

Supplementary Material: A Revised Chemical Weathering and  
Sediment Provenance History for the Late Miocene-Recent Laxmi  
Basin, Arabian Sea

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Table S1. Grain size data for the samples considered by this study.

Table S2. Major and trace element geochemical data for the samples analysed during the study by XRF at Louisiana State University. Major element oxide concentrations are given in weight %, trace element concentrations are in parts per million (ppm).

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Table S1

Sample	Mean ( $\phi$ )	Median ( $\phi$ )	Deviation	Skewness:	Kurtosis	Grainsize ( $\mu\text{m}$ )						
						0.37512	0.4118	0.45206	0.49625	0.54477	0.59803	0.65649
355-U1456A-6H-6, 82-86 cm	7.81403	7.89996	1.46357	-0.0910014	0.897344	0.0444	0.0790	0.1245	0.2001	0.2960	0.4159	0.5622
355-U1456A-11H-3, 124-128 cm	7.19542	7.19202	1.41513	0.0271095	0.990896	0.0429	0.0760	0.1135	0.1668	0.2197	0.2746	0.3343
355-U1456A-15H-3, 30-34 cm	7.15746	7.06069	1.5979	0.101014	0.888907	0.0508	0.0902	0.1375	0.2090	0.2868	0.3730	0.4697
355-U1456A-25F-1, 130-134 cm	4.60256	4.44408	1.55645	0.267177	1.35251	0.0191	0.0340	0.0505	0.0733	0.0941	0.1140	0.1339
355-U1456A-34F-3, 20-24 cm	6.71995	6.50424	1.68757	0.191868	0.94971	0.0532	0.0943	0.1416	0.2098	0.2780	0.3485	0.4235
355-U1456A-53F-3, 20-24 cm	7.39403	7.2919	1.52532	0.106317	0.94285	0.0762	0.1348	0.2025	0.3002	0.3981	0.4994	0.6070
355-U1456A-58F-1, 78-82 cm	7.6723	7.67637	1.52955	-0.0063769	0.849412	0.0523	0.0929	0.1459	0.2323	0.3381	0.4658	0.6175
355-U1456A-63F-2, 40-44 cm	4.73783	4.62923	1.42143	0.231406	1.27854	0.0158	0.0280	0.0416	0.0603	0.0774	0.0937	0.1100
355-U1456A-70F-2, 30-32 cm	6.69876	6.48683	1.78915	0.170395	0.923034	0.0583	0.1032	0.1549	0.2295	0.3040	0.3809	0.4626
355-U1456A-72X-4, 120-124 cm	7.49282	7.50152	1.52603	-0.0046515	0.900135	0.0382	0.0679	0.1071	0.1717	0.2524	0.3511	0.4695
355-U1456C-45X-1, 130-134 cm	7.06612	6.93076	1.73959	0.140513	0.834349	0.0856	0.1513	0.2262	0.3329	0.4373	0.5418	0.6501
355-U1456D-4R-2, 11-15 cm	6.49798	6.28816	1.70071	0.194703	1.06043	0.0500	0.0885	0.1325	0.1955	0.2573	0.3200	0.3858
355-U1456D-7R-2, 19-23 cm	7.53183	7.52873	1.6045	0.0082569	0.877093	0.0689	0.1221	0.1870	0.2860	0.3956	0.5183	0.6565
355-U1456D-9R-2, 11-15 cm	7.57127	7.53287	1.56631	0.041069	0.833169	0.0641	0.1139	0.1757	0.2722	0.3826	0.5093	0.6548
355-U1456D-10R-3, 10-14 cm	7.61693	7.64402	1.52333	-0.0245698	0.892261	0.0478	0.0849	0.1329	0.2104	0.3045	0.4176	0.5518
355-U1456D-12R-1, 12-16 cm	7.9302	7.85925	1.432	0.028478	0.973925	0.0946	0.1678	0.2544	0.3830	0.5190	0.6663	0.8282
355-U1456D-13R-2, 74-78 cm	7.75066	7.6879	1.43045	0.0417502	0.938582	0.0667	0.1184	0.1813	0.2774	0.3842	0.5047	0.6418
355-U1456D-15R-1, 125-129 cm	7.76311	7.73185	1.51207	0.0157232	0.910042	0.0846	0.1500	0.2282	0.3457	0.4722	0.6111	0.7655
355-U1456D-17R-2, 66-70 cm	8.01787	8.02297	1.32036	-0.0496144	0.980737	0.0412	0.0735	0.1180	0.1942	0.2949	0.4231	0.5810
355-U1456D-19R-1, 30-34 cm	8.33951	8.34666	1.14276	-0.0114322	0.88966	0.0516	0.0920	0.1497	0.2506	0.3867	0.5610	0.7753
355-U1456D-20R-1, 130-134 cm	8.15583	8.13698	1.25507	0.0013965	0.912348	0.0589	0.1049	0.1664	0.2684	0.3967	0.5541	0.7427
355-U1456D-21R-1, 18-22 cm	7.94255	7.90175	1.40195	0.0141557	0.902763	0.0668	0.1189	0.1856	0.2922	0.4190	0.5688	0.7436
355-U1456D-26R-2, 20-24 cm	8.20125	8.16853	1.25339	0.0211851	0.927733	0.0905	0.1605	0.2458	0.3764	0.5221	0.6865	0.8732
355-U1456D-27R-2, 40-44 cm	8.14939	8.15056	1.25929	-0.0306668	0.937889	0.0478	0.0852	0.1373	0.2268	0.3450	0.4950	0.6785
355-U1456D-28R-1, 100-104 cm	8.24957	8.26008	1.19638	-0.0289207	0.917006	0.0471	0.0840	0.1366	0.2286	0.3531	0.5133	0.7107
355-U1456D-29R-2, 50-54 cm	8.24909	8.26036	1.20919	-0.0310665	0.915794	0.0499	0.0890	0.1442	0.2402	0.3685	0.5323	0.7332
355-U1456D-30R-6, 30-34 cm	7.48654	7.54153	1.47675	-0.0541158	0.978365	0.0271	0.0482	0.0770	0.1259	0.1899	0.2707	0.3701
355-U1456D-35R-4, 90-94 cm	6.92381	6.98435	1.73232	-0.0216689	0.847279	0.0339	0.0602	0.0927	0.1433	0.2012	0.2684	0.3466
355-U1456D-52R-5, 12-16 cm	7.03849	7.09436	1.68191	-0.0262247	0.878582	0.0361	0.0642	0.0987	0.1523	0.2134	0.2841	0.3660
355-U1456E-19R-2, 38-42 cm	6.47707	6.31737	1.63306	0.166229	0.991912	0.0395	0.0700	0.1047	0.1543	0.2029	0.2527	0.3054
355-U1457A-1H-4, 135-139 cm	7.50401	7.50621	1.66275	0.0163051	0.878372	0.1095	0.1938	0.2885	0.4219	0.5495	0.6757	0.8054
355-U1457A-2H-1, 31-33 cm	7.3581	7.35578	1.48821	0.027642	0.89292	0.0577	0.1020	0.1523	0.2242	0.2961	0.3713	0.4534
355-U1457A-2H-3, 128-132 cm	7.76881	7.74044	1.57494	0.0239112	0.830155	0.1011	0.1793	0.2725	0.4119	0.5606	0.7223	0.8998
355-U1457A-5H-5, 140-144 cm	6.83479	6.78489	1.84389	0.0528106	0.862801	0.0537	0.0952	0.1439	0.2158	0.2911	0.3722	0.4614
355-U1457A-6H-5, 44-48 cm	6.09605	5.86801	1.56486	0.238089	1.09378	0.0240	0.0425	0.0637	0.0944	0.1254	0.1581	0.1937

Table S1

Sample	Mean ( $\phi$ )	Median ( $\phi$ )	Deviation	Skewness:	Kurtosis	Grainsize ( $\mu\text{m}$ )						
						0.37512	0.4118	0.45206	0.49625	0.54477	0.59803	0.65649
355-U1457C-24R-2, 63-67 cm	7.03555	6.90189	1.64548	0.135214	0.888672	0.0647	0.1146	0.1720	0.2545	0.3369	0.4219	0.5123
355-U1457C-25R-1, 137-141 cm	6.79966	6.73903	1.68298	0.0749135	0.885935	0.0405	0.0719	0.1087	0.1631	0.2203	0.2824	0.3514
355-U1457C-25R-4, 137-141 cm	7.18271	7.09092	1.64551	0.0936378	0.852669	0.0589	0.1043	0.1585	0.2394	0.3259	0.4204	0.5252
355-U1457C-26R-2, 38-42 cm	7.55351	7.45884	1.50485	0.0907629	0.911668	0.0771	0.1367	0.2067	0.3099	0.4175	0.5327	0.6584
355-U1457C-30R-1, 74-78 cm	7.27303	7.17834	1.63041	0.0996938	0.835489	0.0675	0.1196	0.1812	0.2725	0.3687	0.4723	0.5860
355-U1457C-32R-1, 12-16 cm	6.94586	6.81774	1.64109	0.130418	0.889686	0.0532	0.0942	0.1419	0.2113	0.2824	0.3574	0.4388
355-U1457C-33R-3, 48-52 cm	6.73592	6.72444	1.78914	0.045545	0.821986	0.0395	0.0700	0.1064	0.1609	0.2199	0.2853	0.3591
355-U1457C-34R-3, 17-21 cm	6.41967	6.32821	1.92381	0.10017	0.854932	0.0469	0.0831	0.1251	0.1862	0.2485	0.3141	0.3848
355-U1457C-35R-1, 122-126 cm	6.42011	6.3339	1.81218	0.102354	0.878427	0.0379	0.0671	0.1010	0.1504	0.2010	0.2546	0.3131
355-U1457C-35R-6, 40-44 cm	6.4696	6.38473	1.8342	0.0996641	0.878774	0.0436	0.0773	0.1163	0.1728	0.2300	0.2900	0.3548
355-U1457C-74R-2, 70-74 cm	6.84915	6.8092	1.78144	0.0558354	0.824522	0.0430	0.0762	0.1163	0.1772	0.2442	0.3193	0.4045
355-U1457C-76R-3, 48-52 cm	7.12228	7.11977	1.61899	0.0231587	0.874952	0.0386	0.0685	0.1053	0.1624	0.2277	0.3030	0.3902
355-U1457C-78R-4, 76-80 cm	6.9187	6.9203	1.78235	0.0213106	0.819342	0.0391	0.0695	0.1070	0.1655	0.2325	0.3099	0.3996
355-U1457C-82R-3, 40-44 cm	6.66409	6.61937	1.8979	0.0601901	0.795735	0.0414	0.0734	0.1122	0.1712	0.2364	0.3096	0.3928
355-U1457C-84R-3, 75-79 cm	6.92538	6.85944	1.71116	0.0653285	0.860706	0.0408	0.0724	0.1106	0.1688	0.2334	0.3061	0.3889
355-U1457C-85R-3, 35-39 cm	6.74514	6.63483	1.74977	0.102483	0.853435	0.0364	0.0645	0.0986	0.1506	0.2083	0.2735	0.3481

