

Table T1. Results of X-ray diffraction analysis, <2- μm size fraction, Sites 1173, 1174, and 1177. (See table notes. Continued on next eight pages.)

Core, section, interval (cm)	Depth (mbsf)	Relative mineral abundance											I/S mixed-layer clay				
		XRD peak area (total counts)				SVD factor (wt%)				Biscaye factor (area%)			I(002)/S(003) (Å)	Illite in I/S (%)*	I-saddle: I-peak	Expandability (%)†	
		Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)					
190-1173A-																	
1H-4, 132	6	7,804	4,632	3,810	127	37	44	17	2	23	55	22			0.62	74	
2H-4, 136	13	957	1,825	2,245	607	22	30	24	24	8	57	35			0.89	61	
3H-4, 126	22	651	1,659	2,760	465	19	30	30	22	5	52	43			0.94	58	
3H-4, 126	22	1,396	3,400	5,289	707	18	32	30	19	5	53	41			0.94	58	
4H-3, 132	29	2,839	3,057	3,744	460	24	35	26	15	13	54	33			0.84	64	
5H-3, 128	40	946	2,473	2,863	615	21	33	25	22	6	60	35			0.91	52	
5H-5, 126	43	1,779	2,858	3,360	676	22	33	24	21	9	57	34			0.86	63	
7H-4, 128	60	1,508	2,494	3,345	500	21	33	27	19	8	55	37					
8H-4, 133	70	4,775	5,375	6,505	710	23	36	26	14	12	55	33			0.75	68	
9H-4, 113	79	8,818	8,235	8,247	294	26	44	25	5	15	57	28			0.79	67	
10H-4, 132	89	1,556	2,255	3,396	493	21	32	29	19	9	52	39			0.88	62	
11H-4, 107	98	2,335	2,903	3,617	567	23	33	26	18	11	55	34			0.85	64	
		Average trench-wedge facies:				23	35	26	17	10	55	35					
12H-4, 48	107	4,973	6,290	6,200	176	22	47	26	5	12	59	29			0.85	64	
12H-4, 65	107	10,715	9,863	9,578	398	27	44	24	6	15	57	28			0.75	68	
13H-4, 129	117	3,354	5,233	6,106	627	21	38	27	14	9	57	33			0.91	52	
14H-3, 131	125	5,092	3,518	4,485	465	28	34	25	13	18	50	32			0.87	63	
15H-4, 129	136	6,342	5,075	6,386	478	26	37	27	10	16	52	32			0.85	64	
16H-4, 95	146	10,090	4,851	3,970	190	41	41	16	2	27	52	21			0.74	69	
17H-4, 133	155	7,088	3,508	4,186	350	34	34	23	9	24	48	28			0.85	64	
19H-4, 127	174	8,465	6,368	7,588	535	28	37	26	9	17	52	31			0.82	65	
20H-4, 133	184	7,631	3,984	4,271	403	35	35	21	9	24	50	27			0.79	67	
21H-4, 106	193	8,792	4,803	5,480	480	33	35	22	9	23	49	28			0.83	65	
22H-3, 131	201	5,269	2,972	3,489	304	32	35	23	10	22	49	29			0.84	64	
23H-5, 131	214	13,369	6,831	6,940	307	37	39	21	4	24	50	25			0.79	67	
24H-1, 123	217	10,371	3,194	3,214	311	48	32	15	5	35	43	22	16	28	0.79	67	
24H-2, 128	219	7,600	3,142	3,487	370	39	33	20	9	28	46	26			0.81	66	
24H-5, 128	223	9,310	5,860	5,917	429	32	39	21	8	21	53	27			0.81	66	
24H-6, 135	225	10,053	4,408	4,571	592	38	33	19	11	27	48	25	15.97	26	0.83	65	
25X-4, 125	231	21,079	7,289	7,655	574	45	33	17	5	32	44	23			0.71	70	
26X-2, 29	237	6,614	3,471	4,380	398	32	33	24	10	23	47	30			0.88	62	
27X-3, 136	249	7,694	4,305	4,951	658	32	33	22	13	22	49	28			0.83	65	
27X-5, 110	252	4,624	2,027	2,939	417	33	28	24	15	25	44	32	16.4	54	0.89	61	
28X-5, 119	262	15,322	5,202	5,155	543	45	32	16	7	33	45	22			0.75	68	
29X-4, 117	270	13,928	5,897	6,082	657	39	34	18	9	28	47	24	15.98	27	0.74	69	
30X-3, 112	278	6,842	4,102	4,795	699	31	32	22	15	21	50	29			0.86	63	
31X-1, 131	285	13,505	5,112	4,912	469	43	34	16	6	31	47	22			0.76	68	
32X-3, 90	297	3,725	2,897	3,021	393	28	36	22	14	17	54	28	15.91	22	0.90	60	
32X-6, 130	302	9,140	3,230	2,963	265	46	34	15	5	33	46	21	15.97	26	0.79	67	
33X-1, 121	304	4,705	2,827	2,747	444	32	34	19	14	22	53	26			0.86	63	
34X-4, 114	318	16,835	4,956	4,551	248	53	34	13	0	37	43	20	16	28	0.93	59	
34X-5, 54	318	12,121	3,893	3,556	181	51	35	14	0	35	45	20	16.14	42	0.83	65	
34X-CC, 16	322	31,291	7,578	6,759	491	60	31	10	0	42	40	18	15.87	19	0.64	73	
35X-5, 102	329	6,416	3,120	3,535	685	34	30	20	16	25	48	27			0.86	63	
36X-4, 93	337	16,780	4,265	4,850	473	51	28	15	5	39	39	22			0.66	72	

Table T1 (continued).

