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Data report: clay mineral assemblages from the Nankai Trough accretionary prism and the Kumano Basin, IODP Expeditions 315 and 316, NanTroSEIZE Stage 1[1]

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Chapter contents

Abstract

This report documents the composition of clay mineral assemblages from six sites along the Kumano transect of the Nankai Trough subduction zone offshore south-central Japan. Coring was completed during Expeditions 315 and 316 of the Integrated Ocean Drilling Program, as part of Stage 1 of the Nankai Trough Seismogenic Zone Experiment (NanTroSEIZE). A total of 702 samples of hemipelagic mud and mudstone were analyzed by X-ray diffraction, using oriented aggregates of the clay-size fraction (<2 µm). Smectite varies the most among the clay-size constituents, ranging in relative abundance from 6% to 66%. On average, the expandability of illite/smectite mixed-layer clay is equal to 65%, and there are no progressive changes in clay mineral diagenesis over the depths sampled. We recognize a temporal pattern in composition that is consistent with what has been documented elsewhere across the Nankai subduction margin. The detrital clays shifted gradually from a smectite-rich assemblage during the late Miocene to more illite-chlorite–rich assemblages during the Pliocene and Pleistocene. Most of the compositional differences between lithostratigraphic units can be attributed to differences in their depositional ages.

Introduction

The Nankai Trough subduction zone is the product of convergence between the Philippine Sea plate and the Eurasian plate (Fig. **F1**). Many sites have been drilled and cored in this region over the past four decades, including those of Deep Sea Drilling Project (DSDP) Legs 31 and 87 (Karig, Ingle, et al., 1975; Kagami, Karig, Coulbourn, et al., 1986) and Ocean Drilling Program (ODP) Legs 131, 190, and 196 (Taira et al., 1992; Moore et al., 2001, 2005). Expeditions 314, 315, and 316 of the Integrated Ocean Drilling Program (IODP) focused on a new transect—the Kumano transect—during Stage 1 of the Nankai Trough Seismogenic Zone Experiment (NanTroSEIZE) (see the **"Expedition 314 summary," "Expedition 315 summary,"** and **"Expedition 316 summary"** chapters [Tobin et al., 2009; Ashi et al., 2009; Screaton et al., 2009]). **Moore et al.** (2009) have provided a summary of structural and tectono-stratigraphic framework for the six Stage 1 coring sites. The three principal domains are the Kumano forearc basin (Site C0002), the shallow megasplay fault (Sites C0001, C0004, and C0008), and the frontal fault of the accretionary prism (Sites C0006 and C0007) (Fig. **F2**).

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Previous investigations of clay minerals in the vicinity of the Nankai Trough and the Shikoku Basin demonstrated that the hemipelagic mud(stones) change in composition largely as function of depositional age (Cook et al., 1975; Chamley, 1980; Chamley et al., 1986; Fagel et al., 1992; Underwood et al., 1993a, 1993b; Steurer and Underwood, 2003; Underwood and Steurer, 2003). Miocene strata throughout the region tend to contain higher percentages of smectite, whereas Pliocene and Pleistocene deposits are more enriched in illite and chlorite. Clay diagenesis (particularly the smectite-to-illite reaction) is accentuated along the Muroto transect, where proximity to the paleospreading center of the subducting Shikoku Basin is responsible for higher heat flow (Underwood and Pickering, 1996; Masuda et al., 1996, 2001; Steurer and Underwood, 2003; Spinelli and Underwood, 2005; Saffer et al., 2008). To expand the documentation of clay composition into the Kumano transect area, we analyzed the clay mineral assemblages from 702 samples of hemipelagic mud and mudstone using X-ray diffraction (XRD). This report documents how the common clay minerals (smectite, illite, chlorite, and kaolinite) change in relative abundance as a function of depositional age, structural position, and lithostratigraphy. We also test whether or not smectite-to-illite diagenesis has progressed in a systematic pattern at shallow depths of accretionary prism.

Methods

Calculations of mineral abundance

Sediment samples can be analyzed by XRD in many ways. The presence of a specific detrital and/or authigenic mineral can be detected easily through visual recognition of characteristic peak positions. It is more problematic, however, to estimate the relative abundance of a mineral in bulk sediment or the clay-size fraction with meaningful accuracy (e.g., Moore, 1968; Heath and Pisias, 1979; Johnson et al., 1985). The most common semiquantitative approach for analyzing marine clays has been to apply the Biscaye (1965) weighting factors to the peak areas of basal reflections (McManus, 1991). Errors in such data can be substantial, however, and accuracy changes significantly in response to the absolute abundance by weight of each mineral (Underwood et al., 2003). XRD results are also affected by sample disaggregation technique, chemical pretreatments, particle size separation, crystallinity and chemical composition of minerals, peak-fitting algorithms, and the degree of preferred orientation of crystallites (e.g., Moore and Reynolds, 1989; Ottner et al., 2000). Even though data reproducibility might be very good, accuracy is usually no better than ±10% unless the analytical methods include calibration with internal standards, use of single-line reference intensity ratios, and some fairly elaborate sample preparation steps (Środoń et al., 2001; Omotoso et al., 2006).

Figure **F3** shows representative X-ray diffractograms for three clay-size aggregates from the Nankai Trough. To obtain semiquantitative estimates of mineral abundance in the clay-size fraction, we measured the peak areas and applied a matrix of singular value decomposition (SVD) normalization factors, as documented in full detail by Underwood et al. (2003). We apply a matrix of weighting factors (Table **T1**) to the integrated areas of a broad smectite (001) peak centered at ~5.3°2θ (d-value = 16.5 Å), the illite (001) peak at ~8.9°2θ (d-value = 9.9 Å), the chlorite (002) + kaolinite (001) peak at 12.5°2θ (d-value = 7.06 Å), and the quartz (100) peak at 20.85°2θ (d-value = 4.26 Å). The average errors for standard mineral mixtures using this method are approximately 3% for smectite, 1% for illite, 2% for chlorite, and 1.4% for quartz (Underwood et al., 2003). Because of interference between the kaolinite (001) and chlorite (002) reflections, we first calculate that relative abundance as undifferentiated chlorite + kaolinite and then solve for the proportion of each mineral using the overlapping double peak at ~25°2θ (Fig. **F3**). The kaolinite (002) and chlorite (004) reflections are centered at ~ 24.8°2θ and ~25.1°2θ, respectively, and we follow a refined version of the Biscaye (1964) method, as documented fully by **Guo and Underwood** (2011). Judging from the analysis of standard mineral mixtures, the average error for the chlorite/kaolinite ratio is 2.6%. To provide an estimate of the abundance of individual clay minerals in the bulk mud(stone), we also multiply each relative percentage among the clay minerals (i.e., excluding quartz) by the abundance of total clay minerals as determined by shipboard bulk-powder XRD analyses of colocated "cluster" specimens (see, for example, the **"Expedition 315 Site C0001"** chapter [Expedition 315 Scientists, 2009a]). To facilitate comparisons with the many other published data sets from the region, we report the weighted peak area percentages for smectite, illite, chlorite, and kaolinite using both SVD normalization factors and Biscaye (1965) weighting factors. It is important to stress here that these values are relative percentages, and they should regarded as semiquantitative.

As an indicator of clay diagenesis, we use the saddle/peak method (Rettke, 1981) to calculate the percent expandability of smectite and illite/smectite (I/S) mixed-layer clay. This method is sensitive to the proportions of discrete illite (I) versus I/S mixed-layer clay. Our calculations follow a curve established for 1:1 mixtures of I and I/S.

Sample preparation

Isolation of clay-size fractions starts with air drying and gentle hand-crushing of the mud/mudstone with mortar and pestle, after which specimens are immersed in 3% H_2O_2 for at least 24 h to digest organic matter. We then add ~250 mL of Na hexametaphosphate solution (concentration of 4 g/1000 mL distilled H_2O) and insert the beakers into an ultrasonic bath for several minutes to promote disaggregation and deflocculation. This step (and additional soaking) is repeated until visual inspection indicates complete disaggregation. Washing consists of two passes through a centrifuge (8200 revolutions per minute [rpm] for 25 min; ~6000 g) with resuspension in distilled-deionized water after each pass. After transferring the suspended sediment to a 60 mL plastic bottle, each sample is resuspended by vigorous shaking and a 2 min application of a sonic cell probe. The clay-size splits (<2 µm equivalent settling diameter) are then separated by centrifugation (1000 rpm for 2.4 min; ~320 g). We prepare oriented clay aggregates using the filter-peel method (Moore and Reynolds, 1989) and 0.45 µm membranes. The clay aggregates are saturated with ethylene glycol vapor for at least 24 h prior to XRD analysis, using a closed vapor chamber heated to 60°C in an oven.

X-ray diffraction parameters

The XRD laboratory at the University of Missouri (USA) utilizes a Scintag Pad V X-ray diffractometer with CuKα radiation (1.54 Å) and Ni filter. Scans of oriented clay aggregates are run at 40 kV and 30 mA over a scanning range of 3° to 26.5°2θ, a rate of 1°2θ/min, and a step size of 0.01°2θ. Slits are 0.5 mm (divergence) and 0.2 mm (receiving). We process the digital data using MacDiff software (version 4.2.5) to establish a baseline of intensity, smooth counts, correct peak positions offset by misalignment of the detector (using the quartz (100) peak at 20.95°2θ; d-value = 4.24 Å), and calculate integrated peak areas (total counts).

Results

Nearly all of the samples analyzed in this study were selected from colocated "clusters" immediately adjacent to the whole-round samples used for shipboard analyses of interstitial water chemistry and shore-based tests of frictional, geotechnical, and hydrogeological properties. Each "cluster" includes a specimen for shipboard bulk-powder XRD analysis. All of the values of XRD peak area for the clay-size fractions are tabulated in Table T2. Table T3 lists the calculated values of mineral abundance (wt%) using both SVD normalization factors and Biscaye (1965) peak-area weighting factors. For smectite and illite, we also illustrate stratigraphic trends in the calculated values of mineral abundance in the bulk mud(stone). Brief descriptions of spatial and temporal variations in clay composition are organized below by tectonostratigraphic domain (Kumano forearc basin, shallow megasplay fault, and frontal thrust).

Kumano Basin, Site C0002

Shipboard scientists divided the stratigraphic column at Site C0002 (Kumano Basin) into four lithologic units (see the **"Expedition 315 Site C0002"** chapter [Expedition 315 Scientists, 2009b]). Compositional variations among lithologic units are subtle (Fig. F4). Unit I (upper forearc basin) consists of silty clay to clayey silt, sand and silt turbidites, and volcanic ash beds; the ages of these strata are younger than ~1 Ma. The most abundant clay-size mineral is illite (38% average), followed by chlorite (22% average), smectite (22% average), quartz (13% average), and kaolinite (5% average) (Table T4; Fig. F5). The dominant lithology of Unit II (lower forearc basin) is silty clay to clayey silt with comparatively fewer beds of sand, silty sand, silt, and volcanic ash; these strata range in age from ~1.6 to ~1 Ma. Illite (35% average) is still the dominant mineral in this unit, followed by smectite (25% average), chlorite (22% average), quartz (13% average), and kaolinite (5% average) (Table T4; Fig. F5). Unit III (basal starved basin) is composed of silty claystone ranging in age from ~3.8 to ~1.6 Ma. Smectite (36% average) is the most abundant mineral, followed on average by illite (35%), chlorite (16%), quartz (9%), and kaolinite (4%) (Table T4; Fig. F5). The expandability of I/S mixed-layer clay minerals does not change significantly from the top of Unit I to base of Unit III (60% average), although we note an increase in the scatter of values within Unit I (standard deviation = 5%).

The boundary between Units III and IV at Site C0002 is an angular unconformity separating the accretionary prism below from overlying forearc-basin deposits (Fig. F4). The corresponding hiatus lasted from ~5.0 to ~3.8 Ma. The primary lithology of Unit IV consists of silty claystone to clayey siltstone with sporadic interbeds of siltstone and sandstone. The maximum nannofossil age for this unit is 5.90 Ma. The dominant mineral in this unit is smectite (41% average; 60% maximum), followed in average relative abundance by illite (31%), chlorite (15%), quartz (6%), and kaolinite (5%) (Table T4; Fig. F5). Standard deviations for these abundances increase below the unconformity, particularly for values of smectite (10%). This shift toward higher contents of smectite is consistent with the late Miocene age of the accretionary prism, as documented more thoroughly elsewhere (e.g., Underwood and Steurer, 2003). The expandability of smectite also increases abruptly across the unconformity to an average value of 69% (Tables T2, T4; Fig. F5).