Table S1

<b>Sample</b>	<b>0.72068</b>	<b>0.79113</b>	<b>0.86848</b>	<b>0.95338</b>	<b>1.04659</b>	<b>1.14891</b>	<b>1.26123</b>	<b>1.38454</b>	<b>1.5199</b>	<b>1.66849</b>	<b>1.83161</b>	<b>2.01068</b>	<b>2.20725</b>
355-U1456A-6H-6, 82-86 cm	0.7384	0.9449	1.1807	1.4414	1.7191	2.0034	2.2835	2.5493	2.7905	2.9980	3.1643	3.2877	3.3695
355-U1456A-11H-3, 124-128 cm	0.4019	0.4766	0.5585	0.6490	0.7497	0.8620	0.9850	1.1185	1.2627	1.4189	1.5871	1.7672	1.9589
355-U1456A-15H-3, 30-34 cm	0.5801	0.7019	0.8322	0.9679	1.1050	1.2401	1.3684	1.4864	1.5918	1.6848	1.7669	1.8414	1.9128
355-U1456A-25F-1, 130-134 cm	0.1549	0.1756	0.1953	0.2142	0.2323	0.2498	0.2658	0.2805	0.2937	0.3064	0.3187	0.3307	0.3431
355-U1456A-34F-3, 20-24 cm	0.5063	0.5941	0.6841	0.7749	0.8647	0.9527	1.0353	1.1108	1.1783	1.2391	1.2944	1.3464	1.3979
355-U1456A-53F-3, 20-24 cm	0.7256	0.8515	0.9805	1.1103	1.2383	1.3636	1.4816	1.5902	1.6882	1.7783	1.8634	1.9473	2.0348
355-U1456A-58F-1, 78-82 cm	0.7963	1.0009	1.2268	1.4672	1.7125	1.9526	2.1768	2.3758	2.5423	2.6716	2.7630	2.8193	2.8472
355-U1456A-63F-2, 40-44 cm	0.1271	0.1441	0.1604	0.1762	0.1916	0.2069	0.2213	0.2351	0.2481	0.2613	0.2745	0.2881	0.3025
355-U1456A-70F-2, 30-32 cm	0.5525	0.6477	0.7450	0.8427	0.9386	1.0316	1.1180	1.1956	1.2631	1.3218	1.3730	1.4189	1.4625
355-U1456A-72X-4, 120-124 cm	0.6102	0.7728	0.9545	1.1507	1.3547	1.5596	1.7582	1.9437	2.1111	2.2575	2.3832	2.4908	2.5845
355-U1456C-45X-1, 130-134 cm	0.7670	0.8881	1.0082	1.1243	1.2340	1.3368	1.4284	1.5060	1.5686	1.6187	1.6604	1.6976	1.7347
355-U1456D-4R-2, 11-15 cm	0.4575	0.5325	0.6080	0.6827	0.7552	0.8250	0.8889	0.9455	0.9938	1.0357	1.0721	1.1051	1.1375
355-U1456D-7R-2, 19-23 cm	0.8145	0.9891	1.1753	1.3675	1.5589	1.7436	1.9139	2.0639	2.1896	2.2910	2.3706	2.4330	2.4851
355-U1456D-9R-2, 11-15 cm	0.8227	1.0103	1.2123	1.4226	1.6328	1.8352	2.0207	2.1822	2.3143	2.4155	2.4869	2.5328	2.5602
355-U1456D-10R-3, 10-14 cm	0.7103	0.8922	1.0940	1.3108	1.5352	1.7594	1.9749	2.1741	2.3511	2.5025	2.6275	2.7280	2.8084
355-U1456D-12R-1, 12-16 cm	1.0098	1.2068	1.4134	1.6244	1.8328	2.0330	2.2171	2.3804	2.5195	2.6351	2.7289	2.8074	2.8791
355-U1456D-13R-2, 74-78 cm	0.7994	0.9752	1.1652	1.3650	1.5687	1.7704	1.9627	2.1399	2.2979	2.4355	2.5533	2.6546	2.7447
355-U1456D-15R-1, 125-129 cm	0.9402	1.1314	1.3334	1.5410	1.7469	1.9453	2.1277	2.2882	2.4227	2.5311	2.6153	2.6798	2.7320
355-U1456D-17R-2, 66-70 cm	0.7712	0.9941	1.2476	1.5256	1.8185	2.1148	2.4037	2.6750	2.9196	3.1303	3.3031	3.4395	3.5438
355-U1456D-19R-1, 30-34 cm	1.0321	1.3307	1.6659	2.0266	2.3969	2.7591	3.0978	3.3989	3.6507	3.8451	3.9805	4.0625	4.1014
355-U1456D-20R-1, 130-134 cm	0.9655	1.2211	1.5040	1.8053	2.1122	2.4116	2.6909	2.9395	3.1493	3.3154	3.4379	3.5226	3.5790
355-U1456D-21R-1, 18-22 cm	0.9469	1.1758	1.4246	1.6846	1.9446	2.1935	2.4201	2.6161	2.7749	2.8939	2.9746	3.0237	3.0515
355-U1456D-26R-2, 20-24 cm	1.0875	1.3262	1.5836	1.8531	2.1255	2.3926	2.6439	2.8717	3.0697	3.2356	3.3697	3.4768	3.5641
355-U1456D-27R-2, 40-44 cm	0.8982	1.1538	1.4412	1.7518	2.0730	2.3907	2.6922	2.9657	3.2015	3.3927	3.5372	3.6392	3.7063
355-U1456D-28R-1, 100-104 cm	0.9480	1.2251	1.5376	1.8762	2.2265	2.5727	2.9005	3.1967	3.4501	3.6525	3.8012	3.9001	3.9577
355-U1456D-29R-2, 50-54 cm	0.9740	1.2540	1.5685	1.9076	2.2565	2.5992	2.9213	3.2096	3.4533	3.6445	3.7811	3.8681	3.9146
355-U1456D-30R-6, 30-34 cm	0.4903	0.6320	0.7940	0.9737	1.1666	1.3674	1.5711	1.7724	1.9672	2.1530	2.3297	2.4983	2.6608
355-U1456D-35R-4, 90-94 cm	0.4381	0.5424	0.6579	0.7831	0.9153	1.0517	1.1884	1.3228	1.4528	1.5777	1.6978	1.8144	1.9299
355-U1456D-52R-5, 12-16 cm	0.4616	0.5703	0.6904	0.8203	0.9569	1.0975	1.2382	1.3764	1.5100	1.6385	1.7624	1.8836	2.0048
355-U1456E-19R-2, 38-42 cm	0.3634	0.4251	0.4889	0.5546	0.6217	0.6904	0.7587	0.8260	0.8919	0.9577	1.0245	1.0935	1.1663
355-U1457A-1H-4, 135-139 cm	0.9449	1.0891	1.2330	1.3752	1.5147	1.6521	1.7821	1.9027	2.0123	2.1133	2.2074	2.2957	2.3806
355-U1457A-2H-1, 31-33 cm	0.5469	0.6510	0.7653	0.8913	1.0300	1.1822	1.3452	1.5163	1.6930	1.8738	2.0559	2.2360	2.4105
355-U1457A-2H-3, 128-132 cm	1.0987	1.3135	1.5366	1.7605	1.9755	2.1742	2.3463	2.4857	2.5872	2.6511	2.6795	2.6804	2.6640
355-U1457A-5H-5, 140-144 cm	0.5621	0.6723	0.7891	0.9105	1.0337	1.1566	1.2746	1.3845	1.4839	1.5727	1.6514	1.7212	1.7848
355-U1457A-6H-5, 44-48 cm	0.2341	0.2784	0.3262	0.3773	0.4318	0.4896	0.5489	0.6090	0.6687	0.7282	0.7870	0.8451	0.9025

Table S1

<b>Sample</b>	<b>0.72068</b>	<b>0.79113</b>	<b>0.86848</b>	<b>0.95338</b>	<b>1.04659</b>	<b>1.14891</b>	<b>1.26123</b>	<b>1.38454</b>	<b>1.5199</b>	<b>1.66849</b>	<b>1.83161</b>	<b>2.01068</b>	<b>2.20725</b>
355-U1457C-24R-2, 63-67 cm	0.6119	0.7176	0.8263	0.9363	1.0456	1.1533	1.2554	1.3499	1.4356	1.5140	1.5864	1.6551	1.7236
355-U1457C-25R-1, 137-141 cm	0.4299	0.5167	0.6102	0.7096	0.8137	0.9211	1.0289	1.1355	1.2397	1.3418	1.4421	1.5415	1.6420
355-U1457C-25R-4, 137-141 cm	0.6439	0.7739	0.9116	1.0540	1.1968	1.3369	1.4687	1.5889	1.6946	1.7864	1.8654	1.9346	1.9984
355-U1457C-26R-2, 38-42 cm	0.7993	0.9514	1.1104	1.2727	1.4338	1.5904	1.7363	1.8677	1.9825	2.0820	2.1680	2.2445	2.3173
355-U1457C-30R-1, 74-78 cm	0.7140	0.8531	0.9991	1.1485	1.2970	1.4415	1.5762	1.6971	1.8014	1.8898	1.9643	2.0279	2.0850
355-U1457C-32R-1, 12-16 cm	0.5299	0.6284	0.7318	0.8388	0.9475	1.0567	1.1627	1.2636	1.3579	1.4465	1.5304	1.6110	1.6911
355-U1457C-33R-3, 48-52 cm	0.4441	0.5390	0.6424	0.7533	0.8696	0.9896	1.1095	1.2272	1.3408	1.4501	1.5546	1.6549	1.7526
355-U1457C-34R-3, 17-21 cm	0.4637	0.5487	0.6373	0.7282	0.8197	0.9107	0.9980	1.0798	1.1551	1.2246	1.2895	1.3514	1.4129
355-U1457C-35R-1, 122-126 cm	0.3791	0.4511	0.5277	0.6085	0.6925	0.7792	0.8663	0.9523	1.0362	1.1188	1.2005	1.2820	1.3646
355-U1457C-35R-6, 40-44 cm	0.4272	0.5051	0.5868	0.6714	0.7575	0.8447	0.9300	1.0122	1.0904	1.1656	1.2386	1.3109	1.3845
355-U1457C-74R-2, 70-74 cm	0.5025	0.6119	0.7305	0.8563	0.9859	1.1165	1.2436	1.3641	1.4755	1.5773	1.6694	1.7534	1.8319
355-U1457C-76R-3, 48-52 cm	0.4919	0.6074	0.7349	0.8722	1.0160	1.1631	1.3091	1.4507	1.5854	1.7121	1.8312	1.9443	2.0542
355-U1457C-78R-4, 76-80 cm	0.5040	0.6221	0.7517	0.8902	1.0335	1.1778	1.3181	1.4507	1.5725	1.6823	1.7803	1.8680	1.9486
355-U1457C-82R-3, 40-44 cm	0.4886	0.5957	0.7120	0.8350	0.9617	1.0891	1.2128	1.3293	1.4361	1.5325	1.6188	1.6962	1.7671
355-U1457C-84R-3, 75-79 cm	0.4846	0.5920	0.7090	0.8337	0.9630	1.0941	1.2228	1.3459	1.4609	1.5671	1.6649	1.7556	1.8416
355-U1457C-85R-3, 35-39 cm	0.4346	0.5320	0.6387	0.7530	0.8725	0.9947	1.1155	1.2320	1.3416	1.4435	1.5374	1.6239	1.7045