Core, section, interval (cm)	Depth (msbf)	Relative mineral abundance											I/S mixed-layer clay			
		XRD peak area (total counts)				SVD factor (wt%)				Biscaye factor (area%)			I(002)/S(003) (Å)	Illite in I/S (%)*	I-saddle: I-peak	Expandability (%)†
		Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)				
36X-6, 33	339	5,748	2,074	2,172	188	43	33	18	6	31	45	24			0.86	63
36X-CC, 21	340	6,363	2,150	2,227	481	41	28	16	15	33	44	23			0.86	63
		Average Upper Shikoku Basin facies:				37	35	20	8	26	48	26				
37X-4, 122	346	20,286	5,451	4,794	498	54	31	11	3	39	42	19	15.82	13	0.63	73
37X-6, 35	349	34,783	7,430	5,482	990	61	28	6	5	46	39	15	15.82	13	0.57	76
38X-3, 0	353	23,954	6,340	6,140	583	53	30	13	4	39	41	20			0.62	74
38X-5, 129	358	31,969	8,630	7,981	1,143	51	29	12	7	39	42	19	15.85	16	0.56	76
38X-CC, 21	360	18,934	6,152	4,503	803	49	32	11	9	36	47	17	15.87	19	0.66	72
39X-1, 86	361	50,353	1,079	786	2,746	77	5	0	18	90	8	3			0.27	91
39X-2, 117	363	24,946	6,049	5,855	1,089	51	27	12	10	41	40	19	15.94	24	0.57	76
39X-5, 133	367	22,445	4,632	4,003	705	59	26	8	6	46	38	16			0.57	76
40X-5, 116	377	29,264	5,706	5,250	1,093	58	24	9	8	47	36	17	15.9	21	0.57	76
40X-6, 55	378	55,544	9,627	6,286	1,236	71	25	2	2	52	36	12	15.8	10	0.40	84
41X-7, 26	389	36,667	7,913	6,093	777	63	29	6	2	46	39	15	15.82	13	0.52	78
42X-2, 118	392	22,755	6,589	6,142	983	48	29	13	9	37	43	20	16.08	36	0.57	76
42X-7, 31	398	15,089	6,172	7,235	1,009	37	31	20	12	28	46	27	15.93	23	0.68	71
43X-5, 89	405	17,033	4,828	5,185	782	47	28	15	10	36	41	22	16	28	0.69	71
44X-4, 111	414	12,557	6,560	5,842	646	37	37	18	9	25	52	23	16.02	29	0.74	69
44X-5, 0	414	22,362	7,375	8,034	855	44	31	17	8	33	43	24			0.63	73
44X-CC, 27	418	13,111	5,557	5,314	436	41	36	17	6	29	48	23	16.01	29	0.75	68
45X-5, 121	425	22,210	7,714	8,490	679	44	33	18	6	32	44	24	15.89	21	0.69	71
45X-7, 42	427	13,914	5,127	5,849	598	41	32	19	8	30	44	25	16.02	29	0.71	70
46X-1, 132	429	32,635	12,442	10,268	623	47	38	13	2	32	48	20	16.04	31	0.68	71
46X-5, 121	434	14,477	6,232	6,441	667	39	34	19	9	28	48	25	16	28	0.72	70
47X-4, 116	442	17,900	6,427	5,966	799	44	32	15	9	32	46	21	15.87	19	0.75	68
47X-5, 130	444	22,515	6,072	7,798	837	47	28	18	8	36	39	25	16.07	35	0.62	74
48X-5, 115	453	12,977	4,344	6,361	920	38	27	22	13	30	40	30	15.97	26	0.72	70
48X-CC, 29	456	21,740	6,500	6,532	927	47	30	15	9	36	43	21	16.02	29	0.69	71
49X-3, 116	459	18,556	5,566	7,186	826	43	28	19	9	34	40	26	16.01	29	0.70	70
50X-5, 118	472	20,711	6,555	8,129	1,024	42	29	19	10	33	41	26	15.92	23	0.67	72
51X-2, 39	476	17,726	5,487	6,014	589	46	31	17	6	34	42	23	15.97	26	0.69	71
51X-5, 118	482	19,267	2,611	4,381	808	57	18	15	10	50	27	23	15.86	18	0.57	76
51X-6, 60	482	16,504	5,425	6,556	519	44	31	19	6	32	42	26	15.93	23	0.74	69
52X-4, 43	489	11,168	6,066	7,075	594	33	35	23	9	23	49	29	16.19	44	0.80	66
53X-3, 90	498	12,933	7,610	9,091	799	31	35	24	10	21	49	30	15.96	25	0.78	67
53X-5, 128	501	19,626	7,062	7,741	725	42	32	18	7	31	45	24	16.01	29	0.69	71
53X-CC, 26	503	19,019	9,651	10,179	592	36	38	21	5	24	50	26	16.06	34	0.77	68
54X-5, 119	511	15,286	9,065	9,126	757	33	38	21	8	22	52	26	16.12	41	0.82	65
55X-5, 131	520	13,774	8,273	6,864	490	35	41	17	6	23	55	23	16.12	41	0.76	68
56X-4, 112	528	11,484	5,429	6,305	907	35	31	21	13	25	47	28	16.06	34	0.79	67
57X-3, 113	536	15,914	6,074	8,292	888	37	30	22	11	28	43	29	16.12	41	0.73	69
58X-4, 118	547	21,381	6,237	7,105	1,074	45	28	17	11	35	41	23	15.95	24	0.68	71
59X-4, 115	557	13,824	5,324	4,974	808	41	32	16	11	31	47	22	16.28	49	0.71	70
60X-4, 115	567	11,389	5,883	6,398	1,029	34	32	20	14	24	49	27	15.84	15	0.72	70
60X-5, 82	568	16,733	5,858	7,238	837	40	30	20	10	31	43	26	15.98	27	0.72	70
61X-4, 116	576	7,998	3,672	4,240	636	35	31	20	14	26	47	27	16.38	53	0.74	69

Table T1 (continued).