Shallow megasplay fault, Sites C0001, C0004, and C0008

Site C0001 is positioned in the hanging wall of the megasplay fault (Fig. F2), and the stratigraphy there consists of two units: a slope apron facies (Unit I) separated from the upper accretionary prism (Unit II) by a major angular unconformity (see the "Expedition 315 Site C0001" chapter [Expedition 315 Scientists, 2009a]). The unconformity's hiatus lasted from ~3.79 to ~2.06 Ma. The principal lithology of Unit I is silty clay to clayey silt with sparse interbeds of volcanic ash, silt, and fine sand (Fig. F6). Illite (36% average) dominates the clay-size fraction in this unit, followed by smectite (31% average), chlorite (19% average), quartz (9% average), and kaolinite (5% average) (Table T4; Fig. F7). Percentages of smectite gradually increase from the top to the base of Unit I, with a range of 17% to 47% of the clay-size fraction (Fig. F6). These increases are balanced by steady decreases in quartz. Below the unconformity, accreted Pliocene and uppermost Miocene strata of Unit II consist of deformed silty claystone to clayey siltstone, rare volcanic ash, siltstone, and silty sandstone, with a maximum age of 5.32 Ma (see the "Expedition 315 Site C0001" chapter [Expedition 315 Scientists, 2009a]). Illite remains the most abundant clay-size mineral below the unconformity (37% average), but there is a clear shift toward higher values (Fig. F6). Average percentages for the other minerals within Unit II are smectite (36%), chlorite (15%), kaolinite (8%), and quartz (4%) (Table T4; Fig. F7). Compared to Site C0002, this part of the accretionary prism is younger in age and contains lower percentages of smectite. There are no major differences in the expandability of I/S (63% average) at Site C0001, although expandability values are consistently lower in the top 50 m of the section (Tables T2, T4; Fig. F7).

Coring at Site C0004 successfully penetrated the megasplay fault near its updip intersection with the seafloor (Fig. F2), and shipboard scientists subdivided that section into four lithologic units (Fig. F8). The main lithology of Unit I (slope apron facies) is silty clay with a substantial component of calcareous nannofossils (as much as ~25%). Illite is the most abundant mineral within this unit (36% average), followed by average values of smectite (32%), chlorite (17%), kaolinite (6%), and quartz (7%) (Table T4; Fig. F7). The boundary between Units I and II is an unconformity, with a hiatus that lasted from ~2.0 to ~1.6 Ma (see the "Expedition 316 Site C0004" chapter [Expedition 316 Scientists, 2009a]). Below that contact, Subunit IIA (mass transport complex) consists of synsedimentary breccia with rounded to subangular clasts of mudstone and subsidiary beds of silty clay. The average content of illite in Subunit IIA is 37%. Other relative percentages are, on average, smectite (26%), chlorite (23%), quartz (10%), and kaolinite (4%) (Table T4; Fig. F7). Thus, mineralogy changes significantly across the unconformity, particularly with respect to percent smectite. The dominant lithology of Subunit IIB (accretionary prism) is silty clay. In this unit as well, the dominant mineral is illite (38% average) followed by smectite (28% average), chlorite (21% average), quartz (7% average), and kaolinite (6% average) (Table T4; Fig. F7). Unit III is the fault-bounded package of uncertain stratigraphic origin. Its boundary with Unit II is marked by a time reversal from ~4.13 Ma above to ~2 Ma below (see the "Expedition 316 Site C0004" chapter [Expedition 316 Scientists, 2009a]). Mudstones from below the fault contain more calcite, and there are ubiquitous beds of volcanic ash. Illite (36% average) and smectite (36% average) are the two most abundant clay minerals (Fig. F8). The average content of chlorite is 18%; averages for kaolinite and quartz are 6% and 5%, respectively (Table T4; Fig. F7). This assemblage of clay minerals, with generally higher contents of smectite, is consistent with what has been documented elsewhere in the upper Shikoku Basin facies (Steurer and Underwood, 2003). The main trace of the megasplay fault forms the lower boundary of Unit III, and the footwall (Unit IV) is interpreted to be a slope-apron facies with an age of ~1.6 Ma. The dominant clay minerals in Unit IV are smectite (34% average) and illite (33% average), followed on average by chlorite (19%), quartz (9%), and kaolinite (4%) (Table T4; Fig. F7). These relative percentages are similar to what we report for Unit I, although marginally higher in percent smectite.

Site C0008 is located just seaward of the shallow tip of the megasplay fault (Fig. F2), and shipboard scientists divided that section into three units/subunits (see the "Expedition 316 Site C0008" chapter [Expedition 316 Scientists, 2009d]). Subunit IA (slope-apron facies) consists of silty clay with a substantial concentrations of calcareous nannofossils, thin sand/silt turbidites, and volcanic ash. Illite (35% average) is the most abundant clay mineral. Other mineral contents are smectite (29% average), chlorite (20% average), quartz (10% average), and kaolinite (6% average) (Table T4; Fig. F7). Subunit IB (mass transport complex) includes a series of interbedded mud-clast gravels and silty clay beds with an age range of ~2.9 to ~1.6 Ma. Illite (35% average) is the most abundant clay mineral in the silty clay beds, followed on average by smectite (30%), chlorite (20%), quartz (10%), and kaolinite (5%) (Table T4; Fig. F7). We analyzed carefully separated specimens of silty clay matrix and mudstone clasts from the conglomerates to test for differences in composition. Those tests show a significant increase in the abundance of smectite in the mudstone clasts relative to clay matrix and the background of bedded hemipelagic mudstone (Fig. F9). The clasts contain approximately 43% to 52% smectite. Beneath the mass transport deposits, Unit II is interpreted as accreted trench-wedge facies (Fig. F9), but poor recovery within the sand-rich turbidites precluded our sampling and analysis of clay minerals.

Frontal thrust, Sites C0006 and C0007

The main goal of coring at Site C0006 was to cross the frontal thrust of the accretionary prism (Fig. F2), but recovery was hampered by high concentrations of unlithified sand, particularly near the bottom of the hole. The primary lithology of Unit I (trench-slope transition) is silty clay (Fig. F10) with a maximum age of ~0.44 Ma (see the "Expedition 316 Site C0006" chapter [Expedition 316 Scientists, 2009b]). The most abundant clay mineral in Unit I is illite (38% average), followed on average by smectite (25%), chlorite (24%), quartz (10%), and kaolinite (3%) (Table T4; Fig. F11). Unit II (trench-wedge facies) displays an overall upward coarsening trend accentuated by progressive increases in silt and sand turbidites; the unit ranges from ~1.5 to ~0.44 Ma in age. Illite (35% average) is the dominant clay mineral within the accreted trench-wedge deposits, followed on average by smectite (27%), chlorite (26%), quartz (8%), and kaolinite (4%) (Table T4; Fig. F11). A gradual increase in smectite content is evident downsection within this unit, from a minimum of 15% to a maximum of 43% of the clay-size fraction (Fig. F10). The boundary between Unit II and Unit III (upper Shikoku Basin facies) is an unconformity with a hiatus from ~2.87 to ~1.46 Ma (see the "Expedition 316 Site C0006" chapter [Expedition 316 Scientists, 2009b]). Below the unconformity, the age of Unit III extends into the uppermost Miocene (5.32 Ma), and the lithology consists of silty claystone with abundant interbeds of volcanic tuff (Fig. F10). The dominant clay mineral in this facies is smectite (37% average; 49% maximum), followed on average by illite (36%), chlorite (17%), kaolinite (6%), and quartz (5%) (Table T4; Fig. F11). In addition to the unit's significantly higher abundance of smectite, the expandability of I/S shifts to modestly lower values (by ~3%) across the Unit II/III boundary.

After attempts failed to core across the frontal fault at Site C0006, Site C0007 was positioned closer to the trench (Fig. F2). Unit I (trench–slope transition) is dominated by silty clay and thin, fine-grained turbidites (Fig. F12), similar in age and composition to what was recovered at Site C0006 (see the "Expedition 316 Site C0007" chapter [Expedition 316 Scientists, 2009c]). Consistent with our results from Site C0006, the most abundant clay mineral within this facies is illite (39% average), and the other average percentages are chlorite (25%), smectite (23%), quartz (10%), and kaolinite (2%) (Table T4; Fig. F11). One anomalous specimen within this unit contains unusually high amounts of smectite (66%). Unit II (accreted trench-wedge facies) displays an overall upward coarsening trend marked by progressive increases in silt, sand, and gravel turbidites (Fig. F12). That unit's age ranges from ~1.46 to ~0.4 Ma. Similar to correlative deposits at Site C0006, illite is the most abundant clay-size mineral (35% average), followed on average by smectite (25%), chlorite (25%), quartz (9%), and kaolinite (3%) (Table T4; Fig. F11). The boundary between Units II and III is an unconformity, with a hiatus that lasted from 3.65 to 2.06 or 1.46 Ma (see the "Expedition 316 Site C0007" chapter [Expedition 316 Scientists, 2009c]). Unit III (upper Shikoku Basin facies) consists of silty claystone with abundant interbeds of volcanic ash layers, including one calcite-cemented tuff. Below the boundary, Pliocene to uppermost Miocene mudstone reaches a maximum age of 5.32 Ma and possesses a total-clay-mineral content substantially higher than overlying Unit II, averaging 65% of the bulk sediment (see the "Expedition 316 Site C0007" chapter [Expedition 316 Scientists, 2009c]). Smectite increases to the most abundant clay mineral (39% average). Average percentages for the other minerals are illite (36%), chlorite (16%), quartz (6%), and kaolinite (3%) (Table T4; Fig. F11). The expandability of I/S decreases by ~3% across the boundary between accreted trench-wedge facies and upper Shikoku Basin facies (Tables T2, T4; Fig. F12). Once again, this mineral assemblage is consistent with what has been documented for the upper Shikoku Basin facies elsewhere in the Nankai Trough (Steurer and Underwood, 2003). Coring demonstrated that the age reverses to 3.65 Ma below the frontal thrust, but recovery of sandy material from Unit IV was not high enough to permit sampling for clay mineralogy.

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Figure F1. Map of the Kumano transect region of the Nankai Trough with locations of NanTroSEIZE Stage 1 drill sites.