Table S1

<b>Sample</b>	<b>2.42304</b>	<b>2.65993</b>	<b>2.91998</b>	<b>3.20545</b>	<b>3.51883</b>	<b>3.86284</b>	<b>4.24049</b>	<b>4.65506</b>	<b>5.11017</b>	<b>5.60976</b>	<b>6.1582</b>	<b>6.76025</b>	<b>7.42117</b>
355-U1456A-6H-6, 82-86 cm	3.4140	3.4262	3.4123	3.3816	3.3422	3.3009	3.2542	3.1990	3.1320	3.0574	2.9806	2.8987	2.8061
355-U1456A-11H-3, 124-128 cm	2.1613	2.3728	2.5901	2.8089	3.0237	3.2281	3.4144	3.5747	3.7025	3.7938	3.8467	3.8597	3.8306
355-U1456A-15H-3, 30-34 cm	1.9862	2.0670	2.1592	2.2653	2.3850	2.5153	2.6503	2.7827	2.9054	3.0128	3.1008	3.1665	3.2075
355-U1456A-25F-1, 130-134 cm	0.3566	0.3719	0.3895	0.4098	0.4326	0.4585	0.4870	0.5180	0.5508	0.5853	0.6215	0.6591	0.6982
355-U1456A-34F-3, 20-24 cm	1.4525	1.5140	1.5854	1.6684	1.7630	1.8683	1.9819	2.1006	2.2205	2.3389	2.4543	2.5659	2.6731
355-U1456A-53F-3, 20-24 cm	2.1311	2.2418	2.3704	2.5175	2.6804	2.8529	3.0267	3.1921	3.3393	3.4603	3.5486	3.6018	3.6172
355-U1456A-58F-1, 78-82 cm	2.8557	2.8549	2.8540	2.8608	2.8798	2.9113	2.9512	2.9919	3.0257	3.0476	3.0555	3.0487	3.0242
355-U1456A-63F-2, 40-44 cm	0.3183	0.3362	0.3564	0.3794	0.4054	0.4347	0.4671	0.5028	0.5415	0.5834	0.6285	0.6770	0.7294
355-U1456A-70F-2, 30-32 cm	1.5073	1.5578	1.6168	1.6863	1.7659	1.8543	1.9486	2.0455	2.1411	2.2326	2.3190	2.4008	2.4788
355-U1456A-72X-4, 120-124 cm	2.6701	2.7535	2.8402	2.9328	3.0308	3.1290	3.2205	3.2966	3.3493	3.3721	3.3612	3.3172	3.2415
355-U1456C-45X-1, 130-134 cm	1.7763	1.8282	1.8964	1.9823	2.0842	2.1952	2.3101	2.4228	2.5281	2.6195	2.6881	2.7350	2.7618
355-U1456D-4R-2, 11-15 cm	1.1729	1.2156	1.2693	1.3369	1.4199	1.5194	1.6352	1.7664	1.9110	2.0671	2.2324	2.4054	2.5844
355-U1456D-7R-2, 19-23 cm	2.5347	2.5900	2.6572	2.7391	2.8336	2.9338	3.0308	3.1133	3.1713	3.1973	3.1876	3.1445	3.0713
355-U1456D-9R-2, 11-15 cm	2.5778	2.5947	2.6187	2.6550	2.7053	2.7678	2.8369	2.9046	2.9631	3.0069	3.0342	3.0450	3.0388
355-U1456D-10R-3, 10-14 cm	2.8745	2.9329	2.9887	3.0454	3.1038	3.1618	3.2138	3.2522	3.2700	3.2629	3.2303	3.1733	3.0916
355-U1456D-12R-1, 12-16 cm	2.9528	3.0356	3.1313	3.2421	3.3655	3.4955	3.6156	3.7089	3.7605	3.7652	3.7228	3.6290	3.4773
355-U1456D-13R-2, 74-78 cm	2.8303	2.9176	3.0111	3.1132	3.2232	3.3371	3.4466	3.5409	3.6100	3.6483	3.6531	3.6233	3.5542
355-U1456D-15R-1, 125-129 cm	2.7803	2.8331	2.8962	2.9724	3.0610	3.1565	3.2493	3.3268	3.3777	3.3955	3.3789	3.3285	3.2427
355-U1456D-17R-2, 66-70 cm	3.6225	3.6815	3.7267	3.7637	3.7950	3.8187	3.8252	3.8044	3.7477	3.6541	3.5260	3.3632	3.1636
355-U1456D-19R-1, 30-34 cm	4.1102	4.1011	4.0850	4.0691	4.0549	4.0350	3.9941	3.9146	3.7833	3.5971	3.3618	3.0850	2.7722
355-U1456D-20R-1, 130-134 cm	3.6186	3.6516	3.6863	3.7282	3.7776	3.8282	3.8657	3.8732	3.8362	3.7485	3.6102	3.4224	3.1849
355-U1456D-21R-1, 18-22 cm	3.0699	3.0899	3.1202	3.1675	3.2341	3.3167	3.4028	3.4779	3.5280	3.5455	3.5274	3.4688	3.3643
355-U1456D-26R-2, 20-24 cm	3.6396	3.7098	3.7788	3.8478	3.9135	3.9667	3.9920	3.9732	3.8982	3.7644	3.5772	3.3419	3.0625
355-U1456D-27R-2, 40-44 cm	3.7486	3.7757	3.7963	3.8168	3.8391	3.8583	3.8621	3.8362	3.7689	3.6567	3.5010	3.3039	3.0662
355-U1456D-28R-1, 100-104 cm	3.9848	3.9918	3.9885	3.9822	3.9754	3.9630	3.9317	3.8665	3.7551	3.5948	3.3896	3.1441	2.8615
355-U1456D-29R-2, 50-54 cm	3.9327	3.9334	3.9266	3.9198	3.9154	3.9084	3.8846	3.8283	3.7263	3.5756	3.3805	3.1453	2.8724
355-U1456D-30R-6, 30-34 cm	2.8192	2.9754	3.1306	3.2828	3.4277	3.5563	3.6599	3.7286	3.7553	3.7351	3.6651	3.5489	3.3901
355-U1456D-35R-4, 90-94 cm	2.0468	2.1669	2.2906	2.4171	2.5437	2.6658	2.7761	2.8667	2.9312	2.9659	2.9704	2.9442	2.8869
355-U1456D-52R-5, 12-16 cm	2.1286	2.2571	2.3908	2.5289	2.6685	2.8040	2.9273	3.0297	3.1038	3.1456	3.1531	3.1252	3.0616
355-U1456E-19R-2, 38-42 cm	1.2452	1.3323	1.4292	1.5365	1.6540	1.7803	1.9134	2.0504	2.1883	2.3245	2.4571	2.5846	2.7057
355-U1457A-1H-4, 135-139 cm	2.4642	2.5498	2.6383	2.7284	2.8164	2.8972	2.9654	3.0153	3.0426	3.0455	3.0248	2.9845	2.9269
355-U1457A-2H-1, 31-33 cm	2.5757	2.7289	2.8676	2.9891	3.0907	3.1705	3.2276	3.2625	3.2769	3.2733	3.2547	3.2252	3.1874
355-U1457A-2H-3, 128-132 cm	2.6421	2.6253	2.6220	2.6395	2.6801	2.7422	2.8141	2.8840	2.9406	2.9813	3.0066	3.0126	2.9946
355-U1457A-5H-5, 140-144 cm	1.8454	1.9070	1.9725	2.0436	2.1204	2.2013	2.2832	2.3616	2.4323	2.4924	2.5409	2.5778	2.6028
355-U1457A-6H-5, 44-48 cm	0.9597	1.0180	1.0786	1.1428	1.2114	1.2858	1.3673	1.4569	1.5556	1.6640	1.7832	1.9142	2.0588

