18	1120.05	124.8	786.1	40.55	275.9	132.7	61.67
X0200	54.90	950.02	389.02	243.12	883.17	140.55	648.77	0	653.33	461.57	233.48
X0300	55.90	757.1	238.95	143.02	1881.1	204.43	1203.48	0	469.43	206.67	82.88
X0400	56.90	566.77	139.3	61.32	866.93	99.62	451.17	0	420	142.12	98.88
X0500	57.90	287.68	82.33	65.55	727.37	79.43	405.3	0	182.15	43.88	46.1
X0600	58.10	1465.77	418.35	300.15	3203.88	345	2321.02	0	343.88	316.2	71.67
X0700	59.10	944.57	318.3	202.33	2299.17	129.97	2022	0	376.98	158.27	43.88
X0900	60.10	619.87	151.22	105.5	1574.63	215	1231.68	58.33	163.48	98.28	44.43
X1000	61.10	872.83	263.8	169.53	2040.62	252.77	1557.18	60.55	198.92	140.7	41.87
X1100	62.10	1336.83	426.47	305.08	2617.62	307.22	2116.57	69.43	353.02	270.72	136.1
X1200	63.10	1373.53	513.73	368.85	2821.1	97.77	2066.65	0	533.33	398.15	47.33
X1300	64.10	1081.57	415	295.27	2342.77	312.77	1875.63	0	446.67	266.1	96.08
X1400	65.10	1588.33	484.93	366.12	2767.8	271.1	2256.97	51.67	390.55	273.33	64.43
X1500	66.10	607.22	348.7	278.05	1691.33	258.82	1520	53.33	1277.63	633.15	206.78
X1600	68.10	1122.65	306	233.53	1981.82	210.55	1558.18	0	232.77	131.17	50.55
X1700	69.10	1614.45	591.93	346.08	1922.38	223.88	1423.63	39.43	533.88	413.02	53.12
X1800	70.10	1252.67	395.2	254.43	2937.93	257.22	2392.85	0	343.82	187.53	71.1
X2000	72.10	1433.57	471.62	251.6	1825.3	160.55	1308.02	42.22	911.1	966.1	243.33
X2080	72.90	1900.82	660.02	437.82	2810	223.88	2157.28	0	1513.33	1390.78	473.12