Core, section, interval (cm)	Depth (mbsf)	Relative mineral abundance											I/S mixed-layer clay					
		XRD peak area (total counts)				SVD factor (wt%)				Biscaye factor (area%)			I(002)/S(003) (Å)	Illite in I/S (%)*	I-saddle: I-peak	Expandability (%)†		
		Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)						
62X-2, 52	582	24,624	8,709	9,365	1,068	42	31	18	9	31	45	24	16.04	31	0.70	70		
63X-1, 83	591	13,554	6,754	7,255	1,010	35	33	20	13	25	49	26	16.05	32	0.73	69		
64X-2, 99	602	16,428	5,862	5,274	783	44	32	15	9	33	47	21	16.16	43	0.69	71		
64X-2, 120	602	20,952	6,920	7,258	994	44	30	16	10	33	44	23	16.25	48	0.65	73		
64X-5, 56	606	15,339	6,569	5,815	905	40	33	16	11	29	49	22	15.94	24	0.70	70		
65X-2, 105	612	14,720	5,691	6,031	994	39	30	18	13	30	46	24	16.05	32	0.71	70		
65X-3, 109	613	16,666	7,399	8,247	910	37	33	20	10	27	47	26	16.06	34	0.73	69		
66X-1, 60	619	9,817	3,628	4,604	551	39	30	21	11	29	43	27	15.98	27	0.77	68		
67X-3, 90	632	17,541	4,437	5,470	883	47	26	17	11	38	38	24	16.02	29	0.70	70		
68X-3, 67	642	16,166	5,374	7,424	788	40	29	22	10	31	41	28			0.70	70		
69X-4, 89	653	17,260	5,824	7,161	811	41	30	20	9	31	42	26	16.24	47	0.73	69		
70X-1, 112	659	13,780	5,510	7,421	579	37	32	23	8	27	44	29			0.79	67		
71X-4, 119	673	1,501	2,678	1,961	200	22	47	20	11	9	66	24	16.44	55	0.94	58		
71X-5, 130	674	18,006	5,038	5,850	735	47	28	17	8	36	40	23	16.14	42	0.72	70		
72X-1, 126	678	19,334	6,242	7,848	959	42	29	19	10	32	42	26	16.02	29	0.69	71		
73X-1, 117	688	14,552	3,044	3,531	956	49	23	14	15	43	36	21			0.61	74		
Average Lower Shikoku Basin facies:						44	30	17	9	33	43	23						
73X-2, 86	689	21,224	2,828	3,057	1,431	56	18	10	17	55	29	16	16.08	36	0.55	77		
74X-1, 10	696	62,556	381	523	3,062	82	2	0	16	96	2	2			0.13	100		
74X-CC, 21	697	9,921	2,779	2,057	1,666	40	22	12	26	39	44	16	16.2	45	0.74	69		
75X-CC, 20	706	8,818	5,573	6,257	1,121	30	32	21	17	20	51	29	16.3	50	0.88	62		
76X-CC, 15	715	2,586	2,787	2,530	1,060	27	29	19	26	14	59	27	16.42	54	0.93	59		
77X-CC, 14	725	512	12,381	2,625	363	16	71	5	8	1	90	9						
Average volcanoclastic facies:						42	29	11	18	38	46	16						
190-1174B-																		
1R-1, 137	1	3,611	2,824	3,141	512	28	33	22	16	17	53	30			0.88	62		
1R-2, 94	2	5,513	5,566	6,059	667	25	37	24	13	14	56	30			0.78	67		
1R-3, 106	4	2,004	2,091	2,596	606	25	30	23	22	13	54	33			0.86	63		
2R-5, 132	11	2,060	4,026	4,767	474	19	38	28	14	7	58	34			0.84	64		
3R-4, 77	19	2,036	1,980	2,602	538	25	30	24	21	13	52	34			0.86	63		
3R-6, 86	21	2,605	3,325	4,382	756	23	32	26	19	11	54	36			0.90	60		
4R-4, 127	29	1,889	2,914	4,641	311	18	36	33	13	8	51	41			0.91	60		
5R-2, 131	36	320	1,471	1,521	444	21	32	23	25	3	64	33			0.88	62		
7R-2, 127	54	839	1,620	2,299	469	21	30	27	22	7	54	39						
5R-1, 36	179	3,466	2,910	3,796	549	26	32	25	17	15	51	33			0.85	64		
5R-1, 122	180	8,221	4,596	5,088	268	34	38	23	6	22	50	28			0.71	70		
6R-1, 117	190	2,731	3,393	5,113	793	22	31	28	19	10	51	39			0.81	66		
7R-1, 93	199	648	2,272	3,923	635	18	30	30	22	4	52	45			0.85	64		
7R-1, 93	199	2,124	2,977	4,687	660	21	31	29	19	9	51	40			0.85	64		
7R-1, 93	199	2,763	3,685	5,162	526	21	35	29	15	10	53	37			0.85	64		
8R-1, 58	209	1,639	3,686	4,675	547	19	36	28	17	6	57	36			0.90	60		
10R-CC, 16	229	2,376	3,075	3,573	368	22	38	26	14	11	56	33			0.91	60		
11R-2, 17	238	1,767	2,643	3,615	641	22	31	26	20	9	54	37			0.80	66		
12R-1, 108	248	1,388	2,283	3,107	598	22	31	26	21	8	55	37			0.96	54		
13R-1, 20	256	3,591	3,716	4,558	566	24	35	26	15	13	54	33			0.87	63		
13R-1, 107	257	3,089	1,995	2,758	636	28	28	23	21	19	48	33			0.82	65		

Table T1 (continued).