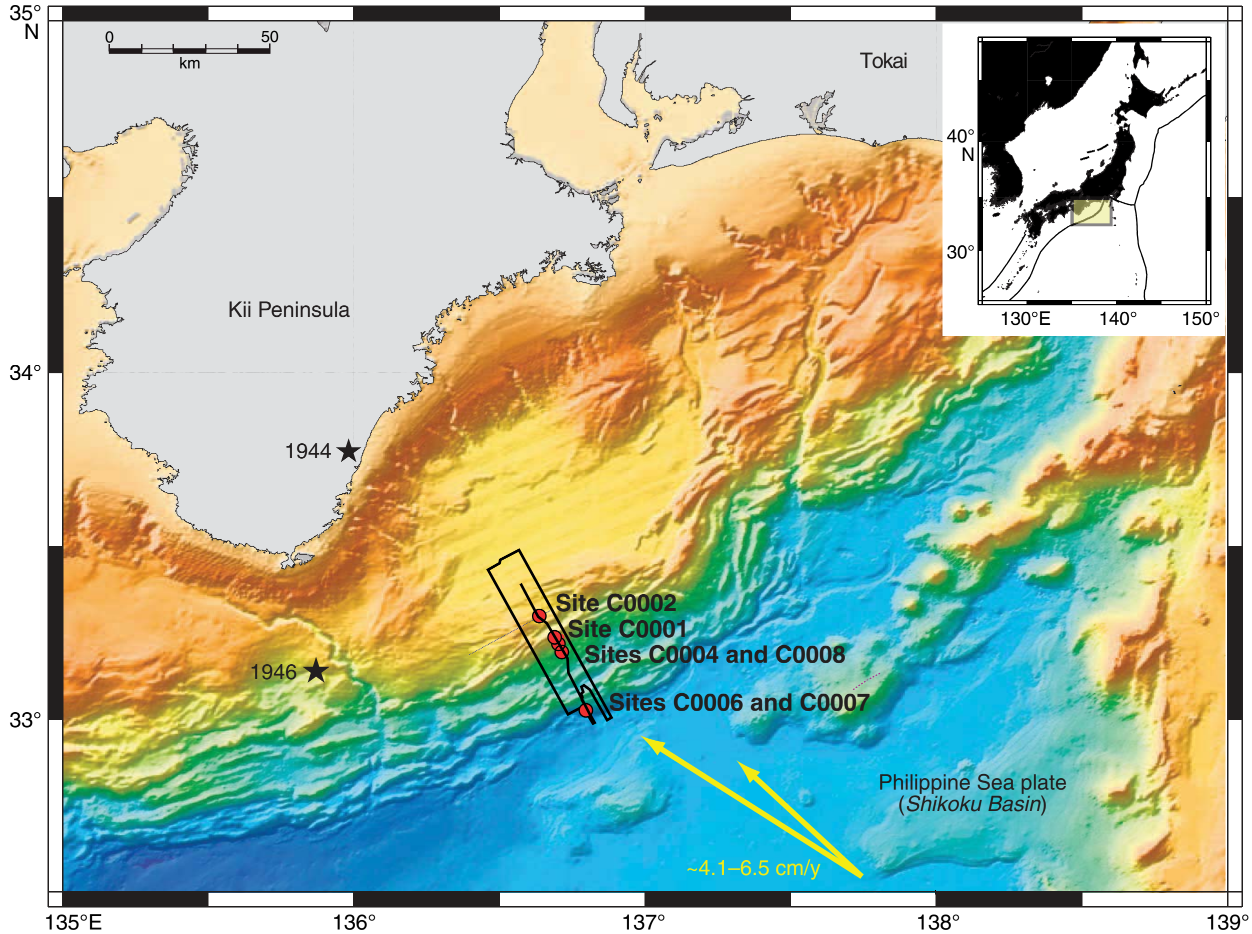

Figure F2. 3-D seismic in-line section showing locations of IODP Sites C0001, C0002, C0004, C0006, C0007, and C0008.

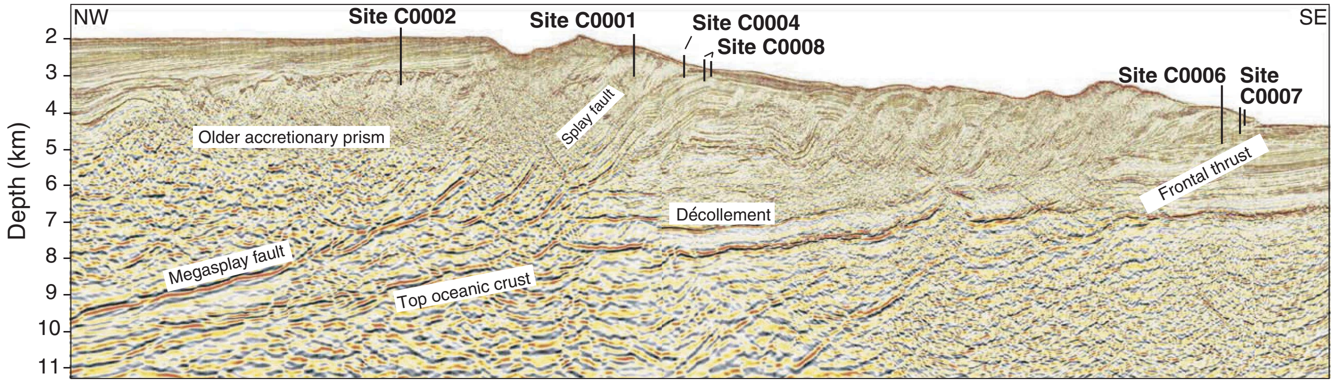

Figure F3. Representative examples of X-ray diffractograms showing peaks for smectite, illite, chlorite, kaolinite, and quartz. Values of relative mineral abundance (wt%) were calculated using the singular value decomposition (SVD) normalization factors of Underwood et al. (2003) and the following peak areas: smectite (001), illite (001), chlorite (002) + kaolinite (001), and quartz (100). The proportion of kaolinite to chlorite was calculated using the equations of **Guo and Underwood** (2011).

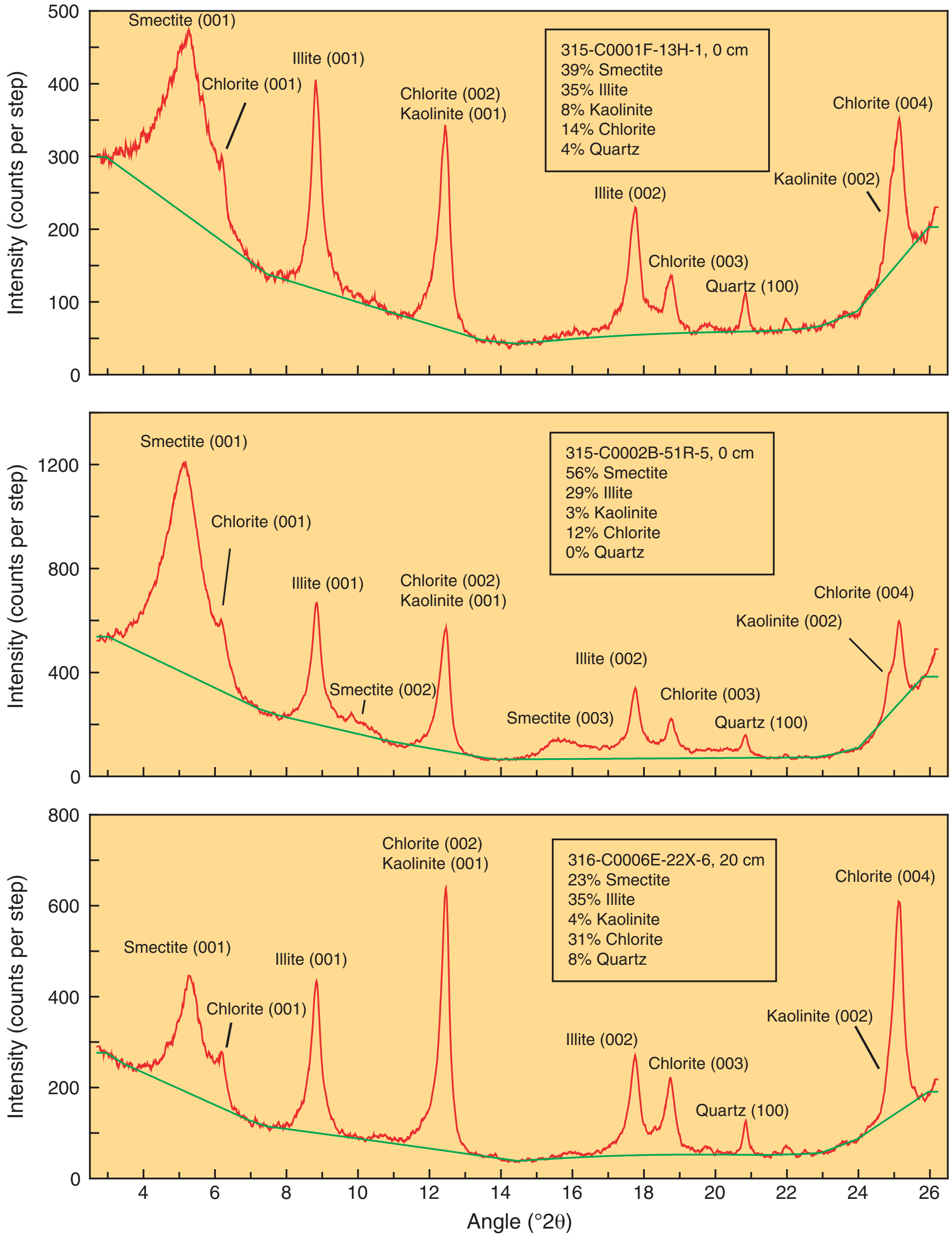

Figure F4. Lithostratigraphy of Site C0002 with relative abundances (wt%) of smectite, illite, chlorite, kaolinite, and quartz in clay-size fractions of mud(stone). Calculations were made using singular value decomposition (SVD) normalization factors. Also shown are values of expandability (%) of illite/smectite (I/S) mixed-layer clays.

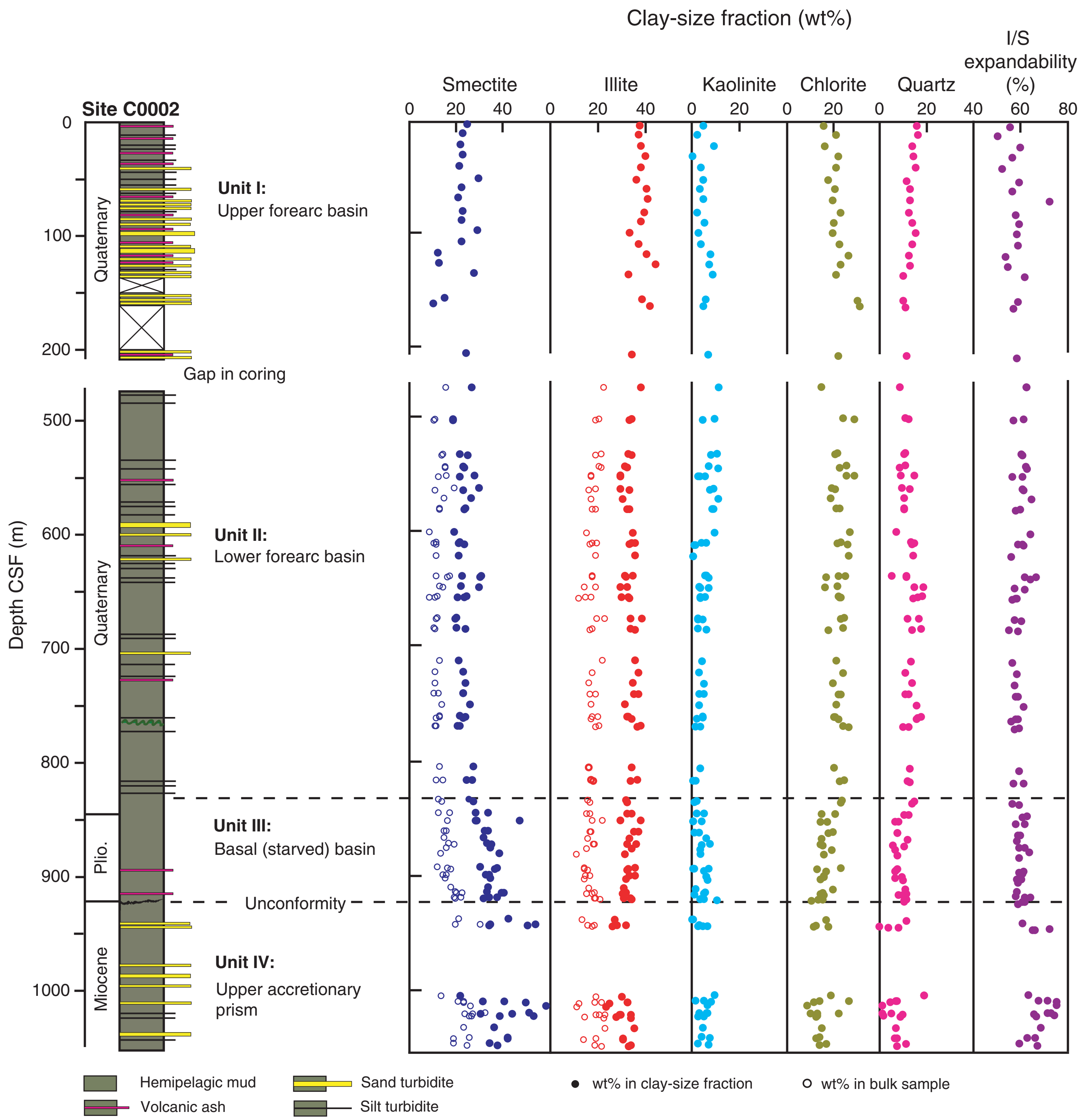

Figure F5. Maximum, minimum, and average values of relative mineral abundances (wt%) for lithologic units at Site C0002 (Kumano Basin). Solid symbols represent the average, and bars extend from minimum to maximum values. I/S = illite/smectite.