**B) Quantified data in relative %**

Sample	Height (m)	Mica (%)	Zeol. (%)	Kaol. (%)	Chlorite (%)	Kaol calc. (CPS)	Chlor. Calc. (CPS)
Q1	1.80	50.39	16.04	33.57	0.00	112.80	0.00
Q3	2.50	31.66	10.72	57.63	0.00	292.72	0.00
Q5	3.70	47.32	0.00	40.65	12.04	164.85	48.82
Q8	6.60	79.42	0.00	15.46	5.12	50.49	16.73
Q9	8.80	74.29	0.00	6.10	19.60	16.75	53.80
Q10	9.70	51.49	21.37	18.63	8.52	66.34	30.33
Q14	10.70	50.00	0.00	41.07	8.93	92.06	20.02
Q16	11.60	73.38	10.42	10.00	6.20	25.03	15.52
Q17	12.80	100.00	0.00	0.00	0.00	0.00	0.00
Q18	13.80	0.00	0.00	0.00	0.00	0.00	0.00
Q19	14.80	50.00	0.00	13.54	36.46	10.98	29.57
Q20	15.80	0.00	0.00	0.00	0.00	0.00	0.00
Q21	16.80	100.00	0.00	0.00	0.00	0.00	0.00
Q22	18.00	0.00	100.00	0.00	0.00	0.00	0.00
Q23	19.00	1.61	98.39	0.00	0.00	0.00	0.00
Q27	21.00	2.92	94.15	1.46	1.47	38.74	39.03
Q29	23.00	8.90	91.10	0.00	0.00	0.00	0.00
Q30	26.00	31.67	21.95	36.01	10.37	71.99	20.74
Q31	26.40	44.19	23.28	25.36	7.16	201.54	56.91
Q32	26.59	28.38	43.23	26.11	2.27	262.05	22.83
Q35	27.60	24.00	17.10	57.53	1.36	992.24	23.53
Q39	28.80	20.38	4.20	75.42	0.00	728.07	0.00
Q40	29.18	26.44	0.00	69.07	4.49	1348.84	87.68
Q42	30.00	24.34	0.00	70.27	5.39	1355.32	103.98
Q44	31.20	23.71	0.00	72.08	4.21	1267.28	73.95
Q48	32.64	20.79	0.00	70.34	8.87	1238.40	156.10
Q51	33.55	23.26	0.00	67.24	9.51	934.51	132.17
Q53	34.18	100.00	0.00	0.00	0.00	0.00	0.00
Q55	34.80	100.00	0.00	0.00	0.00	0.00	0.00
Q57	35.42	24.69	0.00	69.97	5.34	1159.75	88.58
Q58	35.71	19.68	0.00	71.75	8.57	1123.98	134.27
Q59	36.00	22.25	0.00	77.75	0.00	1102.92	0.00
Q62	37.06	23.25	0.00	71.23	5.52	1362.80	105.70
Q65	37.97	21.68	4.52	62.88	10.92	772.27	134.06
Q67	38.64	25.83	0.00	63.84	10.33	920.36	148.92
Q70	40.08	23.78	6.07	55.61	14.54	558.50	146.03
Q73	41.42	24.18	0.00	70.37	5.45	1408.76	109.21
M1700	42.50	21.81	0.00	71.27	6.92	875.57	85.06
M1800	43.50	20.20	2.92	76.88	0.00	1592.43	0.00
M1900	44.50	19.38	2.93	66.94	10.75	1229.35	197.53
M2000	45.50	20.93	4.49	61.57	13.01	1096.12	231.65
M2100	46.50	26.42	1.99	68.47	3.12	1032.12	47.06
M2200	47.50	20.95	0.00	65.26	13.78	1459.59	308.28
M2300	48.50	25.02	4.92	59.49	10.58	1101.97	195.95
M2400	49.50	20.15	2.49	66.72	10.64	1189.44	189.63
M2500	50.50	29.98	2.74	57.30	9.98	1266.63	220.59
M2600	51.50	36.98	0.00	53.17	9.85	1051.88	194.95
M2700	52.50	25.91	4.60	59.69	9.81	2041.78	335.44
X0000	52.90	30.66	2.66	59.45	7.23	907.71	110.44
X0100	53.90	29.90	2.45	58.38	9.27	966.59	153.46
X0200	54.90	51.82	0.00	39.60	8.58	725.91	157.26
X0300	55.90	28.70	0.00	60.95	10.35	1607.96	273.14
X0400	56.90	39.53	0.00	49.53	10.94	710.13	156.80
X0500	57.90	28.34	0.00	59.92	11.74	608.18	119.19
X0600	58.10	31.39	0.00	59.73	8.88	2789.28	414.60
X0700	59.10	29.12	0.00	66.60	4.28	2160.31	138.86
X0900	60.10	27.52	2.59	59.51	10.39	1340.61	234.02
X1000	61.10	29.35	2.04	59.03	9.58	1755.64	284.98
X1100	62.10	33.22	1.73	56.81	8.25	2285.83	331.79
X1200	63.10	32.74	0.00	64.22	3.04	2693.67	127.43
X1300	64.10	31.58	0.00	58.64	9.78	2007.94	334.83
X1400	65.10	36.03	1.17	56.06	6.73	2470.99	296.81
X1500	66.10	25.82	2.27	61.45	10.46	1445.24	246.09
X1600	68.10	36.16	0.00	56.24	7.60	1745.90	235.92
X1700	69.10	45.14	1.10	46.45	7.30	1661.15	261.23
X1800	70.10	29.89	0.00	63.30	6.80	2652.77	285.16
X2000	72.10	43.43	1.28	49.25	6.04	1625.75	199.55
X2080	72.90	40.35	0.00	54.04	5.61	2545.80	264.20

TABLE DR4: Mineralogy of the clay-sized fraction (<2µm)

A) Raw data (values in CPS)