Table S1

<b>Sample</b>	<b>2.42304</b>	<b>2.65993</b>	<b>2.91998</b>	<b>3.20545</b>	<b>3.51883</b>	<b>3.86284</b>	<b>4.24049</b>	<b>4.65506</b>	<b>5.11017</b>	<b>5.60976</b>	<b>6.1582</b>	<b>6.76025</b>	<b>7.42117</b>
355-U1457C-24R-2, 63-67 cm	1.7955	1.8752	1.9652	2.0670	2.1802	2.3027	2.4297	2.5558	2.6752	2.7840	2.8792	2.9581	3.0177
355-U1457C-25R-1, 137-141 cm	1.7454	1.8537	1.9670	2.0851	2.2066	2.3293	2.4487	2.5594	2.6569	2.7388	2.8047	2.8529	2.8812
355-U1457C-25R-4, 137-141 cm	2.0616	2.1293	2.2049	2.2907	2.3859	2.4876	2.5903	2.6875	2.7735	2.8448	2.9000	2.9389	2.9609
355-U1457C-26R-2, 38-42 cm	2.3932	2.4788	2.5779	2.6926	2.8220	2.9624	3.1060	3.2423	3.3609	3.4551	3.5214	3.5572	3.5567
355-U1457C-30R-1, 74-78 cm	2.1407	2.2006	2.2692	2.3485	2.4373	2.5315	2.6258	2.7140	2.7906	2.8512	2.8931	2.9177	2.9273
355-U1457C-32R-1, 12-16 cm	1.7734	1.8613	1.9565	2.0599	2.1704	2.2861	2.4031	2.5166	2.6221	2.7167	2.7989	2.8680	2.9227
355-U1457C-33R-3, 48-52 cm	1.8498	1.9480	2.0473	2.1471	2.2457	2.3408	2.4278	2.5009	2.5555	2.5897	2.6054	2.6025	2.5806
355-U1457C-34R-3, 17-21 cm	1.4768	1.5461	1.6226	1.7069	1.7978	1.8927	1.9875	2.0773	2.1575	2.2252	2.2789	2.3185	2.3441
355-U1457C-35R-1, 122-126 cm	1.4500	1.5399	1.6352	1.7357	1.8402	1.9467	2.0521	2.1529	2.2453	2.3268	2.3959	2.4522	2.4954
355-U1457C-35R-6, 40-44 cm	1.4619	1.5454	1.6365	1.7353	1.8405	1.9497	2.0592	2.1644	2.2606	2.3448	2.4152	2.4712	2.5118
355-U1457C-74R-2, 70-74 cm	1.9082	1.9852	2.0647	2.1477	2.2332	2.3194	2.4013	2.4734	2.5308	2.5711	2.5950	2.6018	2.5911
355-U1457C-76R-3, 48-52 cm	2.1637	2.2757	2.3917	2.5123	2.6357	2.7582	2.8733	2.9740	3.0542	3.1101	3.1397	3.1416	3.1145
355-U1457C-78R-4, 76-80 cm	2.0255	2.1023	2.1811	2.2633	2.3482	2.4331	2.5127	2.5808	2.6320	2.6634	2.6751	2.6664	2.6374
355-U1457C-82R-3, 40-44 cm	1.8345	1.9015	1.9700	2.0407	2.1122	2.1815	2.2441	2.2947	2.3289	2.3440	2.3403	2.3201	2.2855
355-U1457C-84R-3, 75-79 cm	1.9258	2.0113	2.1002	2.1934	2.2901	2.3878	2.4820	2.5676	2.6397	2.6954	2.7338	2.7549	2.7586
355-U1457C-85R-3, 35-39 cm	1.7815	1.8574	1.9339	2.0122	2.0920	2.1723	2.2505	2.3235	2.3882	2.4431	2.4876	2.5223	2.5473

Table S1

<b>Sample</b>	<b>8.14669</b>	<b>8.94315</b>	<b>9.81748</b>	<b>10.7773</b>	<b>11.8309</b>	<b>12.9876</b>	<b>14.2573</b>	<b>15.6512</b>	<b>17.1813</b>	<b>18.861</b>	<b>20.705</b>	<b>22.7292</b>	<b>24.9513</b>
355-U1456A-6H-6, 82-86 cm	2.6896	2.5610	2.4167	2.2576	2.0637	1.8165	1.5799	1.4121	1.4033	1.5689	1.8329	2.0637	2.0478
355-U1456A-11H-3, 124-128 cm	3.7562	3.6351	3.4686	3.2648	3.0401	2.8191	2.6291	2.4865	2.3880	2.3069	2.1994	2.0282	1.7792
355-U1456A-15H-3, 30-34 cm	3.2211	3.2051	3.1581	3.0832	2.9914	2.9041	2.8437	2.8220	2.8268	2.8193	2.7505	2.5838	2.3215
355-U1456A-25F-1, 130-134 cm	0.7391	0.7832	0.8321	0.8883	0.9551	1.0383	1.1460	1.2872	1.4700	1.6995	1.9789	2.3077	2.6823
355-U1456A-34F-3, 20-24 cm	2.7744	2.8685	2.9547	3.0346	3.1122	3.1935	3.2826	3.3769	3.4619	3.5083	3.4811	3.3518	3.1121
355-U1456A-53F-3, 20-24 cm	3.5920	3.5192	3.3935	3.2179	3.0105	2.8069	2.6323	2.4994	2.3875	2.2627	2.1037	1.9016	1.6803
355-U1456A-58F-1, 78-82 cm	2.9765	2.8990	2.7874	2.6438	2.4767	2.3013	2.1389	2.0106	1.9309	1.8949	1.8764	1.8319	1.7162
355-U1456A-63F-2, 40-44 cm	0.7869	0.8519	0.9267	1.0153	1.1228	1.2567	1.4263	1.6403	1.9065	2.2280	2.6034	3.0212	3.4598
355-U1456A-70F-2, 30-32 cm	2.5532	2.6236	2.6899	2.7547	2.8241	2.9050	3.0012	3.1064	3.2032	3.2643	3.2598	3.1692	2.9891
355-U1456A-72X-4, 120-124 cm	3.1356	2.9955	2.8203	2.6183	2.4146	2.2519	2.1529	2.1218	2.1176	2.0854	1.9920	1.8286	1.6350
355-U1456C-45X-1, 130-134 cm	2.7778	2.7761	2.7513	2.7020	2.6467	2.6468	2.7101	2.8344	2.9268	2.9012	2.7804	2.6159	2.5557
355-U1456D-4R-2, 11-15 cm	2.7670	2.9492	3.1252	3.2886	3.4338	3.5568	3.6524	3.7110	3.7172	3.6538	3.5105	3.2903	3.0133
355-U1456D-7R-2, 19-23 cm	2.9709	2.8396	2.6776	2.4942	2.3158	2.1871	2.1283	2.1404	2.1735	2.1646	2.0788	1.9096	1.7072
355-U1456D-9R-2, 11-15 cm	3.0125	2.9616	2.8833	2.7797	2.6603	2.5404	2.4353	2.3552	2.2982	2.2495	2.1829	2.0694	1.8886
355-U1456D-10R-3, 10-14 cm	2.9826	2.8428	2.6726	2.4794	2.2789	2.0915	1.9384	1.8368	1.7943	1.8055	1.8465	1.8773	1.8520
355-U1456D-12R-1, 12-16 cm	3.2564	2.9787	2.6493	2.2843	1.8924	1.4838	1.1427	0.9240	0.8900	1.0347	1.2906	1.5351	1.5763
355-U1456D-13R-2, 74-78 cm	3.4390	3.2702	3.0443	2.7654	2.4431	2.1043	1.7872	1.5376	1.3873	1.3346	1.3477	1.3617	1.3051
355-U1456D-15R-1, 125-129 cm	3.1176	2.9491	2.7378	2.4940	2.2330	1.9801	1.7645	1.6165	1.5563	1.5775	1.6480	1.7059	1.6813
355-U1456D-17R-2, 66-70 cm	2.9212	2.6441	2.3322	1.9934	1.6337	1.2677	0.9657	0.7736	0.7338	0.8342	1.0143	1.1753	1.1790
355-U1456D-19R-1, 30-34 cm	2.4238	2.0514	1.6632	1.2780	0.9139	0.6016	0.3931	0.3018	0.3319	0.4716	0.5096	0.3646	0.1038
355-U1456D-20R-1, 130-134 cm	2.8938	2.5585	2.1862	1.7960	1.4083	1.0533	0.7890	0.6444	0.6375	0.7528	0.9378	0.8750	0.5344
355-U1456D-21R-1, 18-22 cm	3.2066	3.0023	2.7539	2.4693	2.1518	1.8095	1.4939	1.2489	1.1207	1.1106	1.1632	1.2046	1.1284
355-U1456D-26R-2, 20-24 cm	2.7385	2.3860	2.0170	1.6521	1.3046	1.0014	0.7912	0.7016	0.7536	0.9365	0.9066	0.6037	0.1660
355-U1456D-27R-2, 40-44 cm	2.7850	2.4670	2.1145	1.7400	1.3605	1.0060	0.7393	0.5918	0.5817	0.6881	0.8545	0.9925	0.8183
355-U1456D-28R-1, 100-104 cm	2.5412	2.1953	1.8305	1.4622	1.1037	0.7786	0.5459	0.4312	0.4528	0.5992	0.8276	0.8179	0.5152
355-U1456D-29R-2, 50-54 cm	2.5589	2.2172	1.8544	1.4883	1.1323	0.8054	0.5676	0.4448	0.4609	0.6078	0.8483	0.8513	0.5425
355-U1456D-30R-6, 30-34 cm	3.1944	2.9607	2.6930	2.4058	2.1318	1.9255	1.8094	1.7868	1.8047	1.7971	1.7332	1.6088	1.4818
355-U1456D-35R-4, 90-94 cm	2.7975	2.6789	2.5373	2.3848	2.2407	2.1274	2.0762	2.1030	2.2070	2.3545	2.4766	2.5118	2.4188
355-U1456D-52R-5, 12-16 cm	2.9621	2.8303	2.6720	2.4991	2.3316	2.1976	2.1296	2.1448	2.2352	2.3574	2.4409	2.4263	2.2912
355-U1456E-19R-2, 38-42 cm	2.8192	2.9236	3.0174	3.1006	3.1758	3.2488	3.3248	3.4032	3.4718	3.5081	3.4863	3.3877	3.2109
355-U1457A-1H-4, 135-139 cm	2.8528	2.7578	2.6392	2.5000	2.3525	2.2232	2.1268	2.0756	2.0569	2.0545	2.0581	2.0505	2.0288
355-U1457A-2H-1, 31-33 cm	3.1424	3.0869	3.0166	2.9300	2.8331	2.7428	2.6682	2.6109	2.5486	2.4513	2.3019	2.0944	1.8509
355-U1457A-2H-3, 128-132 cm	2.9420	2.8655	2.7621	2.6346	2.4689	2.2559	2.0498	1.8970	1.8668	1.9638	2.1041	2.1755	2.0188
355-U1457A-5H-5, 140-144 cm	2.6139	2.6082	2.5843	2.5460	2.5022	2.4678	2.4570	2.4768	2.5205	2.5619	2.5657	2.5004	2.3538
355-U1457A-6H-5, 44-48 cm	2.2186	2.3956	2.5916	2.8077	3.0434	3.2952	3.5563	3.8146	4.0509	4.2371	4.3388	4.3235	4.1721