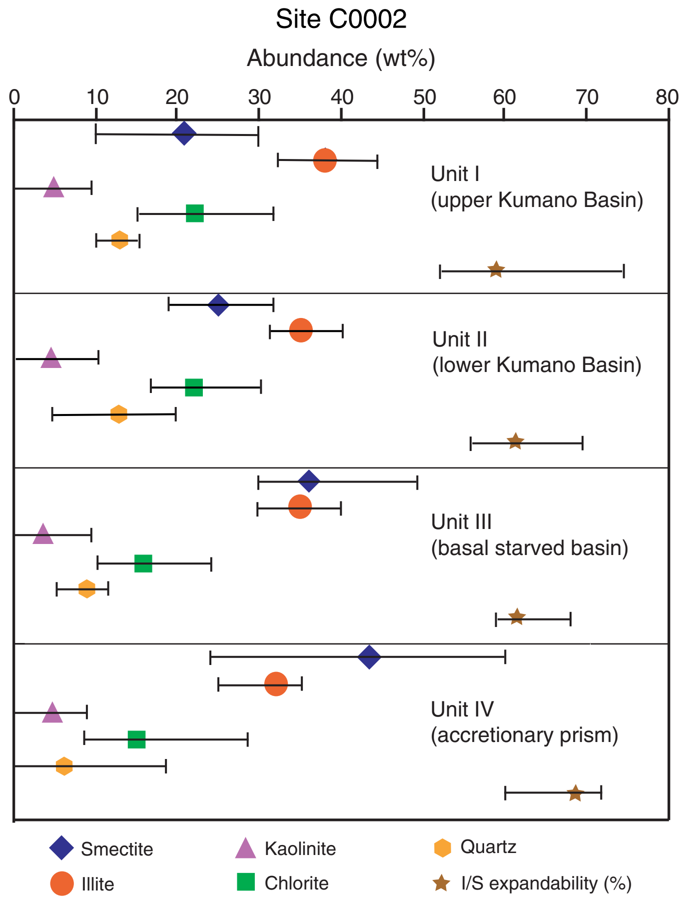

Figure F6. Lithostratigraphy of Site C0001 with relative abundances (wt%) of smectite, illite, chlorite, kaolinite, and quartz in clay-size fractions of mud(stone). Calculations were made using singular value decomposition (SVD) normalization factors. Also shown are values of expandability (%) of illite/smectite (I/S) mixed-layer clays.

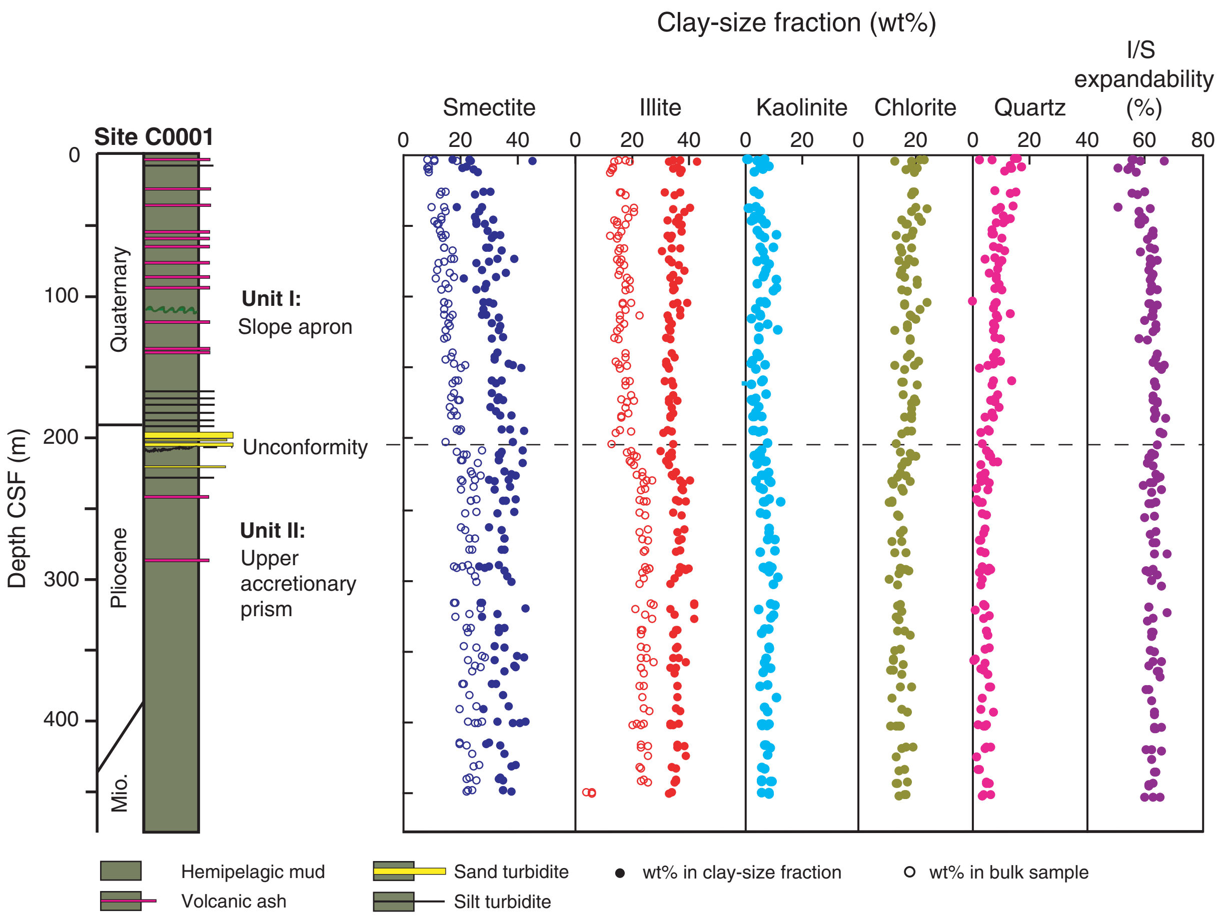

Figure F7. Maximum, minimum, and average values of relative mineral abundances (wt%) for different lithologic units in the shallow megasplay domain (Sites C0001, C0004, and C0008). Solid symbols represent the average, and bars extend from minimum to maximum values. I/S = illite/smectite.

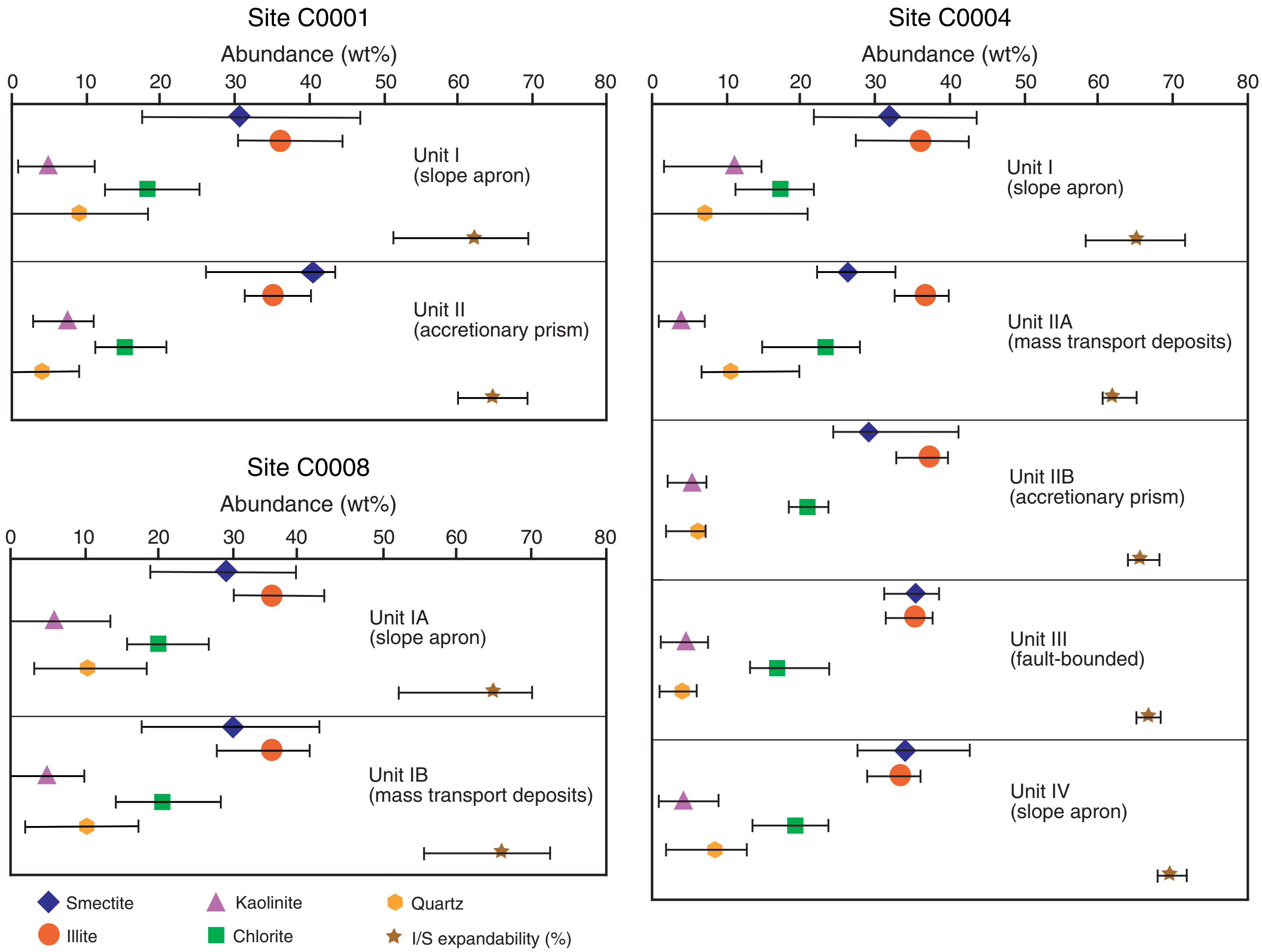

Figure F8. Lithostratigraphy of Site C0004 with relative abundances (wt%) of smectite, illite, chlorite, kaolinite, and quartz in clay-size fractions of mud(stone). Calculations were made using singular value decomposition (SVD) normalization factors. Also shown are values of expandability (%) of illite/smectite (I/S) mixed-layer clays.