Sample	Height	Composite Height	Smectites	M001	M002	M005	C001	C002/K001	C003	C004	K002	Palyg	Zeolites	Quartz
Q1	1.8	1.80	1974.43	247.22	156.4	75.88	1187.62	227.03	43.33	0	197.22	270.55	179.43	58.33
Q3	2.5	2.50	627.57	58.58	0	0	0	0	0	3.25	7.33	129.76	40.59	0
Q5	3.7	3.70	477	81.14	108.4	24.43	121.86	0	32.22	0	5.82	95.88	49.6	25
Q8	6.6	6.60	669.33	272.3	0	0	167.77	26.67	0	11.46	3.34	263.33	105.55	66.67
Q9	8.8	8.80	693.92	169.15	87.77	0	0	0	0	0	6.4	85.9	125.32	28.33
Q10	9.7	9.70	352.06	113.51	143.92	0	0	296.7	30.55	32.22	196.67	79.08	289.57	65.55
Q14	10.7	10.70	1159.24	373.74	305	41.67	992.22	588.88	47.77	21.07	405.03	417.56	112.22	142.77
Q16	11.6	11.60	396.67	445.14	369.97	82.22	0	1357.72	0	22.42	1046.83	92.13	95.74	111.57
Q17	12.8	12.80	1330	370.53	381.18	77.22	403.57	2178.88	69.43	117.12	1757.57	374	371.67	157.85
Q18	13.8	13.80	635.85	300.77	300	85.55	156.77	1579.65	0	139.49	1329.05	111.94	29.7	185.2
Q19	14.8	14.80	707.06	211.02	128.25	90	166.04	2046.67	52.22	170.01	1368.45	44.94	117.94	211.1
Q20	15.8	15.80	402.53	250.89	0	79.45	65.59	1618.45	76.1	120.66	1201.08	64.97	38.54	184.93
Q21	16.8	16.80	343.84	187.6	303.88	56.85	730	2427.15	76.1	195.76	1807.43	92.9	163.1	247.77
Q22	18	18.00	633.81	136.17	368.03	82.58	860.25	2542.77	87.77	275.74	1943.88	141.76	161.89	322.22
Q23	19	19.00	286.01	258.23	272.13	72.22	768.88	1896.85	0	327.97	421.67	0	82.22	86.32
Q25	21	21.00	0	118.73	282.22	66.65	536.67	1267.15	67.22	356.22	1568.28	26.16	52.56	155.5
Q27	23	23.00	531.72	134.99	242.77	61.67	754.32	1877.77	48.33	257.59	925.25	214.49	118.08	138.6
Q28	24	24.00	252.26	311.82	311.1	100.47	691.57	1997.5	44.43	138.7	1672.43	64.44	69.29	204.43
Q29	25	25.00	311.91	79.71	0	0	52.46	1855.55	0	138.7	1672.43	64.44	69.29	204.43
Q30	26	26.00	509.86	347.3	0	0	0	1863.73	146.21	0	1412.38	115.91	145.27	0
Q31	26.4	26.40	118.42	158.13	0	0	23.2	85.05	0	15.53	27.95	96.82	38.45	39.43
Q32	27.7	27.70	398.58	142.49	0	0	0	1636.7	0	120.81	1406.77	85.64	73.57	96.9
Q35	28.75	28.75	296.58	161	0	0	179.43	368.73	38.55	82.22	295.03	162.43	38.88	38.88
Q39	30	29.66	173.88	203.33	0	4.44	0	587.83	0	0	379.98	180.7	89.43	28.88
Q40	30.4	30.02	136.03	211.67	0	0	96.1	356.42	0	38.88	238.97	139.5	76.1	32.77
Q42	31.25	30.79	366.67	180.58	35.55	0	92.22	18.88	0	11.58	8.84	203.88	69.43	18.75
Q44	32.5	31.93	541.1	408.33	81.2	43.88	228.88	121.67	0	0	85.55	243.42	90.18	0
Q48	34	33.29	47.77	189.7	22.77	0	28.33	191.58	0	45.87	124.27	157.38	56.1	35.55
Q51	34.95	34.15	391.94	164.55	0	0	0	18.33	0	0	0	0	135	70
Q53	35.6	34.74	630	116.45	0	0	67.67	0	0	4.2	2.61	108.88	95	33.33
Q55	36.25	35.32	497.22	107.22	0	0	0	0	0	3.69	1.64	135	70	29
Q57	36.9	35.91	197.77	68.33	0	0	121.1	0	0	18.32	11.46	71.1	43.88	0
Q58	37.2	36.19	1351.67	148.88	64.43	31.43	0	31.52	0	1.82	14.56	182.22	195.73	33.33
Q59	37.5	36.46	1371.2	146.57	70.55	56.37	0	482.72	0	0	413.43	126.9	133.88	62.73
Q62	38.6	37.45	499.43	312.22	0	0	0	320.03	0	0	256.72	296.1	155.55	54.03
Q65	39.55	38.31	198.33	213.63	0	0	52.77	281.15	0	13.55	167.35	161.1	92.22	40.55
Q67	40.25	38.95	1063.33	148.68	0	0	315	1945.67	0	43.26	1500.24	94.84	214.46	139.47
Q70	41.75	40.31	955	416.1	0	0	0	1989.8	0	64.96	1465.83	353.88	278.88	104.97