Table S1

<b>Sample</b>	<b>8.14669</b>	<b>8.94315</b>	<b>9.81748</b>	<b>10.7773</b>	<b>11.8309</b>	<b>12.9876</b>	<b>14.2573</b>	<b>15.6512</b>	<b>17.1813</b>	<b>18.861</b>	<b>20.705</b>	<b>22.7292</b>	<b>24.9513</b>
355-U1457C-24R-2, 63-67 cm	3.0550	3.0684	3.0575	3.0254	2.9811	2.9429	2.9332	2.9651	3.0294	3.0852	3.0736	2.9443	2.6879
355-U1457C-25R-1, 137-141 cm	2.8864	2.8690	2.8320	2.7801	2.7208	2.6661	2.6406	2.6643	2.7440	2.8540	2.9303	2.9075	2.7434
355-U1457C-25R-4, 137-141 cm	2.9649	2.9498	2.9149	2.8631	2.8030	2.7527	2.7338	2.7590	2.8192	2.8748	2.8670	2.7431	2.4873
355-U1457C-26R-2, 38-42 cm	3.5123	3.4180	3.2720	3.0794	2.8457	2.5893	2.3375	2.1296	1.9981	1.9437	1.9356	1.9057	1.7790
355-U1457C-30R-1, 74-78 cm	2.9251	2.9092	2.8788	2.8377	2.7987	2.7886	2.8139	2.8681	2.9063	2.8795	2.7696	2.5782	2.3502
355-U1457C-32R-1, 12-16 cm	2.9612	2.9827	2.9879	2.9809	2.9693	2.9644	2.9802	3.0222	3.0822	3.1320	3.1258	3.0247	2.8098
355-U1457C-33R-3, 48-52 cm	2.5369	2.4742	2.3988	2.3211	2.2533	2.2031	2.1948	2.2433	2.3623	2.5368	2.7024	2.7905	2.7281
355-U1457C-34R-3, 17-21 cm	2.3550	2.3514	2.3340	2.3074	2.2805	2.2670	2.2814	2.3323	2.4166	2.5152	2.5995	2.6410	2.6235
355-U1457C-35R-1, 122-126 cm	2.5241	2.5373	2.5355	2.5233	2.5096	2.5057	2.5222	2.5648	2.6312	2.7094	2.7785	2.8138	2.7948
355-U1457C-35R-6, 40-44 cm	2.5352	2.5400	2.5267	2.5001	2.4696	2.4489	2.4521	2.4891	2.5600	2.6513	2.7375	2.7869	2.7749
355-U1457C-74R-2, 70-74 cm	2.5613	2.5144	2.4549	2.3900	2.3300	2.2864	2.2833	2.3363	2.4528	2.6105	2.7484	2.8049	2.7281
355-U1457C-76R-3, 48-52 cm	3.0577	2.9722	2.8607	2.7311	2.5977	2.4850	2.4196	2.4175	2.4706	2.5407	2.5721	2.5157	2.3588
355-U1457C-78R-4, 76-80 cm	2.5866	2.5163	2.4309	2.3387	2.2528	2.1886	2.1716	2.2163	2.3256	2.4732	2.5984	2.6447	2.5686
355-U1457C-82R-3, 40-44 cm	2.2373	2.1767	2.1073	2.0395	1.9899	1.9768	2.0151	2.1080	2.2461	2.4051	2.5510	2.6510	2.6813
355-U1457C-84R-3, 75-79 cm	2.7446	2.7134	2.6676	2.6149	2.5675	2.5428	2.5577	2.6212	2.7252	2.8385	2.9133	2.9005	2.7714
355-U1457C-85R-3, 35-39 cm	2.5621	2.5672	2.5641	2.5586	2.5584	2.5749	2.6185	2.6948	2.7981	2.9054	2.9817	2.9897	2.9037

Table S1

<b>Sample</b>	<b>27.3906</b>	<b>30.0685</b>	<b>33.0081</b>	<b>36.2352</b>	<b>39.7777</b>	<b>43.6665</b>	<b>47.9356</b>	<b>52.622</b>	<b>57.7666</b>	<b>63.4141</b>	<b>69.6138</b>	<b>76.4196</b>	<b>83.8907</b>
355-U1456A-6H-6, 82-86 cm	1.5205	0.7692	0.1802	0.0186	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456A-11H-3, 124-128 cm	1.4770	1.1750	0.9234	0.7533	0.6638	0.6256	0.6000	0.4504	0.2376	0.0561	0.0059	0.0000	0.0000
355-U1456A-15H-3, 30-34 cm	2.0065	1.6960	1.4373	1.2461	1.1020	0.9693	0.6822	0.3425	0.0791	0.0080	0.0000	0.0000	0.0000
355-U1456A-25F-1, 130-134 cm	3.0914	3.5136	3.9174	4.2635	4.5144	4.6427	4.6399	4.5198	4.3134	4.0598	3.7923	3.5300	3.2783
355-U1456A-34F-3, 20-24 cm	2.7851	2.4165	2.0646	1.7791	1.5809	1.4638	1.3924	1.3095	1.1656	0.9310	0.5781	0.2496	0.0522
355-U1456A-53F-3, 20-24 cm	1.4675	1.2653	1.0716	0.8582	0.5556	0.2588	0.0579	0.0057	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456A-58F-1, 78-82 cm	1.5022	1.1980	0.7484	0.3317	0.0705	0.0065	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456A-63F-2, 40-44 cm	3.8852	4.2565	4.5344	4.6905	4.7163	4.6248	4.4479	4.2274	4.0009	3.7918	3.6016	3.4138	3.2134
355-U1456A-70F-2, 30-32 cm	2.7343	2.4376	2.1382	1.8771	1.6856	1.5732	1.5291	1.5169	1.4761	1.3511	1.1048	0.6981	0.3051
355-U1456A-72X-4, 120-124 cm	1.4551	1.2947	1.1488	0.9699	0.6582	0.3191	0.0733	0.0075	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456C-45X-1, 130-134 cm	2.6493	2.8268	2.9619	2.8032	2.0312	1.0151	0.2369	0.0246	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-4R-2, 11-15 cm	2.7100	2.4113	2.1429	1.9191	1.7477	1.6292	1.5541	1.5054	1.4526	1.3532	1.1754	0.9067	0.5433
355-U1456D-7R-2, 19-23 cm	1.5243	1.3685	1.2340	1.0623	0.7341	0.3619	0.0841	0.0087	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-9R-2, 11-15 cm	1.6363	1.3270	0.8574	0.3968	0.0873	0.0084	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-10R-3, 10-14 cm	1.7334	1.5084	1.0260	0.4928	0.1108	0.0108	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-12R-1, 12-16 cm	1.1921	0.6086	0.1433	0.0148	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-13R-2, 74-78 cm	1.1370	0.8633	0.5060	0.2058	0.0412	0.0035	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-15R-1, 125-129 cm	1.5288	1.0678	0.5213	0.1178	0.0116	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-17R-2, 66-70 cm	0.8748	0.4394	0.1023	0.0104	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-19R-1, 30-34 cm	0.0132	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-20R-1, 130-134 cm	0.1399	0.0152	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-21R-1, 18-22 cm	0.8065	0.3970	0.0914	0.0092	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-26R-2, 20-24 cm	0.0205	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-27R-2, 40-44 cm	0.4525	0.1083	0.0114	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-28R-1, 100-104 cm	0.1369	0.0150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-29R-2, 50-54 cm	0.1455	0.0160	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-30R-6, 30-34 cm	1.3957	1.3413	1.2913	1.1580	0.8155	0.4024	0.0934	0.0097	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-35R-4, 90-94 cm	2.2253	2.0166	1.8680	1.8390	1.9227	2.0393	2.0827	1.9196	1.3545	0.6609	0.1511	0.0151	0.0000
355-U1456D-52R-5, 12-16 cm	2.0759	1.8583	1.7019	1.6395	1.6485	1.6571	1.5842	1.3591	0.8983	0.4111	0.0898	0.0084	0.0000
355-U1456E-19R-2, 38-42 cm	2.9720	2.6981	2.4193	2.1583	1.9299	1.7398	1.5827	1.4477	1.3158	1.1595	0.9615	0.7156	0.4189
355-U1457A-1H-4, 135-139 cm	1.9848	1.8877	1.7213	1.2176	0.6111	0.1397	0.0142	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457A-2H-1, 31-33 cm	1.5999	1.3484	1.1037	0.8512	0.5333	0.2423	0.0533	0.0052	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457A-2H-3, 128-132 cm	1.4312	0.7013	0.1611	0.0163	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457A-5H-5, 140-144 cm	2.1466	1.9229	1.7422	1.6568	1.6891	1.8320	2.0333	2.1972	2.2162	1.6838	0.8812	0.2076	0.0213
355-U1457A-6H-5, 44-48 cm	3.8909	3.5137	3.0937	2.6886	2.3423	2.0761	1.8886	1.7578	1.6521	1.5369	1.3766	1.1528	0.8673