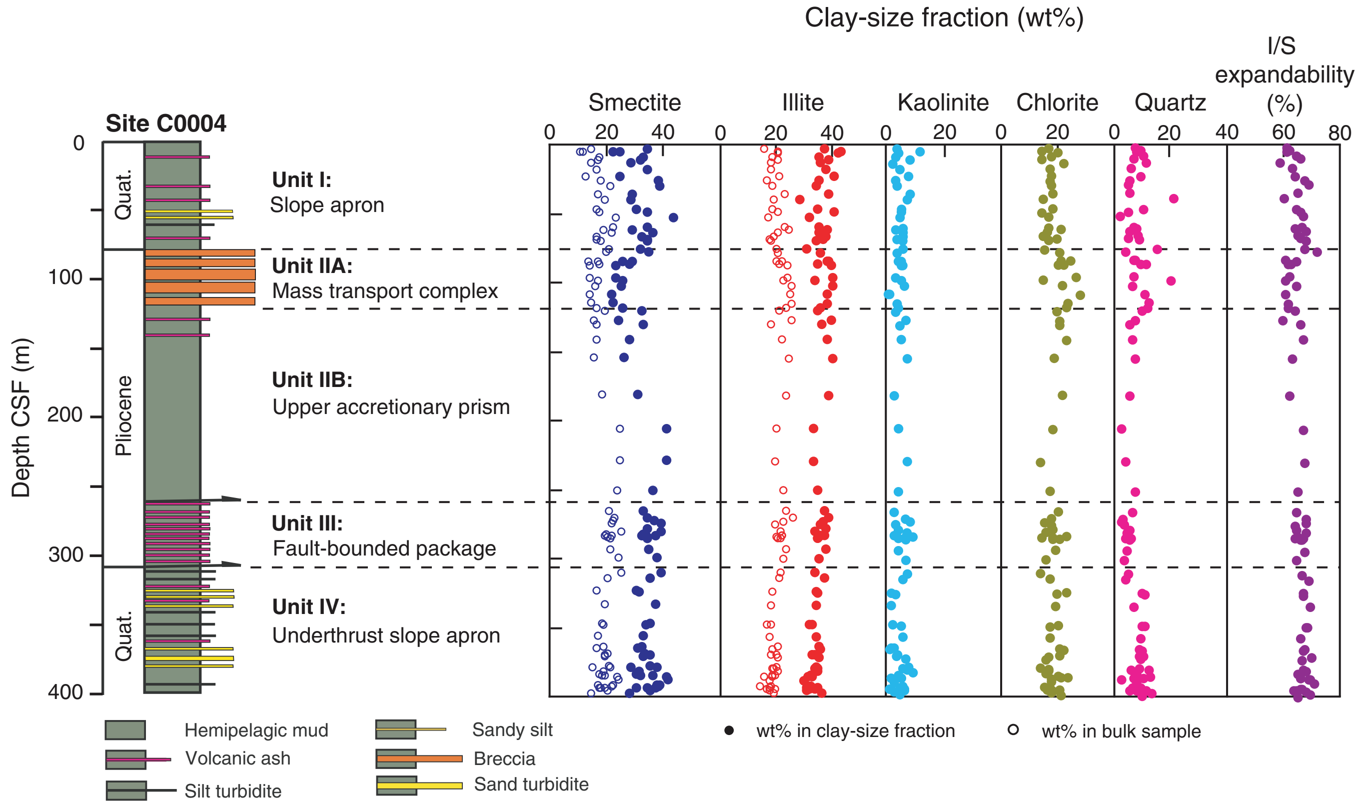

Figure F9. Lithostratigraphy of Site C0008 with relative abundances of smectite, illite, chlorite, kaolinite, and quartz in clay-size fractions of mud(stone). Calculations were made using singular value decomposition (SVD) normalization factors. Also shown are values of expandability (%) of illite/smectite (I/S) mixed-layer clays and detailed comparisons between mudstone clasts, silty clay matrix, and background hemipelagic mud from Subunit IIB (mass transport deposits). MTD = mass transit deposit.

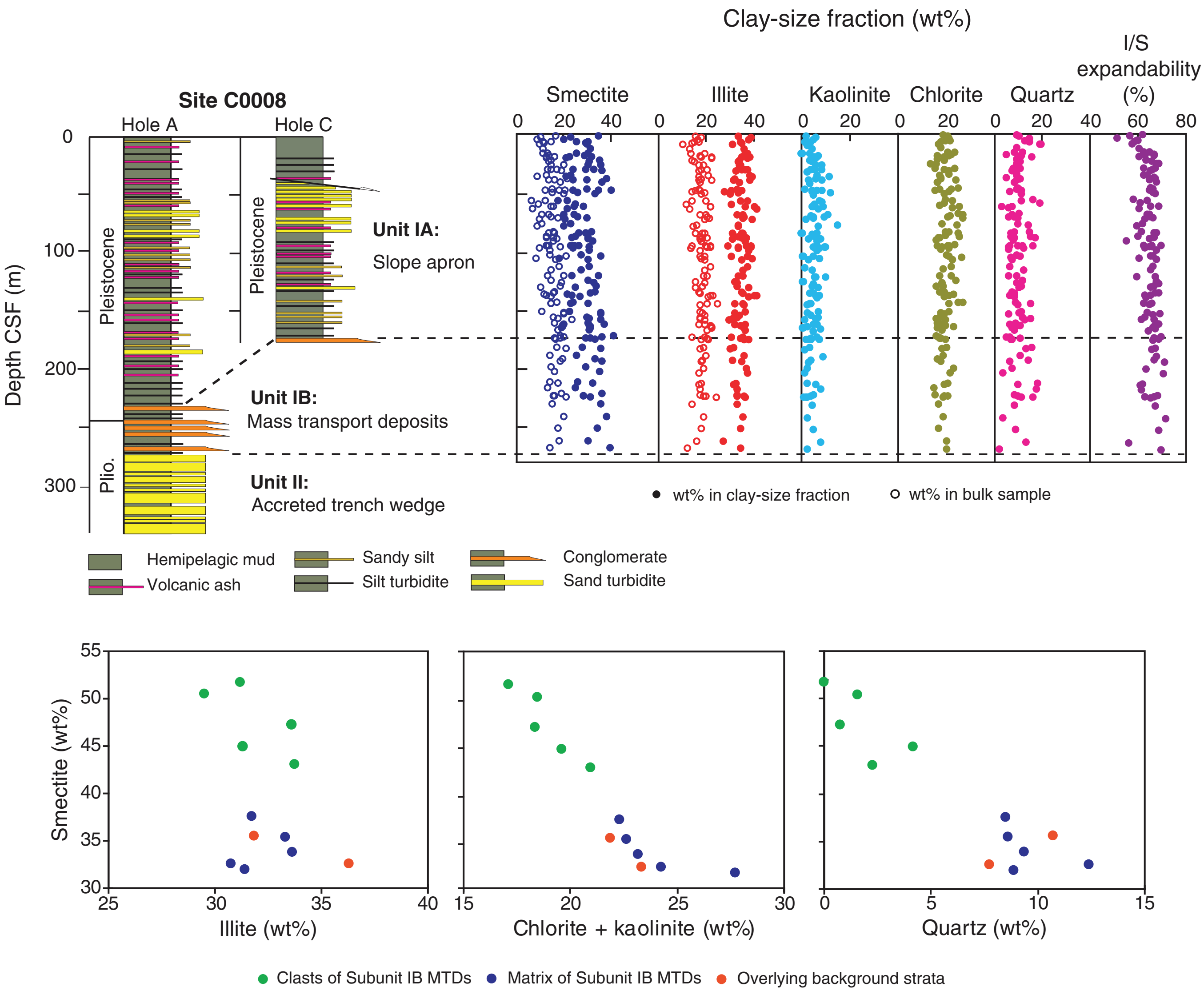

Figure F10. Lithostratigraphy of Site C0006 with relative abundances (wt%) of smectite, illite, chlorite, kaolinite, and quartz in clay-size fractions of mud(stone). Calculations were made using singular value decomposition (SVD) normalization factors. Also shown are values of expandability (%) of illite/smectite (I/S) mixed-layer clays.

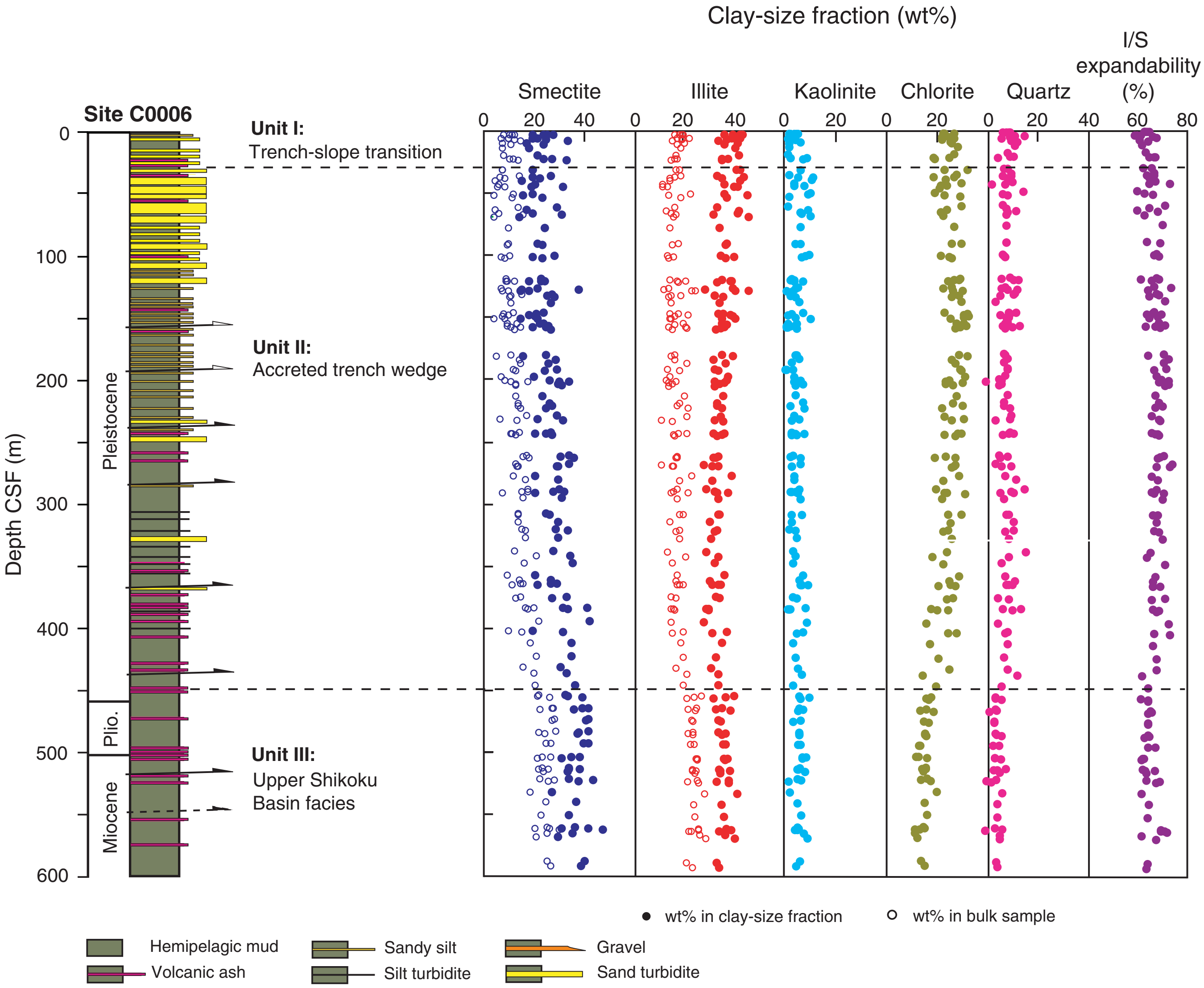

Figure F11. Maximum, minimum, and average values of relative mineral abundances (wt%) for lithologic units in the frontal thrust domain (Sites C0006 and C0007). Solid symbols represent the average, and bars extend from minimum to maximum values. I/S = illite/smectite.