Q73	43.15	41.58	670.12	412.77	0	0	337.9	1662.18	0	177.22	1350.88	286.1	231.18	152.77
M1700	17	42.5	527.22	373.33	96.67	28.88	196.27	1463.2	0	131	1023.82	309.43	0	46.67
Q77	44.5	42.80	523.33	410.17	0	0	0	1562.77	0	47.22	1192.62	393.33	346.03	83.38
M1800	18	43.5	596.1	475.23	218.33	0	0	2883.22	40.55	252.69	2364.37	245.83	0	97.68
M1900	19	44.5	615.58	382.33	155.65	37.77	420.12	1969.4	50	136.71	1143.33	227.22	246.67	26.28
M2000	20	45.5	384.43	354.5	231.1	65.55	373.68	2282.42	94.43	294.42	1752.85	266.27	272.77	97.77
M2100	21	46.5	681.67	583.78	147.72	74.88	375	3061.92	42.98	266.59	2324.3	153.64	92.77	58.88
M2200	22	47.5	512.68	504.43	221.85	68.88	327.68	2752.77	79.75	327.25	1981.67	336.1	318.88	105
M2300	23	48.5	384.25	457.77	236.42	88.88	407.22	2569.43	57.92	467.73	2423.33	81.61	66.67	98.55
M2400	24	49.5	646.35	466.67	218.17	0	443.33	2756.05	85	269.17	2134.13	238.79	0	108.52
M2500	25	50.5	256.67	536.87	202.22	75.55	289.43	2319.92	59.43	355.28	1524.06	461.67	85.35	111.05
M2600	26	51.5	452.22	458.33	143.33	46.1	248.33	1943.43	41.1	231.1	1337.5	333.02	205	108.77
M2700	27	52.5	282.22	437.77	218.33	111.5	265.55	2070.55	63.4	290.47	1807.12	347.95	125	94.45
X0000	27.4	307.22	432.65	0	0	0	182.8	1666.93	0	119.89	1071.03	176.81	0	0
X0100	28.4	53.9	0	400	153.88	45.8	263.33	1967.15	62.22	357.16	1515.63	225.96	70	89.03
X0200	29.4	54.9	206.1	294.18	138.88	37.87	171.1	1367.43	31.1	148.45	1112.22	152.02	43.88	108.67
X0400	31.4	56.9	436.67	450	189.1	110	270.55	2208.65	52.22	320.15	2058.52	107.24	203.67	123.86
X0500	32.4	57.9	496.67	562.77	187.22	103.5	287.77	2474.45	48.88	227.16	1954.17	305.19	47.77	107.68
X0600	33.4	58.1	351.01	426.67	197.85	49.68	0	2313.65	48.33	0	2142.55	122.14	68.88	130.63
X0700	34.4	59.1	538.33	339.74	157.5	79.37	179.57	3205	55.55	193.97	2836.59	198.77	83.33	101.27
X0800	35.4	60.1	637.22	436.67	0	0	297.22	2617.22	0	377.93	2035.17	139.09	0	0
X0900	36.4	61.1	225.55	714.43	170.65	77.6	475.55	2275.8	43.28	270.11	2432.53	191.15	77.77	128.88
X1000	37.4	62.1	396.1	340.15	156.7	0	230.07	1884.75	0	269.49	1679.25	163.73	68.88	102.98
X1100	38.4	63.1	236.1	548.33	178.52	146.72	119.43	2182.77	0	391.04	1982.32	277.33	101.1	133.55
X1200	39.4	64.1	524.02	600.55	220.55	91.49	2620.42	2620.42	52.22	342.03	2337.77	348.89	82.77	120.47
X1300	40.4	65.1	501.1	520.1	371.1	102.4	300	3416.1	0	731.25	3428.58	672.82	0	72.07
X1400	41.4	66.1	410	510.15	262.22	68.88	236.67	2030.55	47.22	233.14	2173.68	232.27	47.68	102.22
X1500	42.4	67.1	679.85	288.64	359.03	145.5	451.1	3395.55	61.1	437.71	3085.66	91.83	261.79	83.73
X1600	43.4	68.1	483.37	434.43	200.15	106.17	267.22	2710	47.77	116.35	2641.67	86.21	0	116.67
X1700	44.4	69.1	268.88	706.1	176.42	134.22	211.1	2545	0	0	2318.35	491.1	70	101.57
X1800	45.4	70.1	252.77	663.43	167.7	105.33	201.67	2492.33	0	386.37	2183.05	518.33	100	90.77
X1900	46.4	71.1	252.22	612.22	168.03	112.48	161.1	1921.7	0	194.31	1466.78	262.22	143.88	81.1
X2000	47.4	72.1	203.33	452.55	141.97	74.43	134.43	1553.63	0	227.77	1215.57	194.75	35.55	57.77
X2080	48.2	72.9	0	494.58	154.43	102.65	125	1657.2	0	308.66	1445.75	482.77	59.43	78.33