Core, section, interval (cm)	Depth (msbf)	Relative mineral abundance											I/S mixed-layer clay			
		XRD peak area (total counts)				SVD factor (wt%)				Biscaye factor (area%)			I(002)/S(003) (Å)	Illite in I/S (%)*	I-saddle: I-peak	Expandability (%)†
		Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)				
14R-1, 16	266	4,465	6,543	8,473	674	20	38	29	13	9	55	36			0.73	69
17R-1, 108	296	2,125	2,219	2,955	479	24	32	26	19	13	52	35			0.88	62
18R-2, 63	306	4,023	4,200	4,878	541	24	36	25	14	13	55	32			0.85	64
19R-1, 73	315	2,319	2,588	3,353	740	24	30	24	22	12	53	35			0.85	64
20R-2, 109	326	2,687	2,280	3,907	722	24	27	27	21	14	46	40			0.85	64
20R-CC, 13	327	5,753	5,089	6,130	798	26	34	25	15	15	53	32			0.87	63
21R-1, 122	334	2,778	3,332	4,638	629	22	33	28	17	11	53	37			0.88	62
21R-CC, 5	336	4,245	2,392	2,598	308	33	34	21	12	22	50	27			0.90	60
22R-1, 22	343	6,823	4,669	5,236	650	29	35	23	13	19	52	29			0.84	64
23R-1, 94	353	12,433	7,039	9,523	830	30	33	26	11	21	47	32	15.8	10	0.78	67
24R-3, 118	366	1,328	1,460	2,153	377	23	30	27	20	12	51	38			0.92	59
25R-1, 122	373	11,797	6,992	6,448	227	35	42	20	3	22	53	24			0.68	71
27R-1, 119	392	3,323	3,551	4,660	707	24	33	26	18	12	53	35			0.83	65
27R-1, 119	392	3,856	4,098	5,005	909	24	32	24	19	13	54	33			0.83	65
27R-3, 113	395	5,159	4,719	5,403	335	25	40	26	9	15	54	31			0.87	63
28R-2, 50	402	4,043	4,004	4,691	657	25	35	25	16	14	54	32	15.93	23	0.86	63
29R-3, 128	414	7,389	4,931	6,616	804	28	32	25	14	18	49	33			0.80	66
29R-CC, 20	415	2,718	2,914	3,841	354	23	36	28	13	12	53	35			0.86	63
31R-3, 47	432	9,382	3,740	5,436	1,118	34	26	22	18	27	42	31	15.96	25	0.72	70
31R-3, 49	432	14,320	5,366	7,828	857	37	29	23	11	28	42	30			0.74	69
32R-2, 118	441	4,251	4,130	5,878	722	24	33	28	16	13	51	36			0.89	61
32R-5, 127	446	2,443	1,996	2,299	396	27	33	23	17	16	53	31			0.94	58
33R-2, 116	451	13,155	7,188	6,872	707	35	37	19	9	24	52	25			0.70	70
33R-4, 15	453	13,176	5,017	4,640	458	44	34	16	6	31	47	22			0.73	69
34R-3, 99	462	5,540	3,473	5,061	618	28	31	26	15	19	47	34			0.85	64
35R-2, 94	470	12,058	2,295	2,672	175	63	26	12	0	45	35	20			0.68	71
36R-2, 130	479	13,251	6,664	7,251	634	35	35	21	9	24	49	27	15.81	11	0.69	71
36R-3, 108	481	6,203	4,499	5,052	663	29	34	23	14	18	52	29			0.84	64
Average trench-wedge facies:						27	33	25	15	15	52	33				
37R-3, 133	490	14,125	5,347	5,447	441	43	34	17	6	30	46	23	15.84	15	0.68	71
38R-4, 113	501	5,302	2,466	4,463	720	30	26	26	18	22	41	37			0.78	67
38R-6, 60	503	12,176	4,700	4,759	517	41	33	17	8	30	46	24	15.98	27	0.73	69
39R-1, 127	506	22,831	6,241	8,248	659	47	28	19	5	36	39	26	15.94	24	0.62	74
39R-3, 115	509	11,588	3,889	3,596	274	48	34	14	3	34	45	21			0.69	71
40R-4, 115	520	10,884	3,994	3,257	537	44	33	13	10	33	48	20			0.78	67
40R-5, 135	522	12,343	4,232	4,347	415	45	32	17	6	33	45	23			0.74	69
41R-CC, 23	529	10,907	6,726	5,996	796	33	37	18	12	22	54	24	15.87	19	0.75	68
42R-3, 127	538	19,248	8,291	7,525	637	41	37	16	6	29	49	22			0.64	73
42R-CC, 9	544	18,219	6,617	6,377	892	43	32	16	10	32	46	22	15.91	22	0.77	68
43R-5, 123	551	10,482	5,206	3,843	548	39	37	14	9	27	53	20	15.9	21	0.76	68
43R-5, 148	551	10,011	5,901	4,592	918	34	35	16	14	23	55	21	15.9	21	0.80	66
43R-6, 127	552	23,007	8,604	5,214	692	49	38	8	5	34	51	15			0.64	73
44R-3, 115	557	7,388	4,990	4,746	506	31	38	20	11	20	54	26			0.80	66
45R-3, 111	567	20,139	5,698	5,135	733	50	30	12	7	38	43	19	16.04	31	0.64	73
45R-CC, 7	568	57,980	2,379	1,787	2,930	77	8	0	16	82	13	5			0.26	91
46R-7, 39	582	15,952	5,429	3,976	610	48	34	11	7	35	48	17			0.65	73

Table T1 (continued).