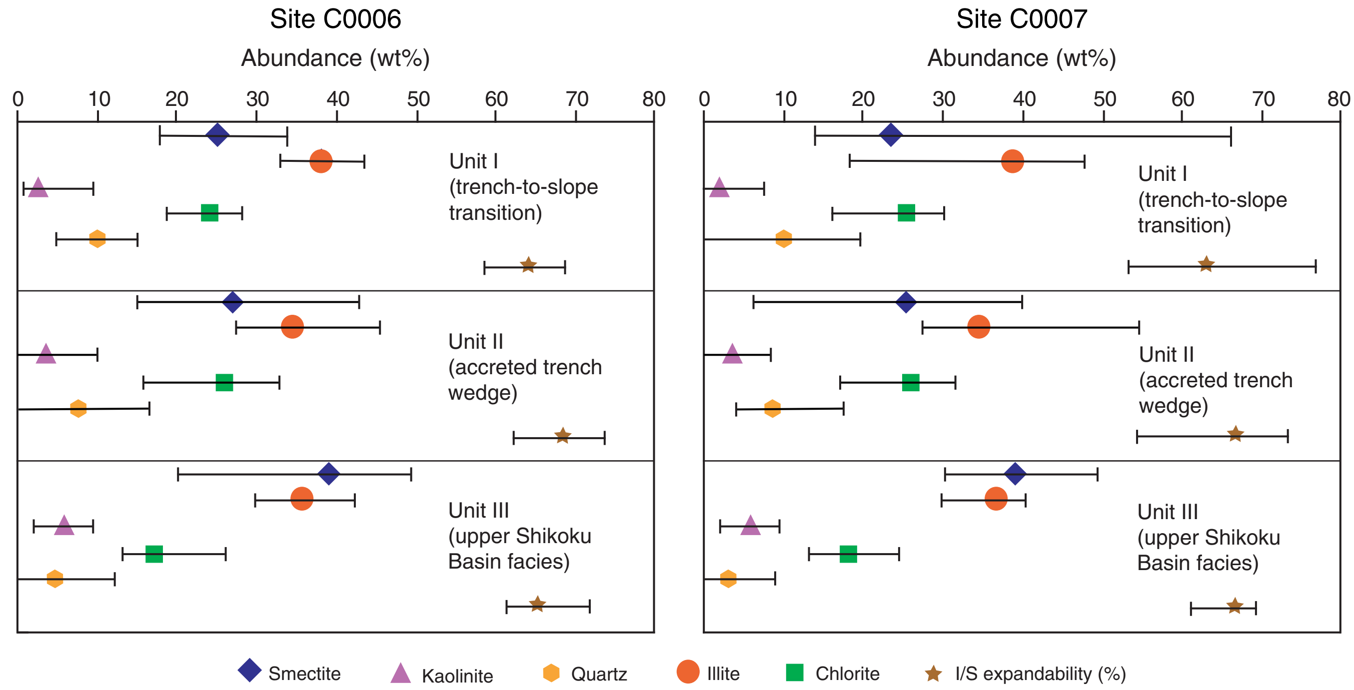

Figure F12. Lithostratigraphy of Site C0007 with relative abundances (wt%) of smectite, illite, chlorite, kaolinite, and quartz in clay-size fractions of mud(stone). Calculations were made using singular value decomposition (SVD) normalization factors. Also shown are values of expandability (%) of illite/smectite (I/S) mixed-layer clays.

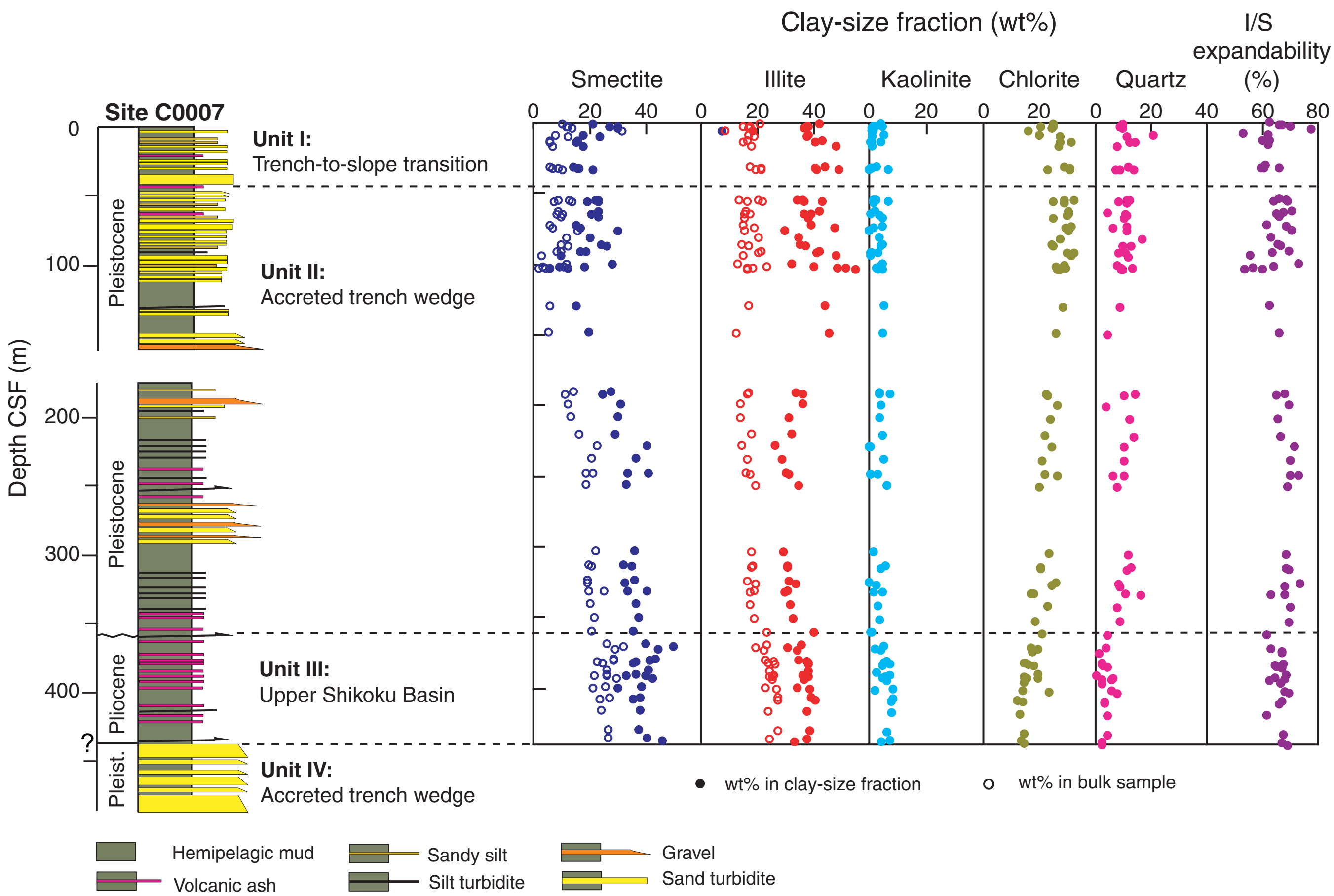

Table T1. Singular value decomposition (SVD) normalization factors (from Underwood et al., 2003) used to calculate relative mineral abundances in clay-size aggregates (<2 µm fraction), Sites C0001, C0002, C0004, C0006, C0007, and C0008.

Influencing mineral	Affected mineral standard mixture			
	Smectite	Illite	Chlorite	Quartz
Smectite	3.7398559E–04	–2.8994615E–05	–3.4377535E–05	–7.4421238E–05
Illite	4.2720105E–05	1.2499784E–03	–2.8363880E–05	3.3838456E–05
Chlorite	–6.7662186E–05	–2.0084190E–07	7.6974847E–04	5.2408810E–05
Quartz	2.4368789E–03	9.2311541E–04	8.1951090E–04	3.7061975E–03

Table T2. Results of X-ray diffraction for clay-size fraction (<2 µm), Sites C0001, C0002, C0004, C0006, C0007, and C0008. (Continued on next 10 pages.)

	Sample location		Integrated peak area (total counts)						I/S mixed-layer clay	
Unit	Core, section, interval (cm)	Depth CSF (m)	Smectite (001)	Illite (001)	Chlorite (002) + Kaolinite (001)	Quartz (100)	Half chlorite (004)	Chlorite (004) + Kaolinite (002)	Saddle:peak (intensity ratio)	Expandability (%)
	315-C0001E-									
	1H-3, 100	2.59	6,400	4,666	5,316	805	1,894	3,853	0.83	56
	1H-4, 19	3.07	7,051	8,487	10,798	1,155	3,651	8,741	0.82	57
	1H-6, 0	3.80	40,540	10,227	9,461	814	3,391	8,080	0.57	68
	1H-7, 0	4.03	17,716	12,107	11,582	717	3,764	9,036	0.77	59
	2H-3, 34	7.45	8,885	6,313	7,766	845	2,740	6,920	0.84	55
	2H-4, 10	8.73	5,396	4,945	6,067	904	2,377	5,479	0.90	51
	2H-5, 132	10.17	10,103	6,884	6,759	913	1,662	4,000	0.85	54
	2H-6, 140	11.76	13,877	8,221	8,472	983	2,818	6,237	0.80	57
	4H-2, 52	25.55	24,740	11,096	11,579	1,022	3,651	8,110	0.74	61
	4H-2, 95	25.98	9,616	4,711	5,725	923	2,218	4,912	0.83	56
	4H-4, 0	27.41	13,379	8,169	9,283	1,178	3,215	7,558	0.79	58
	5H-3, 54	36.18	7,203	8,313	8,083	1,001	2,896	6,545	0.90	51
	5H-4, 0	36.93	22,850	10,979	13,453	1,280	4,885	9,993	0.69	63
	5H-6, 60	39.33	25,659	14,053	14,746	1,213	4,667	11,046	0.78	59
	6H-1, 95	43.05	16,604	9,711	10,901	1,112	4,246	9,367	0.76	60
	6H-3, 30	45.22	15,457	6,467	6,881	1,099	1,860	4,601	0.74	61
	6H-4, 0	46.12	15,396	8,894	10,312	1,145	3,700	7,904	0.78	59
	6H-6, 25	48.02	19,085	9,092	10,024	888	3,058	7,662	0.78	59
	6H-6, 49	48.26	14,497	8,603	9,139	978	2,771	7,079	0.78	59
	7H-2, 20	53.20	32,373	14,972	16,043	1,201	5,035	11,510	0.66	64
	7H-4, 0	55.73	25,657	8,853	11,183	916	3,523	8,360	0.68	63
I	7H-5, 8	56.02	30,023	11,402	13,835	1,129	3,452	10,451	0.66	64
	7H-7, 70	58.27	18,994	7,851	8,957	1,018	2,634	6,478	0.72	62
	8H-3, 90	64.84	24,196	11,105	12,386	959	3,005	8,470	0.69	63
	8H-4, 0	65.16	25,925	11,029	13,086	1,281	3,931	9,308	0.65	64
	8H-7, 35	67.36	15,900	5,430	6,281	889	1,494	3,704	0.78	59
	9H-2, 49	72.50	24,333	8,807	10,723	987	2,942	7,174	0.70	63
	9H-2, 129	73.30	35,842	10,646	11,585	941	3,102	7,995	0.63	65
	9H-4, 0	74.78	21,084	9,056	10,596	1,149	3,730	8,397	0.68	63
	9H-5, 132	76.32	19,846	10,977	13,008	1,109	3,893	10,365	0.69	63
	9H-8, 118	80.49	21,027	11,227	10,963	1,051	2,703	6,923	0.70	62
	10H-3, 20	83.24	29,775	10,222	10,877	938	3,227	8,276	0.66	64
	10H-5, 90	85.42	28,632	10,979	12,609	1,266	3,645	9,235	0.68	63
	10H-7, 0	87.17	21,941	14,392	20,762	1,178	5,975	15,816	0.69	63
	11H-1, 100	90.60	22,561	10,160	12,452	1,114	4,167	9,474	0.68	63
	11H-4, 19	93.80	26,477	11,972	15,210	1,162	3,944	11,444	0.62	66
	11H-5, 115	94.98	21,202	11,056	14,466	1,277	4,499	12,077	0.69	63
	12H-3, 130	103.20	16,668	9,026	11,632	953	4,119	9,512	0.70	62
	12H-4, 23	103.55	22,497	10,044	11,080	1,001	3,191	8,188	0.69	63
	12H-5, 0	104.51	25,580	10,244	11,864	1,054	3,441	8,827	0.63	65
	13H-4	112.67	21,832	10,940	12,312	1,027	3,712	8,919	0.68	63
	13H-6, 50	114.86	24,519	8,932	10,470	1,075	3,813	8,208	0.74	61
	13H-8, 109	118.37	19,499	7,786	9,716	779	2,982	7,743	0.63	65
	315-C0001F-									
	1H-1, 10	108.10	31,734	14,973	17,483	1,247	6,460	14,322	0.66	64
	1H-4, 0-1	111.99	14,560	6,630	7,805	1,104	2,545	5,960	0.66	64
	2H-3, 33	120.65	25,851	9,089	10,975	1,006	2,980	7,314	0.64	65
	2H-5, 0	122.94	26,909	9,836	11,570	1,006	3,038	9,235	0.66	64
	3H-1, 130	128.30	24,038	7,999	9,763	963	3,107	7,201	0.78	59
	3H-2, 80	129.22	18,947	7,718	9,135	977	2,628	6,199	0.72	62
	4H-3, 0	139.10	29,116	11,085	12,350	1,261	4,211	9,577	0.62	65
	4H-5, 89	141.61	33,443	13,169	14,756	1,325	4,393	10,636	0.63	65
	4H-7, 82	144.45	20,262	7,547	9,438	1,024	3,434	7,322	0.67	64
	5H-1, 59	146.59	30,336	9,425	10,822	1,123	3,484	7,272	0.57	68
I	5H-2, 15	147.50	38,872	11,673	13,038	1,155	3,198	9,086	0.61	66
	5H-4, 0	149.88	48,826	13,404	14,425	976	4,963	11,556	0.59	67
	6H-4, 20	158.64	27,254	9,755	10,589	1,015	3,241	8,021	0.65	65
	6H-5, 0	158.66	14,420	5,996	6,807	1,096	2,016	5,051	0.65	64
	6H-6, 120	161.08	27,333	10,481	11,950	1,016	4,059	8,719	0.64	65
	7H-12, 20	168.14	28,474	11,798	13,362	1,298	4,016	10,417	0.67	64
	8H-1, 0	170.98	25,548	9,182	10,962	1,021	3,637	8,112	0.66	64
	8H-1, 130	172.28	46,135	18,059	19,467	1,568	6,635	14,308	0.63	65
	8H-2, 65	173.04	35,072	11,940	13,575	1,358	4,466	9,891	0.62	66
	8H-6, 50	177.26	23,775	9,905	11,527	1,160	3,671	8,506	0.65	65
	9H-1, 118	180.92	33,209	12,720	14,406	1,224	4,941	11,238	0.64	65

Table T2 (continued). (Continued on next page.)