**B) Quantified data (values in relative %)**

Sample	Height	Micas (%)	Chlorite (%)	Kaolinite (%)	Palygorskite (%)	Smectite (%)	Zeolites (%)	Chlor. Calc. (CPS)	Kaol. Calc. (CPS)
Q1	1.8	8.53	0.00	7.83	9.33	68.12	6.19	0.00	227.03
Q3	2.5	6.84	0.00	0.00	15.15	73.27	4.74	0.00	0.00
Q5	3.7	11.53	0.00	0.00	13.63	67.79	7.05	0.00	0.00
Q8	6.6	20.36	1.54	0.45	19.69	50.06	7.89	20.65	6.02
Q9	8.8	15.75	0.00	0.00	8.00	64.59	11.67	0.00	0.00
Q10	9.7	10.12	3.60	21.97	7.05	31.44	25.82	40.36	246.34
Q14	10.7	14.09	1.10	21.11	15.75	43.72	4.23	29.12	559.76
Q16	11.6	18.65	1.19	55.68	3.86	16.62	4.01	28.47	1329.25
Q17	12.8	8.01	2.94	44.17	8.09	28.76	8.04	136.12	2042.76
Q18	13.8	11.32	5.65	53.79	4.21	23.92	1.12	150.04	1429.61
Q19	14.8	6.75	7.23	58.21	1.44	22.61	3.77	226.17	1820.50
Q20	15.8	10.56	6.22	61.91	2.74	16.95	1.62	147.75	1470.70
Q21	16.8	5.84	7.38	68.13	2.89	10.70	5.07	237.19	2189.96
Q22	18	3.82	8.73	61.54	3.92	17.52	4.47	315.88	2226.89
Q23	19	10.23	32.89	42.28	0.00	11.33	3.26	829.88	1066.97
Q25	21	8.11	16.01	70.50	1.79	0.00	3.59	234.55	1032.60
Q27	23	4.69	14.21	51.05	7.46	16.48	4.10	409.93	1468.84
Q28	24	11.57	5.68	66.43	2.39	9.36	2.57	152.97	1844.53
Q29	25	3.35	5.97	71.97	2.71	13.10	2.91	142.10	1713.45
Q30	26	11.65	0.00	62.50	3.89	17.10	4.87	0.00	1863.73
Q31	26.4	31.70	6.09	10.96	19.81	23.74	7.71	30.38	54.67
Q32	27.7	6.10	5.54	64.50	3.66	17.05	3.15	129.44	1507.26
Q35	28.75	15.67	7.82	28.06	15.81	28.86	3.78	80.36	288.37
Q39	30	16.46	0.00	47.59	14.63	14.08	7.24	0.00	587.83
Q40	30.4	23.01	5.42	33.33	15.17	14.79	8.27	49.87	306.55
Q42	31.25	21.51	1.28	0.97	24.29	43.68	8.27	10.71	8.17
Q44	32.5	29.07	0.00	8.66	17.33	38.52	6.42	0.00	121.67
Q48	34	29.52	8.04	21.78	24.49	7.43	8.73	51.65	139.93
Q51	34.95	21.61	0.00	0.00	17.73	51.47	9.19	0.00	0.00
Q53	35.6	12.25	0.00	0.00	11.46	66.29	10.00	0.00	0.00
Q55	36.25	13.25	0.00	0.00	16.68	61.43	8.65	0.00	0.00
Q57	36.9	17.93	0.00	0.00	16.66	51.90	11.51	0.00	0.00
Q58	37.2	7.79	1.47	19.78	7.79	70.77	10.25	3.50	28.02
Q59	37.5	6.48	0.00	21.35	5.61	60.64	5.92	0.00	482.72
Q62	38.6	19.72	0.00	20.21	18.70	31.54	9.82	0.00	320.03
Q65	39.55	22.57	2.23	27.48	17.02	20.96	9.74	21.06	260.09