Core, section, interval (cm)	Depth (msbf)	Relative mineral abundance											I/S mixed-layer clay			
		XRD peak area (total counts)				SVD factor (wt%)				Biscaye factor (area%)			I(002)/S(003) (Å)	Illite in I/S (%)*	I-saddle: I-peak	Expandability (%)†
		Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)				
47R-4, 118	588	17,596	2,429	3,086	944	57	18	11	14	53	29	18			0.53	78
47R-CC, 0	591	17,830	5,803	4,427	941	47	31	11	11	36	47	18	15.95	25	0.64	73
49R-1, 117	602	12,735	3,660	3,801	873	44	27	15	14	36	42	22	15.88	20	0.68	71
49R-3, 97	605	14,729	4,789	3,413	717	48	32	10	10	36	47	17	15.95	25	0.63	73
50R-4, 117	617	6,346	4,249	3,424	902	32	33	17	18	21	56	23	15.91	22	0.79	67
52R-6, 113	639	16,421	4,061	3,197	936	51	26	10	13	42	42	16	15.95	25	0.64	73
53R-3, 124	644	13,524	3,163	2,659	713	52	26	10	12	43	40	17	16.08	36	0.65	73
55R-1, 129	660	11,000	3,484	2,247	413	51	33	8	7	37	47	15	15.96	25	0.74	69
Average Upper Shikoku Basin facies:						45	31	14	10	34	45	20				
57R-6, 135	687	13,752	2,724	2,590	595	56	24	10	10	46	37	17	15.9	21	0.62	74
58R-4, 82	693	38,740	9,587	8,435	983	56	30	10	4	41	41	18	15.84	15	0.49	80
59R-3, 118	702	24,283	9,992	8,431	893	43	36	15	7	30	49	21	16.12	41	0.70	70
59R-4, 86	703	21,592	5,934	6,083	1,248	46	27	14	12	38	41	21	15.81	11	0.64	73
59R-5, 133	705	17,453	5,574	4,359	475	51	34	11	4	36	46	18	16.06	34	0.66	72
60R-2, 111	710	22,384	7,991	6,584	1,290	44	31	13	12	33	47	20	16.02	29	0.63	73
61R-4, 107	722	23,302	4,196	6,066	1,100	52	21	16	11	45	32	23			0.54	77
61R-5, 117	724	31,492	9,529	8,728	1,126	49	31	13	7	36	44	20	15.94	24	0.61	74
62R-3, 92	730	18,402	5,854	5,479	1,015	45	29	14	11	35	44	21	15.99	27	0.58	75
62R-CC, 0	734	19,899	5,958	6,719	1,144	44	28	17	12	35	42	24	16.06	34	0.63	73
64R-5, 108	753	20,339	5,519	6,459	1,236	45	26	16	13	37	40	23	15.98	27	0.58	75
65R-1, 118	756	11,253	4,543	4,234	779	40	31	16	13	30	48	22	15.97	26	0.70	70
65R-4, 78	760	26,896	7,162	8,192	1,516	46	26	16	12	37	40	23	15.91	22	0.56	76
66R-1, 118	766	54,693	10,821	10,752	1,170	62	26	10	2	46	36	18	15.99	27	0.45	81
66R-5, 82	771	15,333	8,376	9,321	896	33	35	22	10	23	50	28	16.15	42	0.73	69
66R-5, 104	772	15,562	6,901	7,987	650	37	34	21	8	26	47	27	16.15	42	0.71	70
67R-2, 96	775	10,125	7,209	8,277	435	29	39	25	7	18	52	30	15.98	27	0.77	68
67R-3, 126	777	17,309	7,811	9,006	609	37	35	22	6	26	47	27	15.95	25	0.72	70
68R-1, 116	785	21,915	11,235	12,735	870	35	36	22	7	24	49	28	16.07	35	0.70	70
68R-2, 134	787	17,094	9,415	10,291	505	34	38	23	5	23	50	27	15.99	27	0.73	69
69R-2, 127	795	12,676	6,508	7,556	428	35	37	23	6	24	48	28	15.92	23	0.74	69
69R-4, 119	798	9,913	4,415	5,738	628	35	31	23	11	25	45	29	16.05	32	0.77	68
70R-2, 94	806	26,838	8,839	9,616	643	46	33	17	4	33	43	24	15.99	27	0.59	75
70R-CC, 0	811	13,474	4,598	6,263	857	39	28	21	12	30	41	28	16.14	42	0.73	69
71R-2, 1	813	11,231	4,653	5,327	497	38	33	20	8	28	46	26	16.04	31	0.79	67
71R-2, 65	814	9,424	4,658	6,386	885	32	30	24	15	23	46	31	16.25	48	0.80	66
71R-2, 94	814	18,077	6,476	7,878	868	40	30	20	9	30	43	26	16.43	55	0.69	71
72R-1, 42	823	14,251	6,805	7,859	776	35	34	21	10	25	48	27	16.06	34	0.79	67
72R-1, 117	823	12,390	4,392	4,883	414	43	32	18	6	31	44	25	16.01	29	0.67	72
72R-3, 100	826	11,482	6,322	7,395	839	32	33	22	12	22	49	29	16.07	35	0.75	68
73R-1, 80	833	18,405	5,355	6,161	741	46	29	17	8	35	41	24	16.15	42	0.65	73
73R-3, 116	836	8,533	5,445	6,099	469	31	37	23	9	20	51	29	16.17	43	0.81	66
73R-5, 111	839	5,031	5,406	6,679	576	23	37	27	12	13	54	33	16.25	48	0.87	63
73R-7, 51	841	7,383	4,926	6,622	305	28	37	28	7	18	49	33	16.12	41	0.84	64
74R-1, 130	843	9,451	7,012	7,444	305	29	41	24	5	18	54	28	16.26	48	0.86	63
74R-2, 58	843	9,367	6,575	7,680	298	29	40	26	5	18	52	30	16.25	48	0.85	64
74R-2, 125	844	7,313	5,637	8,051	455	25	36	30	9	16	49	35			0.86	63

Table T1 (continued).