Unit	Sample location: Core, section, interval (cm)	Sample location: Depth CSF (m)	Integrated peak area (total counts): Smectite (001)	Illite (001)	Chlorite (002) + Kaolinite (001)	Quartz (100)	Half chlorite (004)	Chlorite (004) + Kaolinite (002)	I/S mixed-layer clay: Saddle:peak (intensity ratio)	Expandability (%)
I	9H-3, 78	183.48	32,086	11,401	12,943	1,238	3,673	9,095	0.65	64
I	9H-4, 0	183.89	41,517	12,825	14,508	1,071	4,452	9,835	0.55	69
I	10H-10, 0	193.25	40,615	12,422	14,675	1,165	5,098	11,359	0.60	66
I	10H-11, 13	193.60	33,802	11,804	13,940	1,073	4,162	10,267	0.60	66
I	10H-11, 128	194.75	41,927	10,663	12,583	892	3,821	9,442	0.57	68
I	13H-1, 0	202.37	38,989	12,059	12,889	887	3,347	9,066	0.63	65
II	14H-1, 50	207.67	49,563	12,403	14,678	1,338	4,216	10,434	0.68	63
II	14H-2, 54	209.12	34,055	11,890	13,858	1,049	4,436	10,479	0.65	64
II	14H-3, 90	210.91	37,273	13,121	16,492	1,266	5,533	13,124	0.69	63
II	14H-4, 0	211.21	36,741	13,052	15,675	1,163	5,136	11,403	0.71	62
II	15H-2, 10	214.81	23,864	8,367	10,281	1,058	2,964	7,489	0.72	62
II	15H-2, 44	215.15	28,264	9,941	12,596	1,080	3,687	9,281	0.71	62
II	15H-4, 0	217.19	54,663	15,042	15,517	1,218	5,463	12,676	0.66	64
II	18H-4, 20	222.82	51,532	18,193	19,343	1,353	5,525	14,282	0.63	65
II	18H-6, 62	224.89	57,289	17,646	20,013	1,210	6,079	14,810	0.60	66
II	18H-6, 108	225.35	68,213	20,645	20,898	1,477	6,054	15,514	0.63	65
II	19H-4, 0	228.45	50,251	23,545	22,422	1,299	7,221	16,573	0.69	63
II	19H-4, 18	228.64	58,871	20,062	19,891	1,220	5,291	15,394	0.67	64
II	20X-5, 0	235.21	40,074	16,764	16,630	1,194	4,878	12,293	0.68	63
II	21X-4, 0	243.27	58,119	20,801	21,965	1,288	4,664	15,500	0.67	63
	315-C0001H-									
II	1R-3, 0	230.00	31,217	13,267	13,082	1,025	3,390	10,027	0.75	60
II	1R-4, 95	233.79	72,514	24,410	24,019	1,189	6,898	16,925	0.59	67
II	2R-2, 128	242.12	58,746	17,980	18,356	1,026	4,198	12,202	0.64	65
II	2R-3, 105	243.37	50,867	19,055	17,310	1,026	4,827	13,735	0.71	62
II	3R-2, 107	251.48	49,805	15,366	15,852	1,175	4,215	10,829	0.66	64
II	3R-4, 0	252.82	38,106	15,234	15,140	1,093	4,238	11,152	0.74	61
II	4R-4, 0	262.33	48,955	21,721	23,866	1,271	6,666	17,963	0.64	65
II	4R-6, 61	264.78	48,495	17,637	19,407	1,180	5,343	14,439	0.69	63
II	5R-2, 75	270.17	49,402	17,549	18,146	956	4,461	13,658	0.66	64
II	5R-3, 0	270.42	53,963	18,923	20,904	1,106	6,496	17,352	0.64	65
II	6R-1, 50	278.00	54,619	20,101	21,562	1,121	5,005	15,063	0.53	69
II	6R-2, 0	278.49	42,157	14,633	15,857	1,092	4,922	11,857	0.66	64
II	7R-2, 66	289.07	51,732	19,547	21,718	1,184	5,940	16,302	0.67	64
II	7R-3, 20	290.05	38,231	17,379	18,578	1,282	5,527	13,930	0.68	63
II	7R-3, 38	290.23	33,293	18,111	18,780	1,263	5,313	14,391	0.73	61
II	7R-4, 39	291.24	40,798	19,735	21,045	1,241	7,026	17,468	0.70	62
II	7R-6, 29	292.98	59,791	20,918	22,856	1,176	6,568	18,229	0.63	65
II	8R-1, 55	297.05	47,239	15,663	17,289	1,099	4,186	13,595	0.68	63
II	8R-4, 20	301.12	46,621	14,119	17,000	989	4,462	12,772	0.59	67
II	10R-3, 28	315.14	48,999	25,772	25,517	1,235	7,092	19,914	0.70	62
II	10R-4, 0	315.86	39,756	21,710	21,608	1,104	5,500	16,053	0.70	62
II	10R-7, 5	319.18	56,497	15,028	15,624	897	4,571	10,903	0.54	69
II	11R-2, 20	323.12	41,954	15,714	17,908	1,303	4,672	13,712	0.66	64
II	11R-4, 0	325.34	41,854	22,000	21,624	1,006	5,876	16,940	0.72	61
II	12R-2, 104	333.45	42,846	15,259	15,637	1,210	4,329	11,540	0.67	64
II	12R-4, 0	333.48	38,763	14,341	16,098	1,064	5,010	12,815	0.68	63
II	12R-5, 97	336.24	39,670	14,258	16,919	1,177	5,395	12,854	0.68	63
II	13R-5, 0	345.74	36,101	14,439	15,748	1,193	4,527	12,299	0.69	63
II	13R-6, 59	346.75	39,837	13,842	14,985	1,005	3,425	9,897	0.65	64
II	14R-3, 59	353.42	52,435	16,159	15,750	800	4,564	12,814	0.66	64
II	14R-4, 0	353.83	64,135	17,746	18,235	929	4,743	12,988	0.59	67
II	14R-6, 76	356.42	38,811	16,570	16,311	1,000	4,515	11,461	0.71	62
II	15R-1, 95	360.45	43,885	13,849	13,890	916	2,906	8,723	0.62	66
II	15R-1, 112	360.62	42,593	12,691	13,149	1,074	3,333	9,352	0.62	66
II	15R-5, 8	363.92	37,789	13,194	14,206	1,115	3,701	9,331	0.60	66
II	16R-3, 84	372.67	39,772	15,579	17,010	1,283	5,351	14,447	0.73	61
II	16R-4, 0	372.83	28,624	11,991	13,282	1,025	4,460	10,442	0.70	62
II	17R-2, 74	380.65	46,494	16,460	17,975	1,073	4,482	14,150	0.68	63
II	18R-1, 44	388.44	50,306	16,406	17,652	1,090	4,953	12,670	0.65	64
II	18R-3, 22	390.65	24,548	11,888	13,674	1,007	3,919	10,148	0.65	64
II	19R-2, 65	399.57	56,212	14,993	15,218	1,050	3,701	9,512	0.58	67
II	19R-2, 76	399.68	46,664	17,873	19,767	1,289	5,667	15,354	0.65	65
II	19R-3, 39	400.30	46,258	13,144	13,168	1,117	3,761	10,691	0.65	64
II	19R-4, 15	400.48	37,514	11,808	11,836	1,005	3,159	7,876	0.63	65
II	21R-2, 66	414.57	35,779	14,926	18,294	1,037	5,028	12,435	0.67	64
II	21R-3, 0	414.89	37,968	18,238	19,285	1,352	5,594	14,286	0.72	61

Table T2 (continued). (Continued on next page.)