Table S1

<b>Sample</b>	<b>27.3906</b>	<b>30.0685</b>	<b>33.0081</b>	<b>36.2352</b>	<b>39.7777</b>	<b>43.6665</b>	<b>47.9356</b>	<b>52.622</b>	<b>57.7666</b>	<b>63.4141</b>	<b>69.6138</b>	<b>76.4196</b>	<b>83.8907</b>
355-U1457C-24R-2, 63-67 cm	2.3503	2.0059	1.7221	1.5302	1.4125	1.3191	0.9834	0.5180	0.1236	0.0128	0.0000	0.0000	0.0000
355-U1457C-25R-1, 137-141 cm	2.4684	2.1754	1.9537	1.8657	1.9016	1.9764	1.9753	1.7730	1.2166	0.5746	0.1281	0.0123	0.0000
355-U1457C-25R-4, 137-141 cm	2.1396	1.7739	1.4627	1.2477	1.1228	1.0480	0.7921	0.4249	0.1028	0.0108	0.0000	0.0000	0.0000
355-U1457C-26R-2, 38-42 cm	1.5172	1.1341	0.6577	0.2656	0.0530	0.0044	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-30R-1, 74-78 cm	2.1254	1.8992	1.6621	1.3669	0.9014	0.4256	0.0960	0.0096	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-32R-1, 12-16 cm	2.5052	2.1689	1.8597	1.6217	1.4629	1.3481	1.2302	0.8838	0.4503	0.1043	0.0107	0.0000	0.0000
355-U1457C-33R-3, 48-52 cm	2.5234	2.2773	2.0932	2.0760	2.2420	2.5023	2.7107	2.6392	1.9446	0.9826	0.2299	0.0236	0.0000
355-U1457C-34R-3, 17-21 cm	2.5515	2.4456	2.3334	2.2407	2.1822	2.1644	2.1824	2.2173	2.2407	2.2109	2.0743	1.7983	1.3791
355-U1457C-35R-1, 122-126 cm	2.7121	2.5747	2.4085	2.2521	2.1473	2.1174	2.1595	2.2349	2.2655	2.1650	1.8721	1.3802	0.7697
355-U1457C-35R-6, 40-44 cm	2.6937	2.5566	2.3956	2.2488	2.1507	2.1174	2.1372	2.1730	2.1630	2.0382	1.7595	1.3307	0.7774
355-U1457C-74R-2, 70-74 cm	2.5347	2.3063	2.1244	2.0598	2.1151	2.2113	2.2394	2.0554	1.4476	0.7053	0.1611	0.0160	0.0000
355-U1457C-76R-3, 48-52 cm	2.1354	1.9014	1.7062	1.5688	1.4684	1.3603	0.9974	0.5161	0.1216	0.0125	0.0000	0.0000	0.0000
355-U1457C-78R-4, 76-80 cm	2.3907	2.1877	2.0314	1.9823	2.0382	2.1232	2.1373	1.9509	1.3690	0.6658	0.1519	0.0151	0.0000
355-U1457C-82R-3, 40-44 cm	2.6349	2.5259	2.3842	2.2562	2.1837	2.1885	2.2623	2.3548	2.3753	2.2329	1.6038	0.8013	0.1835
355-U1457C-84R-3, 75-79 cm	2.5349	2.2335	1.9305	1.6819	1.5143	1.4226	1.3696	1.2980	1.1573	0.7994	0.3871	0.0870	0.0085
355-U1457C-85R-3, 35-39 cm	2.7270	2.4885	2.2404	2.0359	1.9045	1.8489	1.8358	1.7991	1.6732	1.1998	0.6021	0.1382	0.0139

Table S1

<b>Sample</b>	<b>92.0923</b>	<b>101.096</b>	<b>110.979</b>	<b>121.829</b>	<b>133.74</b>	<b>146.815</b>	<b>161.168</b>	<b>176.925</b>	<b>194.222</b>	<b>213.21</b>	<b>234.054</b>	<b>256.936</b>	<b>282.056</b>
355-U1456A-6H-6, 82-86 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456A-11H-3, 124-128 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456A-15H-3, 30-34 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456A-25F-1, 130-134 cm	3.0360	2.8060	2.5984	2.4138	2.2354	2.0205	1.7213	1.3288	0.8849	0.4566	0.1636	0.0297	0.0022
355-U1456A-34F-3, 20-24 cm	0.0046	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456A-53F-3, 20-24 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456A-58F-1, 78-82 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456A-63F-2, 40-44 cm	2.9909	2.7485	2.4815	2.1613	1.7640	1.2901	0.7924	0.3678	0.1115	0.0172	0.0009	0.0000	0.0000
355-U1456A-70F-2, 30-32 cm	0.0643	0.0057	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456A-72X-4, 120-124 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456C-45X-1, 130-134 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-4R-2, 11-15 cm	0.2255	0.0458	0.0039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-7R-2, 19-23 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-9R-2, 11-15 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-10R-3, 10-14 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-12R-1, 12-16 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-13R-2, 74-78 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-15R-1, 125-129 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-17R-2, 66-70 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-19R-1, 30-34 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-20R-1, 130-134 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-21R-1, 18-22 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-26R-2, 20-24 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-27R-2, 40-44 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-28R-1, 100-104 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-29R-2, 50-54 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-30R-6, 30-34 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-35R-4, 90-94 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456D-52R-5, 12-16 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1456E-19R-2, 38-42 cm	0.1716	0.0347	0.0029	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457A-1H-4, 135-139 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457A-2H-1, 31-33 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457A-2H-3, 128-132 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457A-5H-5, 140-144 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457A-6H-5, 44-48 cm	0.5457	0.2576	0.0770	0.0116	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table S1

<b>Sample</b>	<b>92.0923</b>	<b>101.096</b>	<b>110.979</b>	<b>121.829</b>	<b>133.74</b>	<b>146.815</b>	<b>161.168</b>	<b>176.925</b>	<b>194.222</b>	<b>213.21</b>	<b>234.054</b>	<b>256.936</b>	<b>282.056</b>
355-U1457C-24R-2, 63-67 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-25R-1, 137-141 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-25R-4, 137-141 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-26R-2, 38-42 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-30R-1, 74-78 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-32R-1, 12-16 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-33R-3, 48-52 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-34R-3, 17-21 cm	0.8211	0.3391	0.0686	0.0058	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-35R-1, 122-126 cm	0.2835	0.0517	0.0035	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-35R-6, 40-44 cm	0.3127	0.0619	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-74R-2, 70-74 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-76R-3, 48-52 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-78R-4, 76-80 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-82R-3, 40-44 cm	0.0183	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-84R-3, 75-79 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
355-U1457C-85R-3, 35-39 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table S1

<b>Sample</b>	<b>Total</b>	<b>Sand (%)</b>	<b>Silt (%)</b>	<b>Clay (%)</b>
355-U1456A-6H-6, 82-86 cm	100.0	0.00	49.53	50.47
355-U1456A-11H-3, 124-128 cm	100.0	0.06	68.73	31.21
355-U1456A-15H-3, 30-34 cm	100.0	0.01	67.92	32.07
355-U1456A-25F-1, 130-134 cm	100.0	34.36	59.34	6.30
355-U1456A-34F-3, 20-24 cm	100.0	1.82	73.80	24.38
355-U1456A-53F-3, 20-24 cm	100.0	0.00	64.33	35.67
355-U1456A-58F-1, 78-82 cm	100.0	0.00	54.49	45.51
355-U1456A-63F-2, 40-44 cm	100.0	28.75	65.76	5.49
355-U1456A-70F-2, 30-32 cm	100.0	3.53	70.88	25.59
355-U1456A-72X-4, 120-124 cm	100.0	0.00	59.25	40.75
355-U1456C-45X-1, 130-134 cm	100.0	0.00	68.24	31.76
355-U1456D-4R-2, 11-15 cm	100.0	4.25	75.34	20.40
355-U1456D-7R-2, 19-23 cm	100.0	0.00	58.08	41.92
355-U1456D-9R-2, 11-15 cm	100.0	0.00	57.46	42.54
355-U1456D-10R-3, 10-14 cm	100.0	0.00	55.67	44.33
355-U1456D-12R-1, 12-16 cm	100.0	0.00	50.58	49.42
355-U1456D-13R-2, 74-78 cm	100.0	0.00	54.96	45.04
355-U1456D-15R-1, 125-129 cm	100.0	0.00	53.61	46.39
355-U1456D-17R-2, 66-70 cm	100.0	0.00	45.98	54.02
355-U1456D-19R-1, 30-34 cm	100.0	0.00	35.93	64.07
355-U1456D-20R-1, 130-134 cm	100.0	0.00	42.76	57.24
355-U1456D-21R-1, 18-22 cm	100.0	0.00	49.48	50.52
355-U1456D-26R-2, 20-24 cm	100.0	0.00	41.59	58.41
355-U1456D-27R-2, 40-44 cm	100.0	0.00	42.31	57.69
355-U1456D-28R-1, 100-104 cm	100.0	0.00	38.80	61.20
355-U1456D-29R-2, 50-54 cm	100.0	0.00	38.95	61.05
355-U1456D-30R-6, 30-34 cm	100.0	0.00	59.32	40.68
355-U1456D-35R-4, 90-94 cm	100.0	0.83	68.52	30.65
355-U1456D-52R-5, 12-16 cm	100.0	0.51	67.49	32.00
355-U1456E-19R-2, 38-42 cm	100.0	3.46	76.57	19.97
355-U1457A-1H-4, 135-139 cm	100.0	0.00	58.36	41.64
355-U1457A-2H-1, 31-33 cm	100.0	0.00	62.72	37.28
355-U1457A-2H-3, 128-132 cm	100.0	0.00	52.95	47.05
355-U1457A-5H-5, 140-144 cm	100.0	2.79	67.49	29.72
355-U1457A-6H-5, 44-48 cm	100.0	5.83	79.55	14.63

Table S1

<b>Sample</b>	<b>Total</b>	<b>Sand (%)</b>	<b>Silt (%)</b>	<b>Clay (%)</b>
355-U1457C-24R-2, 63-67 cm	100.0	0.01	70.11	29.87
355-U1457C-25R-1, 137-141 cm	100.0	0.72	72.49	26.80
355-U1457C-25R-4, 137-141 cm	100.0	0.01	66.34	33.65
355-U1457C-26R-2, 38-42 cm	100.0	0.00	60.18	39.82
355-U1457C-30R-1, 74-78 cm	100.0	0.00	64.51	35.49
355-U1457C-32R-1, 12-16 cm	100.0	0.12	71.40	28.48
355-U1457C-33R-3, 48-52 cm	100.0	1.24	70.62	28.15
355-U1457C-34R-3, 17-21 cm	100.0	8.70	67.25	24.05
355-U1457C-35R-1, 122-126 cm	100.0	6.53	70.94	22.53
355-U1457C-35R-6, 40-44 cm	100.0	6.29	70.34	23.38
355-U1457C-74R-2, 70-74 cm	100.0	0.88	69.36	29.76
355-U1457C-76R-3, 48-52 cm	100.0	0.01	67.18	32.81
355-U1457C-78R-4, 76-80 cm	100.0	0.83	67.89	31.28
355-U1457C-82R-3, 40-44 cm	100.0	4.84	66.51	28.65
355-U1457C-84R-3, 75-79 cm	100.0	1.28	68.95	29.76
355-U1457C-85R-3, 35-39 cm	100.0	1.95	70.79	27.25