Core, section, interval (cm)	Depth (msbf)	Relative mineral abundance											I/S mixed-layer clay				
		XRD peak area (total counts)				SVD factor (wt%)				Biscaye factor (area%)			I(002)/S(003) (Å)	Illite in I/S (%)*	I-saddle: I-peak	Expandability (%)†	
		Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)					
74R-CC, 14	845	13,217	10,602	11,082	429	28	42	24	5	17	55	28	16.09	37	0.80	66	
75R-1, 97	852	8,278	5,860	8,025	655	27	34	27	11	17	49	34	16.03	30	0.83	65	
76R-1, 73	861	9,850	7,341	9,556	692	27	36	27	10	17	50	33	16.36	52	0.82	65	
76R-2, 81	863	10,754	8,599	9,628	695	27	39	25	9	17	53	30	16.29	50	0.81	66	
77R-2, 91	873	11,504	9,650	9,605	801	28	40	23	10	17	56	28	16.1	39	0.88	62	
77R-6, 44	878	11,700	8,668	10,921	759	27	37	27	10	17	51	32	16.25	48	0.85	64	
78R-1, 55	881	27,669	5,072	2,516	1,276	62	24	3	11	52	38	9	15.94	24	0.59	75	
78R-1, 95	881	14,430	8,183	10,390	741	31	35	25	9	21	48	31	16.27	49	0.84	64	
78R-2, 128	883	5,540	4,016	4,148	372	29	38	22	10	19	54	28	16.33	51	0.88	62	
78R-3, 96	884	6,207	6,659	7,988	676	23	38	27	12	13	55	33	16.23	47	0.89	61	
79R-1, 118	890	4,351	4,641	6,467	768	23	33	28	16	12	52	36	16.13	41	0.91	60	
80R-3, 113	903	2,794	6,237	7,360	254	16	45	31	8	7	59	35			0.91	60	
81R-3, 102	913	4,642	6,610	7,883	656	21	39	28	13	10	56	34	16.49	56	0.91	60	
82R-2, 92	921	1,269	4,531	5,901	371	15	41	32	12	4	58	38	16.64	62	0.93	59	
83R-4, 112	934	4,669	6,032	8,060	592	21	37	30	12	10	54	36	16.75	68	0.87	63	
83R-7, 46	937	5,246	5,128	6,805	508	23	37	29	11	13	52	35	16.4	54	0.87	63	
84R-2, 117	940	3,426	4,888	6,290	668	21	36	28	15	10	55	35	16.36	52	0.92	59	
84R-3, 132	942	6,825	4,343	4,180	358	32	39	20	9	21	53	26	16.36	52	0.83	65	
85R-1, 117	948	10,680	6,579	8,040	454	30	37	25	7	20	50	30	16.33	51	0.85	64	
85R-3, 116	951	9,466	4,435	5,141	527	35	33	21	10	25	47	27			0.76	68	
86R-2, 117	959	6,287	7,292	8,656	878	23	37	26	14	12	55	33			0.90	60	
87R-1, 127	968	2,217	2,508	3,892	611	23	30	28	19	11	50	39	16.63	62	0.88	62	
88R-2, 114	979	4,628	6,652	9,503	786	20	36	31	14	9	53	38	16.69	65	0.94	58	
89R-6, 31	993	5,538	7,180	8,955	468	21	40	30	9	11	55	34	16.44	55	0.89	61	
90R-2, 5	996	2,438	5,737	8,175	563	17	38	32	13	6	55	39	16.84	72	0.87	63	
91R-1, 88	1,005	13,948	8,149	9,660	593	32	37	24	7	21	49	29	16.25	48	0.81	66	
92R-2, 67	1,016	3,506	7,032	8,760	838	19	38	29	15	7	57	36	16.22	46	0.89	61	
92R-3, 87	1,018	6,017	6,180	8,109	505	23	38	29	10	13	53	35	16.98	77	0.87	63	
92R-3, 94	1,018	8,179	4,004	5,657	857	32	29	24	16	23	45	32	16.25	48	0.80	66	
92R-3, 94	1,018	11,186	7,862	8,802	686	29	38	24	9	19	52	29	16.74	67	0.80	66	
92R-5, 89	1,021	10,047	7,672	9,022	794	28	37	25	11	17	52	31			0.85	64	
93R-4, 114	1,030	14,073	8,724	10,766	568	30	37	26	7	20	49	31	16.63	62	0.81	66	
94R-3, 131	1,038	2,721	5,202	6,128	403	19	41	29	11	8	58	34	16.61	61	0.94	58	
96R-2, 116	1,055	3,955	2,265	3,739	645	28	27	26	19	19	44	36	16.61	61	0.85	64	
96R-3, 17	1,056	8,604	4,086	5,927	896	32	29	24	16	23	44	32	16.42	54	0.81	66	
97R-1, 63	1,063	6,329	6,667	7,045	357	24	43	26	8	13	57	30	16.41	54	0.87	63	
98R-1, 28	1,072	3,592	5,503	7,839	496	19	38	32	12	9	53	38	16.61	61	0.85	64	
99R-2, 26	1,083	3,062	6,436	9,236	486	17	39	33	11	6	54	39	16.86	73	0.93	59	
100R-1, 100	1,092	736	6,164	8,183	708	14	39	32	15	2	59	39	17.37	89	0.95	55	
101R-1, 13	1,101	4,142	7,343	7,147	712	21	42	25	13	9	61	30	16.82	71	0.93	59	
101R-1, 54	1,101	1,858	4,176	5,506	653	19	36	29	17	6	56	37	16.78	69	0.90	60	
		Average Lower Shikoku Basin facies:				32	35	23	10	21	49	29					
102R-1, 66	1,111	5,431	4,418	5,708	620	26	34	26	14	16	51	33		1		60	
190-1177A-																	
1R-2, 82	303	11,738	6,500	7,907	443	32	36	25	7	22	49	30		0.74		69	
1R-4, 128	306	2,003	2,215	2,556	309	24	36	25	15	13	55	32		0.92		59	

Table T1 (continued).