Q67	40.25	4.29	1.57	54.56	2.73	30.66	6.18	54.56	1892.11
Q70	41.75	10.42	2.11	47.71	8.86	23.91	6.98	84.44	1905.36
Q73	43.15	12.65	5.91	45.04	8.77	20.54	7.09	192.76	1469.42
M1700	17	13.97	6.21	48.53	11.58	19.72	0.00	165.98	1297.22
Q77	44.5	12.68	1.84	46.46	12.16	16.17	10.69	59.52	1503.25
M1800	18	11.31	6.63	62.01	5.85	14.19	0.00	278.39	2604.83
M1900	19	11.11	6.11	51.12	6.60	17.89	7.17	210.33	1759.07
M2000	20	9.96	9.22	54.89	7.48	10.80	7.66	328.24	1954.18
M2100	21	12.76	6.89	60.06	3.36	14.90	2.03	315.06	2746.86
M2200	22	11.40	8.82	53.39	7.60	11.59	7.21	390.16	2362.61
M2300	23	12.86	11.68	60.50	2.29	10.79	1.87	415.70	2153.73
M2400	24	11.36	7.51	59.58	5.81	15.73	0.00	308.88	2447.37
M2500	25	14.67	11.98	51.40	12.61	7.01	2.33	438.57	1881.35
M2600	26	13.51	8.44	48.85	9.82	13.33	6.04	286.32	1657.11
M2700	27	13.41	8.79	54.66	10.66	8.65	3.83	286.73	1783.82
X0000	27.4	16.75	6.50	58.02	6.84	11.89	0.00	167.81	1499.12
X0100	28.4	15.02	14.09	59.78	8.48	0.00	2.63	375.16	1591.99
X0200	29.4	14.26	7.80	58.46	7.37	9.99	2.13	161.02	1206.41
X0400	31.4	13.21	8.73	56.11	3.15	12.82	5.98	297.27	1911.38
X0500	32.4	14.48	6.63	57.03	7.85	12.78	1.23	257.69	2216.76
X0600	33.4	13.00	0.00	70.49	3.72	10.69	2.10	0.00	2313.65
X0700	34.4	7.78	4.70	68.72	4.55	12.33	1.91	205.13	2999.87
X0800	35.4	11.40	10.70	57.63	3.63	16.64	0.00	409.90	2207.32
X0900	36.4	20.50	6.53	58.78	5.49	6.47	2.23	227.45	2048.35
X1000	37.4	11.92	9.13	56.91	5.74	13.88	2.41	260.64	1624.11
X1100	38.4	16.39	10.75	54.49	8.29	7.06	3.02	359.64	1823.13
X1200	39.4	14.38	8.01	54.73	8.35	12.55	1.98	334.45	2285.97
X1300	40.4	10.18	11.75	55.10	13.17	9.81	0.00	600.51	2815.59
X1400	41.4	10.47	6.47	60.35	7.64	13.49	1.57	196.69	1833.86
X1500	42.4	6.12	8.94	63.03	1.95	14.41	5.55	421.83	2973.72
X1600	43.4	11.69	3.08	69.85	2.37	13.01	0.00	114.32	2595.68
X1700	44.4	17.30	0.00	62.36	12.03	6.59	1.72	0.00	2545.00
X1800	45.4	16.48	9.31	52.59	12.87	6.28	2.48	374.78	2117.55
X1900	46.4	19.18	7.04	53.16	8.21	7.90	4.51	224.80	1696.90
X2000	47.4	18.55	10.05	53.63	7.98	8.33	1.46	245.17	1308.46
X2080	48.2	18.36	10.82	50.69	17.92	0.00	2.21	291.56	1365.64