Table S2

Sample	Top depth CSF-A (m)	Age (Ma)	Na <sub>2</sub> O	MgO	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	CaO	TiO <sub>2</sub>	MnO	Fe <sub>2</sub> O <sub>3</sub>	LOI	Total
355-U1456A-1H-3, 10-14 cm	3.1	0.051	0.88	4.57	10.01	51.07	0.22	2.61	1.92	1.22	0.05	8.08	18.70	99.53
355-U1456A-6H-6, 82-86 cm	50.82	0.510	1.04	5.25	11.31	56.24	0.14	3.12	1.36	1.12	0.06	8.38	12.00	100.19
355-U1456A-11H-3, 124-128 cm	94.24	0.884	1.09	5.31	10.59	57.83	0.16	2.69	1.42	0.94	0.05	6.78	12.29	99.31
355-U1456A-15H-3, 30-34 cm	130.31	1.111	1.40	4.79	13.48	61.78	0.11	3.64	0.83	0.83	0.06	6.00	6.37	99.45
355-U1456A-25F-1, 130-134 cm	178.2	1.228	1.89	3.12	13.62	68.92	0.17	2.65	2.03	0.66	0.05	3.95	2.75	99.94
355-U1456A-34F-3, 20-24 cm	221.6	1.328	1.38	4.50	13.20	63.28	0.13	3.32	0.73	0.81	0.05	5.53	7.03	100.10
355-U1456A-53F-3, 20-24 cm	308.1	1.528	1.54	5.01	13.36	61.52	0.12	3.82	0.99	0.82	0.06	5.94	6.00	99.35
355-U1456A-58F-1, 78-82 cm	329.18	1.576	0.99	5.56	12.66	56.13	0.12	2.62	0.79	1.06	0.07	7.33	12.20	99.72
355-U1456A-63F-2, 40-44 cm	353.8	2.578	1.61	2.99	12.84	71.25	0.14	2.36	1.45	0.70	0.05	3.60	2.75	99.87
355-U1456A-70F-2, 30-32 cm	386.6	3.076	1.15	4.48	13.56	61.10	0.09	3.40	0.52	0.89	0.04	5.74	8.69	99.84
355-U1456A-72X-4, 120-124 cm	403.5	3.333	0.89	5.51	12.85	56.07	0.12	2.70	0.44	1.05	0.05	6.94	12.86	99.67
355-U1456C-45X-1, 130-134 cm	457.1	3.554	1.28	4.04	13.96	63.81	0.12	2.97	0.71	0.86	0.05	5.44	6.60	99.99
355-U1456D-4R-2, 11-15 cm	479.08	4.059	1.07	4.55	13.18	60.79	0.12	3.26	0.74	0.89	0.05	5.64	8.70	99.14
355-U1456D-7R-2, 19-23 cm	508.43	5.432	1.14	4.58	13.18	60.73	0.11	3.16	0.84	0.87	0.05	5.83	8.87	99.54
355-U1456D-9R-2, 11-15 cm	528.28	6.618	0.84	4.37	13.02	51.47	0.11	2.58	0.79	1.41	0.06	8.29	16.25	99.40
355-U1456D-10R-3, 10-14 cm	539.3	6.685	0.75	5.00	12.83	52.34	0.10	2.84	0.81	1.10	0.07	8.27	15.81	100.13
355-U1456D-12R-1, 12-16 cm	555.92	6.827	1.02	4.72	13.28	59.55	0.13	3.17	0.76	0.88	0.05	6.23	9.60	99.54
355-U1456D-13R-2, 74-78 cm	567.24	6.946	1.08	4.73	13.18	61.60	0.12	3.04	0.79	0.87	0.05	5.73	8.70	100.04
355-U1456D-15R-1, 125-129 cm	586.15	7.226	1.00	4.39	14.15	58.71	0.11	3.22	0.76	0.92	0.05	6.29	9.65	99.40
355-U1456D-17R-2, 66-70 cm	606.21	7.682	1.18	4.52	13.22	60.56	0.12	3.45	0.81	0.83	0.05	5.69	8.77	99.35
355-U1456D-19R-1, 30-34 cm	624	7.830	0.99	4.61	13.61	57.94	0.11	3.59	0.68	0.90	0.05	6.28	10.75	99.68
355-U1456D-20R-1, 130-134 cm	634.7	7.918	0.94	4.53	13.50	58.12	0.12	3.16	0.72	0.90	0.05	6.07	11.09	99.35
355-U1456D-21R-1, 18-22 cm	643.28	7.989	1.06	4.55	13.09	59.71	0.19	2.91	0.89	0.84	0.04	5.71	10.49	99.64
355-U1456D-26R-2, 20-24 cm	693.3	8.404	1.02	4.78	13.75	58.07	0.13	3.22	0.92	0.89	0.05	6.40	10.50	99.90
355-U1456D-27R-2, 40-44 cm	703.2	8.486	1.02	4.35	14.18	59.25	0.09	3.33	0.33	0.96	0.04	6.05	10.21	99.98
355-U1456D-28R-1, 100-104 cm	712	8.559	0.85	3.49	13.76	51.38	0.08	3.18	0.22	0.92	0.04	6.04	19.16	99.27
355-U1456D-29R-2, 50-54 cm	722.4	8.646	0.98	4.31	13.78	59.14	0.08	3.29	0.28	0.95	0.04	6.00	10.51	99.51
355-U1456D-30R-6, 30-34 cm	738.2	8.768	0.75	2.82	14.12	51.77	0.08	2.63	0.19	1.84	0.05	9.79	15.49	99.69
355-U1456D-35R-4, 90-94 cm	784.3	9.753	0.67	4.06	13.89	54.13	0.06	2.81	0.09	1.35	0.04	7.76	14.61	99.65
355-U1456D-52R-5, 12-16 cm	943.22	10.806	0.74	4.48	13.51	56.56	0.09	3.06	0.14	1.01	0.04	6.41	13.30	99.50
355-U1456E-19R-2, 38-42 cm	1101.86	15.620	1.12	4.51	13.22	60.14	0.09	2.87	0.34	0.79	0.04	5.26	11.45	99.97
355-U1457A-1H-4, 135-139 cm	5.07	0.173	1.00	4.24	13.48	55.04	0.07	2.91	0.68	1.26	0.05	7.82	12.47	99.19
355-U1457A-2H-1, 31-33 cm	9.01	0.224	0.86	4.07	13.50	54.88	0.08	2.50	0.67	1.21	0.05	8.34	13.56	99.88
355-U1457A-2H-3, 128-132 cm	12.98	0.276	0.81	3.56	13.56	51.58	0.09	2.33	0.71	1.57	0.05	10.05	15.56	100.04
355-U1457A-5H-5, 140-144 cm	44.6	0.843	0.96	4.10	13.29	53.12	0.10	2.65	0.82	1.36	0.05	8.17	14.55	99.34
355-U1457A-6H-5, 44-48 cm	53.14	0.959	1.01	3.94	13.15	53.33	0.11	2.28	0.95	1.50	0.05	8.40	14.32	99.22
355-U1457C-24R-2, 63-67 cm	407.01	2.325	0.95	5.21	12.70	56.00	0.14	2.65	0.57	1.09	0.06	7.07	12.97	99.59
355-U1457C-25R-1, 137-141 cm	416.07	2.584	0.78	4.60	13.33	51.41	0.12	2.61	1.52	1.29	0.05	8.76	15.11	99.77



Table S2

Sample	Top depth CSF-A (m)	Age (Ma)	Na <sub>2</sub> O	MgO	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	CaO	TiO <sub>2</sub>	MnO	Fe <sub>2</sub> O <sub>3</sub>	LOI	Total
355-U1457C-25R-4, 137-141 cm	420.49	2.630	0.85	5.34	13.07	54.71	0.15	2.81	0.70	1.07	0.06	7.50	12.73	99.17
355-U1457C-26R-2, 38-42 cm	426.28	2.690	1.11	4.44	13.82	61.23	0.12	3.47	0.62	0.89	0.05	5.80	7.79	99.50
355-U1457C-30R-1, 74-78 cm	463.94	3.083	1.33	4.73	13.63	61.13	0.12	3.57	0.81	0.87	0.05	5.82	7.07	99.31
355-U1457C-32R-1, 12-16 cm	482.72	3.279	1.01	5.90	13.06	57.12	0.10	2.59	0.51	1.00	0.06	6.44	11.25	99.20
355-U1457C-33R-3, 48-52 cm	495.78	3.398	0.99	3.60	13.59	50.93	-1.11	2.32	4.26	1.51	0.05	8.17	15.01	99.54
355-U1457C-34R-3, 17-21 cm	505.17	3.479	0.71	4.10	13.35	49.38	0.17	2.32	0.65	1.56	0.05	8.88	17.92	99.26
355-U1457C-35R-1, 122-126 cm	512.92	3.557	0.73	4.26	13.02	49.11	0.15	2.40	1.07	1.46	0.05	8.05	18.85	99.32
355-U1457C-35R-6, 40-44 cm	519.6	3.738	0.88	5.09	13.08	53.09	0.14	2.50	0.82	1.26	0.05	7.56	15.00	99.65
355-U1457C-74R-2, 70-74 cm	892.2	9.891	0.67	4.33	12.60	53.13	0.08	2.67	0.34	1.14	0.04	6.71	17.97	99.85
355-U1457C-76R-3, 48-52 cm	912.61	9.991	0.65	2.99	14.47	47.16	0.10	2.75	0.52	1.42	0.06	7.83	20.43	98.53
355-U1457C-78R-4, 76-80 cm	933.79	10.095	0.65	4.04	14.00	52.72	0.09	2.70	0.32	1.27	0.05	7.06	16.02	99.08
355-U1457C-82R-3, 40-44 cm	971	10.278	0.60	4.37	14.05	55.02	0.09	3.00	0.28	1.19	0.04	6.92	14.02	99.71
355-U1457C-84R-3, 75-79 cm	990.75	10.375	0.69	4.38	13.79	55.03	0.09	2.97	0.49	1.08	0.04	6.51	13.97	99.19
355-U1457C-85R-3, 35-39 cm	999.63	10.418	0.73	4.93	12.91	53.71	0.08	3.08	0.26	1.05	0.06	7.83	14.54	99.33