Core, section, interval (cm)	Depth (mbsf)	Relative mineral abundance											I/S mixed-layer clay			
		XRD peak area (total counts)				SVD factor (wt%)				Biscaye factor (area%)			I(002)/S(003) (Å)	Illite in I/S (%)*	I-saddle: I-peak	Expandability (%)†
		Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)				
2R-2, 111	312	2,385	3,717	4,318	868	22	33	24	21	9	57	33			0.92	59
3R-2, 124	322	5,935	5,099	5,768	1,017	27	33	23	18	16	54	30			0.87	63
5R-1, 36	338	6,897	3,799	4,495	219	33	37	24	6	22	49	29	15.86	18	0.78	67
5R-5, 123	344	8,358	5,648	6,046	500	30	38	23	9	19	52	28	15.93	23	0.85	64
6R-1, 68	348	3,000	3,265	4,647	487	22	34	29	15	12	52	37	16.02	29	0.90	60
7R-4, 120	363	7,269	4,797	5,639	0	30	43	27	0	19	51	30			0.89	61
8R-2, 30	369	4,738	4,765	5,729	371	24	39	27	10	13	54	32			0.90	60
8R-2, 53	369	12,064	6,073	6,601	274	36	38	22	4	24	49	27			0.84	64
9R-3, 108	381	7,322	6,353	6,741	612	27	38	24	11	16	55	29	15.86	18	0.91	60
9R-CC, 6	385	15,091	6,166	8,070	565	37	32	23	7	27	44	29			0.75	68
10R-2, 118	389	10,610	6,330	7,213	681	31	35	23	10	21	50	29			0.85	64
10R-2, 148	389	5,515	3,801	4,787	512	28	34	25	13	18	50	32			0.90	60
11R-1, 134	397	3,955	2,945	3,502	344	28	36	25	12	17	52	31			0.85	64
Average Upper Shikoku Basin facies:						29	36	25	10	18	52	30				
11R-CC, 10	404	17,452	8,161	7,386	374	40	39	17	3	27	50	23			0.79	67
12R-1, 44	406	3,326	1,840	2,484	390	30	30	24	16	21	47	32			0.92	59
13R-CC, 27	425	22,487	10,174	8,116	469	43	40	14	2	28	51	20	16.06	34	0.77	68
14R-4, 127	430	7,724	4,918	6,041	521	30	35	25	11	20	50	31	15.9	21	0.81	66
15R-CC, 8	444	11,882	4,366	4,502	272	44	35	18	3	31	46	23	15.84	15	0.80	66
16R-1, 89	445	16,325	6,564	6,777	465	41	35	18	5	29	47	24			0.83	65
16R-3, 119	448	13,473	6,522	7,991	747	34	33	23	10	24	47	29	15.82	13	0.77	68
Average Lower Shikoku hemipelagic facies:						38	35	20	7	26	48	26				
16R-4, 144	450	12,996	14,392	6,043	512	31	55	9	5	16	70	15	16.01	29	0.88	62
17R-1, 118	455	9,260	6,163	6,485	784	30	36	22	12	20	53	28	15.82	13	0.83	65
17R-2, 26	455	19,653	9,261	10,626	803	36	35	22	7	25	48	27			0.76	68
17R-2, 99	456	3,444	3,913	3,854	618	25	36	22	16	13	58	29			0.93	59
19R-6, 42	481	20,925	9,199	8,196	584	41	38	16	4	28	50	22	15.87	19	0.78	67
19R-7, 36	482	13,817	10,577	8,155	579	32	44	18	6	19	58	23	16.01	29	0.84	64
20R-1, 104	483	5,377	4,497	3,400	1,259	29	32	17	22	18	60	23			0.85	64
21R-1, 34	492	0	1,390	2,092	1,304	23	22	22	33	0	57	43				
23R-2, 42	513	13,021	5,223	5,213	268	43	37	18	3	29	47	24	16.05	32	0.75	68
24R-4, 56	526	14,806	4,318	4,314	456	49	31	14	6	36	42	21	15.85	16	0.77	68
24R-5, 128	528	17,423	5,175	5,914	708	46	29	17	8	35	41	24	15.86	18	0.69	71
24-6, 127	529	15,728	3,367	3,759	595	54	25	13	8	43	37	20			0.58	75
25R-2, 130	533	27,598	10,384	9,164	495	47	37	15	2	32	47	21	15.82	13	0.69	71
25R-3, 85	534	4,409	2,607	3,098	1,632	29	23	19	28	21	50	29			0.87	63
25R-5, 121	538	14,432	7,669	7,945	655	35	37	21	8	24	50	26			0.79	67
25R-6, 105	539	18,243	6,965	5,898	693	44	35	14	7	32	48	20	15.92	23	0.74	69
27R-1, 97	551	10,268	5,140	3,430	898	38	34	13	15	27	55	18			0.81	66
29R-1, 34	569	9,211	3,860	2,678	898	40	31	13	17	31	51	18			0.86	63
29R-1, 85	570	14,076	4,967	6,235	829	39	29	20	12	30	43	27			0.73	69
30R-2, 30	580	25,477	3,556	2,719	1,075	65	20	4	11	56	32	12			0.44	82
30R-7, 29	588	23,179	5,337	4,658	998	54	26	10	10	43	40	17	15.97	26	0.55	77
30R-7, 35	588	33,363	6,366	5,471	1,258	59	24	8	8	48	36	16	15.87	19	0.95	55
30R-7, 47	588	34,599	6,879	5,817	896	63	26	7	4	47	37	16	15.95	25	0.58	75
31R-1, 17	588	36,215	10,099	8,097	958	54	32	10	4	39	44	17	15.99	27	0.60	75

Table T1 (continued).

Core, section, interval (cm)	Depth (msbf)	Relative mineral abundance											I/S mixed-layer clay			
		XRD peak area (total counts)				SVD factor (wt%)				Biscaye factor (area%)			I(002)/S(003) (Å)	Illite in I/S (%)*	I-saddle: I-peak	Expandability (%)†
		Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)				
31R-2, 57	590	41,801	2,525	2,504	1,097	87	9	0	4	73	18	9			0.37	85
31R-CC, 8	591	29,966	3,551	3,497	1,012	70	18	5	8	59	28	14	15.81	11	0.49	80
32R-1, 64	598	10,836	2,731	3,517	735	44	24	17	14	38	38	24	16.14	42	0.78	67
33R-1, 11	608	53,240	12,144	15,994	1,295	53	27	17	4	40	36	24	15.82	13	0.29	90
33R-1, 88	608	7,690	2,633	3,548	693	37	26	20	16	30	42	28			0.88	62
33R-2, 72	610	9,318	4,910	5,909	902	32	31	22	15	23	48	29	15.86	18	0.83	65
34R-CC, 13	617	10,358	4,786	6,498	1,218	33	28	22	17	24	45	31	16.1	39	0.74	69
35R-2, 67	628	35,529	4,279	4,111	800	76	18	3	2	58	28	14	15.83	14	0.52	78
35R-3, 13	628	7,843	3,996	4,762	1,147	32	28	20	19	24	48	29			0.77	68
36R-1, 24	637	12,675	4,523	3,752	663	44	32	13	10	33	47	20	15.92	23	0.76	68
36R-1, 112	637	12,301	4,199	5,329	1,216	38	26	19	17	31	42	27	15.94	24	0.75	68
37R-2, 82	647	25,545	7,328	8,542	1,346	45	27	17	11	36	41	24			0.61	74
37R-3, 34	648	16,053	6,434	5,735	1,024	40	32	15	12	30	48	22			0.74	69
38R-CC, 22	656	2,896	1,424	2,026	1,236	30	21	19	30	23	45	32			0.86	63
39R-1, 96	666	28,362	3,561	3,152	1,239	65	18	5	11	58	29	13			0.47	80
40R-1, 115	676	36,297	4,678	2,862	1,085	75	19	0	6	60	31	9			0.37	85
41R-1, 129	686	28,804	3,849	2,768	775	74	20	1	4	58	31	11	15.91	22	0.53	78
41R-2, 97	687	29,405	4,197	3,120	1,002	69	21	3	7	56	32	12			0.40	84
42R-1, 116	695	22,181	2,681	1,624	1,023	68	18	2	12	61	30	9			0.52	78
43R-1, 3	704	28,265	2,964	2,175	1,210	70	16	2	11	64	27	10	15.8	10	0.51	79
44R-1, 37	714	37,015	4,873	3,723	1,162	72	19	3	6	58	30	12			0.51	79
44R-2, 70	716	24,403	2,930	2,813	1,143	64	17	6	12	58	28	13			0.54	77
45R-2, 87	725	10,884	1,901	1,786	1,088	48	20	11	22	49	34	16			0.67	72
46R-1, 18	733	26,459	3,506	2,744	956	69	19	4	8	58	31	12			0.53	78
46R-1, 120	734	24,383	3,251	2,315	1,102	66	19	4	12	58	31	11	15.82	13	0.52	78
46R-2, 122	735	34,044	3,262	3,515	1,869	64	15	6	15	63	24	13			0.42	83
46R-3, 9	736	40,710	5,574	3,683	1,394	71	20	2	8	58	32	10			0.49	80
47R-3, 101	746	20,593	3,667	3,642	1,243	54	21	10	15	48	34	17	15.96	25	0.62	74
Average Lower Shikoku turbidite facies:						49	28	13	11	38	42	20				
47R-5, 97	749	22,544	3,549	2,949	1,115	60	21	7	12	53	33	14			0.55	77
48R-4, 108	757	4,998	3,344	2,225	1,655	31	26	15	28	22	59	19	15.95	25	0.80	66
48R-4, 117	757	25,397	4,308	3,857	1,085	60	22	8	10	50	34	15			0.56	76
48R-6, 113	760	23,797	4,573	4,604	690	60	25	10	5	46	36	18			0.65	73
48R-7, 7	761	23,916	3,203	2,086	509	78	21	0	1	58	31	10			0.48	80
49R-1, 61	762	20,587	7,829	4,843	2,048	41	30	11	18	33	51	16			0.44	82
49R-2, 63	763	45,916	3,568	2,185	1,590	80	12	0	8	71	22	7			0.45	81
49R-2, 148	764	9,727	1,798	1,089	689	54	22	6	17	51	38	11			0.65	73
49R-3, 115	765	32,483	3,168	1,366	1,138	77	15	0	8	68	26	6			0.50	79
49R-4, 20	766	29,032	2,073	430	643	90	10	0	1	76	22	2			0.57	76
49R-4, 29	766	34,819	3,330	658	771	85	14	0	1	70	27	3	15.88	20	0.47	80
49R-5, 72	768	12,949	2,051	1,038	598	65	22	2	12	56	35	9	15.81	11	0.67	72
50R-3, 0	774	18,173	3,954	3,402	765	55	26	9	9	45	39	17	15.91	22	0.63	73
50R-3, 32	774	9,952	2,086	1,535	502	56	25	8	12	47	39	14			0.74	69
50R-3, 39	774	12,217	2,856	2,458	829	49	25	11	15	43	40	17	15.9	21	0.67	72
51R-1, 15	781	8,394	1,121	447	214	77	20	0	3	61	33	6			0.71	70
51R-2, 23	782	13,471	2,190	1,130	463	69	23	1	7	55	36	9			0.65	73