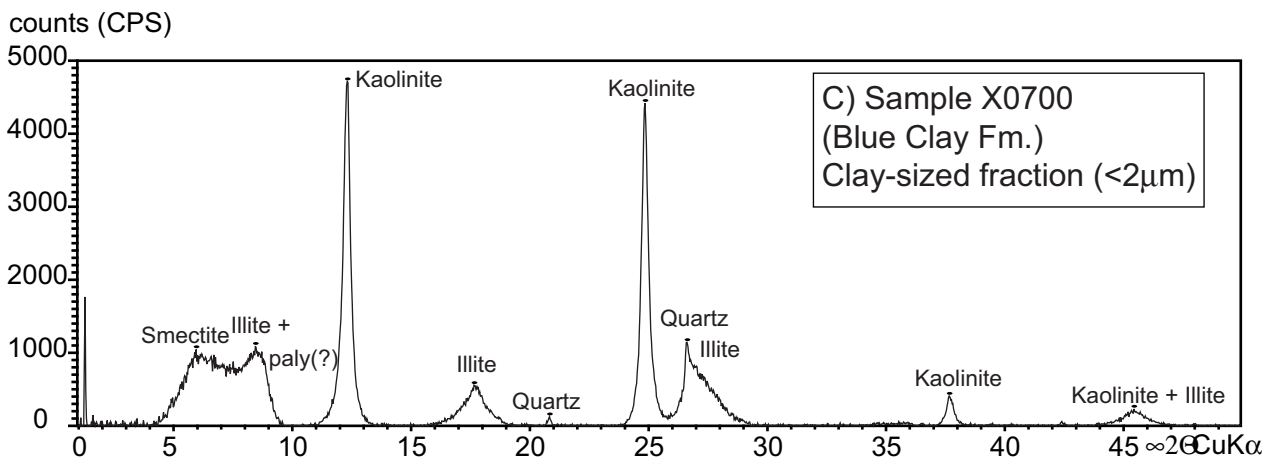
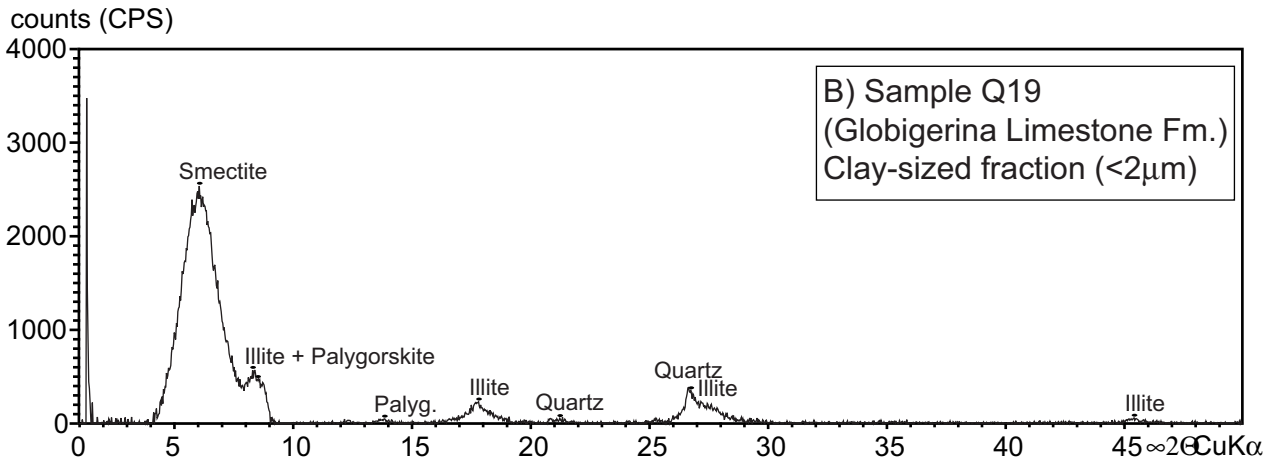
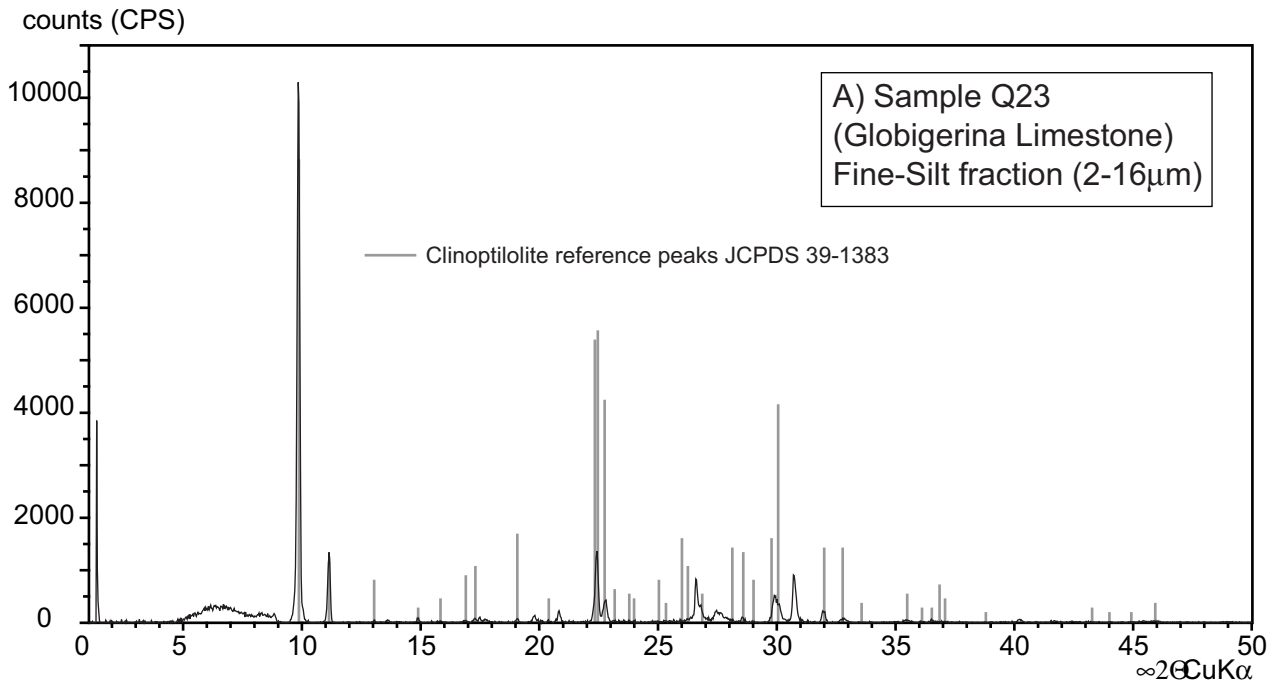