Table S2

Sample	V	Cr	Ni	Cu	Zn	Ga	Rb	Sr	Y	Zr	Nb	Ba	La	Pb	Th
355-U1456A-1H-3, 10-14 cm	348.6	205.4	128.2	112.5	150.7	23.5	125.7	275.7	24.3	156	12.8	366.4	19.5	39.4	10
355-U1456A-6H-6, 82-86 cm	292	165.4	86.4	73.5	125.7	23.7	144	142.2	22.2	146.3	15.1	505.2	27.7	21.8	11.7
355-U1456A-11H-3, 124-128 cm	244.8	191	136.5	89.8	128.5	19.7	118	154.3	25.2	156.6	13.7	259.4	18.6	40	8.3
355-U1456A-15H-3, 30-34 cm	207.9	112.4	69.9	41.9	103.9	23.7	187.3	130.3	24.3	141.4	17.9	542.4	34.3	29.7	12.5
355-U1456A-25F-1, 130-134 cm	135.4	76	36.4	21.3	59.5	15.8	119.6	212.5	22.6	161.7	12.1	424.9	24.3	21	9.5
355-U1456A-34F-3, 20-24 cm	200.8	119	68.3	42	96.8	22.1	173.1	112.7	26.2	150.6	17.8	518.6	28.2	45.8	13.5
355-U1456A-53F-3, 20-24 cm	204.5	100.9	63.9	38.5	98.8	23.9	186.6	134.6	24.6	132.6	14.3	635.9	28.5	35.8	10.5
355-U1456A-58F-1, 78-82 cm	298.5	190.2	148.9	97.8	132.6	20.8	116.6	117.6	24.2	160.4	12.8	588.1	29.6	63.5	8.3
355-U1456A-63F-2, 40-44 cm	139.5	71.9	36.9	19.9	61.9	14.3	115.1	141.7	25.6	193.4	12.5	425	31	24.4	10.3
355-U1456A-70F-2, 30-32 cm	208.6	140.8	78.3	35.2	91.4	23.9	174.2	114.6	23.8	148.4	18.1	624.5	22.4	50.6	10.7
355-U1456A-72X-4, 120-124 cm	276	198.4	140.3	81.1	135.1	22.2	122.7	100.9	24.9	160.2	17	610.5	18.7	19.2	9
355-U1456C-45X-1, 130-134 cm	189.6	112.3	67.8	30.7	83.7	20.4	147.9	124.6	24.4	164.4	16.6	485.4	23.5	36.9	9.2
355-U1456D-4R-2, 11-15 cm	200.7	138.8	78.2	39.8	99.8	21.9	153.8	105.6	23.1	134.7	19	525.5	19.3	22.8	11.6
355-U1456D-7R-2, 19-23 cm	214.5	134.4	93.3	42.4	102.6	23	164.3	125.9	25	158.8	17.3	612.8	23.2	17.4	11.3
355-U1456D-9R-2, 11-15 cm	362.4	200.7	98.7	59.2	105	22.9	116.5	117	24.5	162.2	18.1	694.7	25.3	23.5	10.1
355-U1456D-10R-3, 10-14 cm	306.7	224.4	176.1	112.4	159.2	21.9	118.8	113.2	21.2	147.9	13.9	639.7	23.6	9.9	7.2
355-U1456D-12R-1, 12-16 cm	223.5	157.1	108.8	42.9	99.3	24.2	154.8	126.7	24.5	145.8	17.9	482.9	23.4	22.3	11.8
355-U1456D-13R-2, 74-78 cm	209	150	102.9	40.5	92.2	21.8	144	124.9	24.1	150.2	18.6	450.2	23.2	18.2	10.5
355-U1456D-15R-1, 125-129 cm	216.7	145.2	99.2	42.4	97.7	22.2	154.5	124	22.7	141.7	16	453.8	20.1	25.7	11.7
355-U1456D-17R-2, 66-70 cm	208.6	119.2	93.9	40.8	95.6	23	162.2	129.2	23.6	135.4	16.3	462.1	23.9	38.3	12.2
355-U1456D-19R-1, 30-34 cm	230.5	158.1	121.5	50.2	108.1	24.9	177.7	125.1	23.4	144.5	17	444.2	20	57.1	13.1
355-U1456D-20R-1, 130-134 cm	229.6	156.2	120.9	50.7	103.6	22.7	158	120.5	23.1	141.8	16	399.2	20.2	42.6	12.8
355-U1456D-21R-1, 18-22 cm	208.6	147.3	114.4	43	96.8	23.3	147.4	132.5	24.4	143.6	16.4	395	24.5	41.8	11.5
355-U1456D-26R-2, 20-24 cm	221.7	147.6	127.3	52.4	106.3	23.5	156.2	137.2	24	147.2	14.8	443.6	22.5	35.2	11.7
355-U1456D-27R-2, 40-44 cm	221.7	153.5	117.8	38.8	93.4	24	163.9	111.9	21.5	144.7	17.1	402.6	22.5	30.3	12.5
355-U1456D-28R-1, 100-104 cm	217.1	144.2	116.4	42.4	92	24	168.6	109.1	22.7	144.6	18.6	420.6	22.2	40.8	12.8
355-U1456D-29R-2, 50-54 cm	221.3	153.7	109.9	38	91.3	24.8	162.2	112.6	22.8	149.8	17.9	425.7	20.8	34.9	12.3
355-U1456D-30R-6, 30-34 cm	415.4	175.3	81.3	48.6	93.9	24.4	115.3	74.8	23.1	169.2	14.8	531	28.2	11.7	8.9
355-U1456D-35R-4, 90-94 cm	308.4	181.9	112.5	51.4	99.7	24.5	134.5	77.9	20.5	151.6	15.1	449.7	24.5	13.4	9.4
355-U1456D-52R-5, 12-16 cm	244.5	183.6	146.5	49	105.1	22.6	153.5	89.1	21.7	148	17.5	385.6	21.3	10.8	10.4
355-U1456E-19R-2, 38-42 cm	191.7	163	99.5	29.1	80.6	22.1	149.4	101.1	22.1	140.3	14.2	372.4	21.9	29.4	8.8
355-U1457A-1H-4, 135-139 cm	325.3	152.8	67.2	70.1	101	23.3	147.6	102.5	21.7	152.4	15.3	404.7	18.4	11.8	11.1
355-U1457A-2H-1, 31-33 cm	305.2	158.3	69.3	77.4	99.8	23.1	128.4	100.3	20.6	154.3	13.7	367.4	22.6	10.1	9.9
355-U1457A-2H-3, 128-132 cm	392.5	155.7	71.4	88.2	100.1	24.1	116.7	97	20.8	162.5	12.9	330.1	30.1	8.6	9.4
355-U1457A-5H-5, 140-144 cm	330.7	146.6	65.5	72.4	108.5	24.2	130.3	111.9	20.3	148.2	14.1	441.4	24.1	7.7	10.7
355-U1457A-6H-5, 44-48 cm	375.9	150.9	81.6	87.6	100.3	25	114.7	130.4	22.3	171.2	13.3	420.7	20	17.8	10
355-U1457C-24R-2, 63-67 cm	280.4	173.3	129.1	63.4	126.5	19.7	111	101.1	24.1	158.5	13.5	551.8	22.1	5.8	7.9
355-U1457C-25R-1, 137-141 cm	327.2	176	120.4	91.2	131.6	23.2	115.5	110.7	21.5	153	14.5	557.9	16.9	14.5	7.6

Table S2

<b>Sample</b>	<b>V</b>	<b>Cr</b>	<b>Ni</b>	<b>Cu</b>	<b>Zn</b>	<b>Ga</b>	<b>Rb</b>	<b>Sr</b>	<b>Y</b>	<b>Zr</b>	<b>Nb</b>	<b>Ba</b>	<b>La</b>	<b>Pb</b>	<b>Th</b>
355-U1457C-25R-4, 137-141 cm	273.6	193	142.1	73.5	146.7	20.7	118.8	105.6	21.4	158.4	16.2	522.9	18.7	14.4	7.8
355-U1457C-26R-2, 38-42 cm	212.7	114.7	73.6	38.9	103.6	24.1	179.2	112.8	25.6	150.3	19.5	579.8	19.6	10.8	13.2
355-U1457C-30R-1, 74-78 cm	205.8	111.1	73.1	37.8	102.1	24.1	180.9	139.4	24.3	143.2	18.8	583.7	20.5	16.8	11
355-U1457C-32R-1, 12-16 cm	245.7	212.5	172	63.4	128.1	21.3	118.5	99.8	21.8	165.6	16.8	403.5	18.9	15.1	8.2
355-U1457C-33R-3, 48-52 cm	347.4	144.2	65.7	58.1	83.8	19.9	92.3	333.1	28.5	171.8	15.8	699	19.3	31	8.5
355-U1457C-34R-3, 17-21 cm	367.3	189.3	104.9	83.6	118.1	23.8	106	96.7	21.9	155.5	15	463.2	17.3	27.7	8.8
355-U1457C-35R-1, 122-126 cm	362	174.7	82.8	62.9	106.2	22.4	117.3	110.2	19.4	147	15	539.9	22.3	8.1	8.4
355-U1457C-35R-6, 40-44 cm	314.5	195.6	124.4	64.8	120.2	22.5	115.2	106.5	21.9	157.3	14.5	442.6	19.3	15.7	7.7
355-U1457C-74R-2, 70-74 cm	297.5	177	147	51.9	113.9	23.2	136.5	94.4	21.5	150.8	16.1	430.8	24.6	13.8	8.6
355-U1457C-76R-3, 48-52 cm	251.9	153.4	109.3	48	105.2	18.9	121.5	78.1	20.6	131.2	15.4	395.8	23.1	9.6	8.2
355-U1457C-78R-4, 76-80 cm	280.4	161.1	125.9	46.2	108.1	21.6	131	81	20.8	143.6	15.4	385.3	22.7	5	7.8
355-U1457C-82R-3, 40-44 cm	254.1	157.6	129.4	44.4	105.3	20.6	137.3	78.8	17.7	128	13.3	330.9	18.3	6.9	8.1
355-U1457C-84R-3, 75-79 cm	237.6	177.9	145.7	47.8	111.5	21.3	139.3	87.4	20	139.7	15.7	315.1	25.5	3.6	9.6
355-U1457C-85R-3, 35-39 cm	275.2	187.6	194.1	49.4	119.6	21.6	124.6	83.7	23.5	155.9	15	307.4	21.8	13.7	10.4