Table T1 (continued).

Core, section, interval (cm)	Depth (mbsf)	Relative mineral abundance											I/S mixed-layer clay			
		XRD peak area (total counts)				SVD factor (wt%)				Biscaye factor (area%)			I(002)/S(003) (Å)	Illite in I/S (%)*	I-saddle: I-peak	Expandability (%)†
		Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)	Quartz	Smectite	Illite	Chlorite (+kaolinite)				
51R-2, 102	783	17,865	3,508	1,963	682	63	26	3	8	50	39	11	15.91	22	0.63	73
51R-2, 109	783	5,162	843	484	677	47	18	9	26	54	35	10			0.78	67
51R-2, 109	783	7,271	1,368	677	550	54	22	5	18	52	39	10			0.78	67
51R-2, 134	783	13,977	3,501	1,677	1,052	51	26	6	17	45	45	11	15.95	25	0.66	72
52R-2, 18	792	26,519	1,846	1,271	699	86	10	0	4	73	20	7	15.9	21	0.52	78
52R-2, 18	792	26,519	1,841	1,358	764	84	10	0	5	72	20	7	15.93	23	0.52	78
52R-2, 56	792	24,739	1,713	1,579	340	91	9	0	0	71	20	9	15.8	10	0.55	77
52R-3, 28	794	19,617	2,613	359	621	75	19	0	6	64	34	2	15.91	22	0.66	72
52R-3, 49	794	16,719	3,135	1,350	789	62	24	2	12	52	39	8			0.62	74
53R-2, 57	802	22,579	5,754	697	901	61	31	0	8	48	49	3	15.82	13	0.58	75
53R-3, 119	804	19,252	4,313	2,597	1,468	51	24	8	17	46	41	12	15.87	19	0.61	74
54R-1, 128	811	15,934	1,289	733	457	83	12	0	5	71	23	6	15.96	25	0.65	73
54R-2, 48	811	23,684	4,149	1,107	671	71	25	0	4	56	39	5	15.96	25	0.61	74
54R-3, 70	813	14,601	2,677	1,340	1,121	54	22	6	19	52	38	10			0.63	73
54R-5, 55	816	17,012	2,240	1,416	1,281	57	18	6	19	59	31	10	15.83	14	0.61	74
55R-1, 92	820	8,128	6,195	7,347	793	27	35	24	13	17	52	31	16.03	30	0.83	65
55R-1, 109	820	24,974	5,563	2,553	1,091	60	27	3	10	48	43	10			0.60	75
55R-1, 116	820	24,985	3,620	1,945	1,132	66	20	2	12	58	33	9	15.93	23	0.54	77
55R-1, 120	820	20,782	4,221	2,137	1,057	59	25	4	12	50	40	10			0.63	73
56R-1, 120	830	15,759	2,189	842	673	69	20	0	11	60	33	6	15.87	19	0.69	71
56R-2, 48	831	18,013	4,956	2,580	839	54	30	5	10	42	46	12	15.81	11	0.60	75
56R-2, 74	831	62,895	4,788	1,872	956	90	10	0	0	73	22	4			0.45	81
Average volcanoclastic-rich facies:						64	21	4	10	54	35	10				

Notes: SVD (singular value decomposition) normalization factors from Underwood et al. (this volume). Peak area weighting factors from Biscaye (1965). * = Calculation follows Reynolds and Hower (1970) with peak position corrected to quartz (100). † = Calculation follows Rettke (1981) assuming 3:1 ratio of discrete illite to illite (I)/smectite (S) mixed-layer clay. XRD = X-ray diffraction.