FIGURE DR1

## REPOSITORY FIGURE CAPTIONS

FIGURE DR1: typical diffractograms. A) Sample with abundant zeolite in the fine-silt fraction (2-16 $\mu$ m). The peaks distribution and ratio pattern indicates that this zeolite is of the heulandites-clinoptilolite series. B) Diffractogram of sample Q19 taken in the Globigerina limestone formation (clay-sized, <2 $\mu$ m). C) Diffractogram of sample X0700 taken in the Blue Clay formation sample (clay-sized, <2 $\mu$ m). Note the differences between these two samples: sample Q19 has a high smectite peak but no kaolinite peak whereas the reverse is true for sample X0700. These diffractograms are representative of their respective formations.

## REPOSITORY TABLE CAPTIONS

TABLE DR1: Carbonate content and stable isotopes results. Column A: sample name, Column B: height in respective section, Column C: height in composite section, Column D:  $\delta^{13}\text{C}$  Bulk carbonate [‰ VPDB], Column E:  $\delta^{18}\text{O}$  Bulk carbonate [‰ VPDB], Column F: Total inorganic carbon measured with coulomat (wt%), Column G: Carbonate content (in wt%, = Column F \* 8.33). N/A: values are not available. Values in **bold** are considered to be offsetting and are thus not taken into consideration for this study. “Q” samples are from the Qammieh section, “M” and “X” samples are from the Xatt-L’Ahmar section.

TABLE DR2: XRD data for the bulk rock fraction. A) raw data, values of 100% intensity peaks in counts per second (CPS). B) data quantified using external standards (values in %). “Q” samples are from the Qammieh section, “M” and “X” samples are from the Xatt-L’Ahmar section.

TABLE DR3: XRD data for the fine-silt fraction (2-16 $\mu$ m). A) raw data, values in counts per second (CPS). M001, M002, M005: illite peaks 001, 002 and 005 respectively; C002/K001: overlapping

peaks of chlorite (002) and Kaolinite (005); C004 and K002: chlorite peak 004 and kaolinite peak 002, respectively; Zeolites: peak at  $\sim 9.8^\circ 2\theta$  of the clinoptilolite; Quartz: peak at  $\sim 20.8^\circ 2\theta$  of the quartz; K-feldspar and plagioclase: 100% intensity peak of the respective minerals. B) data quantified using methods described in the appendix (values in relative %). Kaol. Calc. and Chlor. Calc. are respectively kaolinite (001) and chlorite (002) peaks calculated using the other peaks of these minerals (see appendix for references describing this method). "Q" samples are from the Qammieh section, "M" and "X" samples are from the Xatt-L'Ahmar section.

TABLE DR4: XRD data for the clay-size fraction ( $< 2\mu\text{m}$ ). A) raw data, values in counts per second (CPS). Smectites, peak 002 of the smectite (after profile fitting, measured on glycolated samples); M001, M002, M005: illite peaks 001, 002 and 005 respectively; C001, C003, C004 chlorite peak 001, 003 and 004 respectively; C002/K001: overlapping peaks of chlorite (002) and kaolinite (005); C004 and K002: chlorite peak 004 and kaolinite peak 002, respectively; Palyg. : peak at  $\sim 7.5^\circ 2\theta$  of the palygorskite (after profile fitting); Zeolites: peak at  $\sim 9.8^\circ 2\theta$  of the clinoptilolite; Quartz: peak at  $\sim 20.8^\circ 2\theta$  of the quartz. B) data quantified using methods described in the appendix (values in relative %). Kaol. Calc. and chlor. Calc. are respectively kaolinite (001) and chlorite (002) peaks calculated using the other peaks of these minerals (see appendix for references describing this method). "Q" samples are from the Qammieh section, "M" and "X" samples are from the Xatt-L'Ahmar section.