Unit	Sample location: Core, section, interval (cm)	Sample location: Depth CSF (m)	Integrated peak area (total counts): Smectite (001)	Illite (001)	Chlorite (002) + Kaolinite (001)	Quartz (100)	Half chlorite (004)	Chlorite (004) + Kaolinite (002)	I/S mixed-layer clay: Saddle:peak (intensity ratio)	Expandability (%)
II	21R-4, 71	416.06	42,441	15,623	17,077	1,093	4,572	11,989	0.59	67
	22R-2, 92	421.84	56,222	20,627	20,057	938	5,483	15,163	0.68	63
	23R-2, 0	430.42	55,658	16,223	18,904	986	5,541	13,706	0.66	64
	23R-3, 20	430.93	52,068	16,647	17,747	1,038	4,776	12,488	0.64	65
	24R-1, 36	438.86	33,804	12,279	13,603	951	3,352	8,069	0.67	64
	24R-2, 0	439.94	32,644	12,285	13,410	1,044	3,544	9,829	0.71	62
	24R-3, 19	440.54	34,916	12,342	13,731	947	3,531	10,166	0.70	62
	25R-1, 69	447.89	35,776	12,583	13,906	1,203	4,225	10,298	0.68	63
	25R-1, 100	448.20	50,270	16,855	20,865	1,217	5,668	14,697	0.63	65
	25R-2, 9	448.70	44,621	13,232	15,824	1,038	3,628	9,906	0.61	66
	315-C0002D-									
I	1H-3, 100	2.63	11,136	7,928	7,371	1,249	1,916	4,621	0.81	57
	2H-5, 37	10.50	9,302	7,458	7,795	1,194	2,661	5,657	0.89	52
	3H-5, 85	20.50	14,271	11,103	12,499	1,440	3,432	9,249	0.73	61
	4H-5, 25	29.56	9,890	7,895	7,455	1,046	2,417	4,847	0.80	58
	5H-5, 21	39.03	9,357	8,046	8,796	1,158	2,660	5,910	0.87	53
	6H-6, 77	50.30	19,276	9,127	9,609	1,192	2,798	6,535	0.74	61
	7H-5, 23	58.08	12,630	9,866	10,019	1,118	2,979	6,695	0.80	57
	8H-5, 8	67.11	14,397	12,552	12,642	1,382	4,048	9,460	0.45	74
	9H-6, 35	78.56	19,956	14,598	15,278	1,654	5,062	10,567	0.77	59
	10H-5, 55	86.86	14,163	10,846	12,212	1,396	3,326	7,778	0.74	61
	11H-4, 43	95.84	12,402	5,955	6,702	1,097	1,903	4,088	0.76	60
	12H-4, 64	105.74	11,050	8,116	9,568	1,101	2,869	6,358	0.75	60
	13H-4, 49	114.98	9,610	15,849	22,645	1,473	7,504	17,969	0.84	55
	14H-4, 46	123.69	8,506	16,530	18,843	1,456	6,279	15,089	0.83	56
	15X-4, 8	132.55	24,642	10,793	16,751	1,322	5,077	12,751	0.68	63
II	16H-4, 12	154.33	19,157	18,661	29,569	1,450	9,793	22,160	0.75	60
	17X-3, 8	159.69	10,866	19,972	28,899	1,416	10,015	22,134	0.79	58
	18H-4, 23	202.27	23,155	12,642	18,478	1,589	5,830	14,207	0.76	60
	315-C0002B-									
II	1R-2, 0	476.42	28,493	14,825	17,551	1,345	4,307	12,508	0.68	63
	4R-1, 84	504.34	19,446	14,264	22,366	1,549	7,160	17,928	0.70	62
	4R-2, 0	504.60	16,044	12,124	19,428	1,513	7,091	15,680	0.79	58
	8R-2, 0	534.41	19,441	11,489	18,488	1,387	5,430	14,311	0.72	62
	8R-3, 73	535.46	25,154	13,348	17,752	1,524	5,681	14,076	0.70	62
	9R-3, 0	544.99	21,880	11,276	18,901	1,451	6,299	14,936	0.67	63
	9R-4, 123	546.54	27,760	13,689	22,771	1,316	6,893	18,187	0.65	64
	10R-2, 0	553.41	27,847	10,758	18,401	1,343	6,538	14,930	0.70	62
	10R-3, 23	553.95	14,506	8,570	15,208	1,578	6,216	13,291	0.80	58
	11R-3, 0	564.32	32,354	11,700	18,413	1,539	5,241	13,855	0.71	62
	11R-4, 84	565.47	17,837	10,673	14,763	1,494	4,281	10,692	0.69	63
	12R-2, 65	573.06	25,982	11,195	17,805	1,476	4,475	12,480	0.61	66
	13R-2, 0	581.91	25,147	12,834	19,925	1,508	6,707	16,677	0.73	61
	13R-3, 24	582.47	20,002	10,950	16,111	1,275	4,706	12,202	0.77	59
	15R-3, 32	602.65	26,670	16,516	27,651	1,125	9,919	24,304	0.62	65
	16R-3, 0	611.41	20,171	14,932	17,996	2,028	5,653	12,495	0.71	62
	16R-4, 9	611.91	15,605	11,644	14,783	1,761	4,785	11,198	0.75	60
	16R-4, 127	613.09	20,249	12,565	16,108	1,940	5,211	10,560	0.70	63
	17R-4, 27	623.00	15,724	12,251	14,697	1,751	5,120	10,251	0.81	57
	19R-2, 127	640.18	26,378	16,269	21,578	1,956	7,442	17,817	0.68	63
	19R-3, 0	640.31	54,616	18,978	29,985	1,540	10,622	24,301	0.57	68
	19R-4, 87	641.60	26,399	10,832	13,087	1,625	3,375	8,647	0.63	65
	20R-2, 125	649.67	14,979	12,057	14,386	2,561	4,704	10,334	0.78	59
	20R-3, 57	650.40	20,688	8,497	10,953	1,758	3,364	8,645	0.69	63
	21R-2, 43	658.34	14,149	8,321	11,412	1,929	3,999	8,827	0.77	59
	21R-3, 0	658.90	12,653	9,826	13,686	1,723	4,679	10,798	0.76	60
	21R-4, 28	659.59	13,032	8,026	9,994	1,284	3,216	7,115	0.80	58
	23R-2, 66	677.07	13,673	11,406	14,752	2,004	5,224	11,144	0.78	59
	23R-3, 0	677.82	16,241	13,971	15,812	1,511	5,533	12,486	0.72	62
	24R-2, 0	685.91	11,080	10,209	12,622	1,939	4,628	9,775	0.82	56
	24R-3, 71	687.04	19,971	13,092	14,211	1,885	3,607	8,978	0.75	60
	27R-2, 0	714.11	19,427	14,497	17,484	1,933	4,959	11,820	0.80	57
	28R-2, 30	724.21	20,275	12,991	14,806	1,420	4,801	10,192	0.76	60
	29R-2, 0	733.41	16,033	10,219	11,743	1,508	3,592	8,454	0.78	59
	30R-1, 124	742.74	20,930	13,378	15,345	1,463	4,563	9,955	0.77	59
	30R-2, 0	742.91	18,928	11,993	14,626	1,549	4,393	10,067	0.76	60
	31R-1, 127	752.27	15,937	8,627	10,531	1,680	3,540	7,716	0.70	62

Table T2 (continued). (Continued on next page.)

Unit	Sample location: Core, section, interval (cm)	Sample location: Depth CSF (m)	Integrated peak area (total counts): Smectite (001)	Illite (001)	Chlorite (002) + Kaolinite (001)	Quartz (100)	Half chlorite (004)	Chlorite (004) + Kaolinite (002)	I/S mixed-layer clay: Saddle:peak (intensity ratio)	Expandability (%)
	32R-2, 67	762.58	15,500	12,312	14,855	2,416	4,486	10,245	0.77	59
	32R-2, 89	762.80	17,817	11,155	13,588	2,078	4,001	9,298	0.75	60
	32R-5, 0	764.29	17,583	12,482	13,980	2,146	4,440	9,508	0.81	57
	33R-1, 85	770.85	17,256	12,105	14,181	1,154	3,921	8,622	0.74	61
II	33R-2, 40	771.39	17,644	13,302	16,198	1,614	5,446	11,146	0.78	59
	37R-2, 0	806.91	25,917	13,280	14,209	1,966	3,796	8,320	0.74	61
	38R-3, 0	817.82	19,631	11,968	12,886	1,449	3,918	7,856	0.79	58
	38R-4, 13	818.37	25,274	13,013	15,151	1,904	4,315	9,140	0.69	63
	40R-2, 0	835.41	18,297	9,863	12,497	1,712	4,049	8,484	0.80	58
	40R-3, 98	836.81	21,709	10,687	12,569	1,785	3,807	7,766	0.74	61
	41R-3, 40	846.73	27,284	13,099	13,817	1,889	3,711	7,857	0.66	64
	41R-4, 8	846.82	27,652	10,079	10,286	1,449	2,618	6,546	0.70	62
	42R-1, 16	853.16	26,006	12,827	12,058	1,168	3,028	7,149	0.77	59
	42R-1, 31	853.31	38,898	8,742	7,373	1,250	2,073	4,160	0.68	63
	43R-1, 17	862.67	27,096	10,368	9,811	1,078	2,696	5,527	0.73	61
	43R-1, 40	862.90	25,669	10,797	9,992	1,011	2,571	5,688	0.75	60
	43R-5, 40	868.15	16,387	6,741	6,702	1,005	1,451	3,628	0.77	59
	44R-1, 124	873.24	28,516	11,035	11,198	918	2,463	6,691	0.68	63
	44R-2, 48	873.89	25,500	8,934	8,840	1,310	2,328	5,592	0.74	61
	44R-4, 125	877.48	24,953	8,809	9,348	855	2,668	5,882	0.64	65
III	45R-1, 44	881.94	26,166	7,755	7,999	977	2,034	4,776	0.74	61
	46R-3, 8	893.91	19,163	8,308	8,917	786	2,777	5,593	0.69	63
	46R-4, 0	894.81	25,867	8,155	8,157	939	1,885	5,136	0.74	61
	46R-5, 94	896.16	29,798	9,428	10,410	1,009	3,014	7,271	0.71	62
	47R-1, 37	900.87	22,006	8,376	9,101	1,060	2,356	5,931	0.77	59
	47R-1, 61	901.11	22,506	8,423	8,375	777	2,148	5,310	0.72	62
	47R-3, 38	903.70	23,551	8,067	8,709	1,138	2,363	6,193	0.75	60
	48R-2, 35	911.76	18,069	6,306	7,044	979	2,121	4,471	0.76	60
	48R-5, 0	915.24	23,204	8,523	9,075	1,308	2,266	5,706	0.77	59
	48R-6, 65	916.31	34,224	9,647	10,011	1,293	2,734	6,778	0.63	65
	48R-6, 89	916.55	27,553	7,689	6,955	1,253	2,236	4,612	0.68	63
	49R-1, 96	920.46	21,392	8,196	7,232	1,221	1,930	4,833	0.71	62
	49R-1, 121	920.71	28,893	9,013	8,780	1,408	2,501	5,759	0.69	63
	49R-3, 0	921.90	18,526	7,603	7,503	1,017	1,418	4,540	0.75	60
	51R-1, 34	938.84	30,007	7,171	7,287	1,474	2,421	4,872	0.71	62
	51R-5, 0	943.71	114,326	20,690	20,365	1,787	5,301	12,452	0.44	74
	51R-6, 26	944.38	39,149	13,255	15,238	1,610	5,051	11,989	0.59	67
	51R-6, 51	944.63	40,274	7,344	8,471	949	2,145	5,862	0.57	68
	58R-1, 46	1005.46	10,461	7,167	11,324	1,613	3,469	9,153	0.65	64
	59R-1, 121	1010.71	36,430	12,974	18,871	1,267	5,969	12,272	0.47	73
	59R-2, 0	1010.91	66,214	18,644	18,896	2,091	5,564	13,573	0.55	69
	59R-3, 23	1011.56	82,916	14,203	19,753	2,002	5,000	14,517	0.39	77
IV	60R-1, 69	1014.69	121,683	17,000	20,638	2,148	4,755	13,916	0.39	77
	61R-2, 121	1021.12	108,021	21,360	21,706	1,745	4,948	13,975	0.44	74
	61R-3, 0	1021.32	69,816	18,554	16,076	1,754	4,737	11,111	0.47	73
	61R-4, 22	1021.96	23,831	8,170	13,856	1,100	5,041	12,277	0.60	66
	62R-1, 50	1023.50	75,633	13,567	14,289	1,365	4,022	9,280	0.42	75
	62R-2, 0	1024.00	41,708	13,106	11,631	1,598	3,229	8,095	0.57	68
	63R-1, 120	1033.70	50,954	17,357	17,008	1,626	5,296	12,961	0.53	70
	64R-1, 39	1042.39	46,964	12,026	12,536	1,535	3,605	8,649	0.58	67
	64R-2, 0	1043.00	37,411	9,474	10,730	1,127	2,575	7,099	0.67	64
	65R-1, 105	1047.55	29,384	10,878	10,580	1,558	2,961	6,441	0.75	60
	65R-2, 125	1049.17	34,118	10,518	11,247	1,144	2,966	7,784	0.56	68
	316-C0004C-									
	1H-2, 119	2.61	24,868	9,573	9,385	966	3,050	6,944	0.72	61
	1H-5, 92	5.17	23,377	17,430	17,861	1,383	4,495	13,350	0.69	63
	1H-5, 117	5.41	23,191	14,549	15,289	1,093	5,219	12,071	0.72	62
	2H-4, 0	9.20	32,116	12,736	13,934	1,673	3,888	8,899	0.64	65
	2H-5, 35	10.98	36,077	15,513	15,930	1,366	4,133	11,199	0.61	66
	2H-6, 119	13.26	19,509	9,255	11,026	1,203	4,170	8,963	0.77	59
I	3H-2, 25	17.54	32,060	12,319	12,704	1,039	3,923	9,207	0.67	64
	3H-8, 20	22.96	22,540	14,117	15,132	1,286	4,252	10,781	0.65	64
	4H-1, 58	25.97	29,380	9,368	9,742	879	2,992	6,760	0.56	68
	4H-4, 20	29.61	49,923	15,127	17,465	1,388	5,831	13,386	0.53	69
	5H-1, 63	35.51	49,287	22,509	27,398	1,505	8,377	21,754	0.63	65
	5H-4, 0	39.07	16,336	7,583	10,344	2,382	2,939	7,797	0.74	61
	6H-2, 63	46.44	23,259	9,985	11,948	1,290	3,865	9,265	0.63	65

Table T2 (continued). (Continued on next page.)

Unit	Sample location: Core, section, interval (cm)	Sample location: Depth CSF (m)	Integrated peak area (total counts): Smectite (001)	Illite (001)	Chlorite (002) + Kaolinite (001)	Quartz (100)	Half chlorite (004)	Chlorite (004) + Kaolinite (002)	I/S mixed-layer clay: Saddle:peak (intensity ratio)	Expandability (%)
I	6H-4, 0	48.48	28,350	11,724	10,189	839	2,497	6,188	0.60	66
	6H-7, 15	51.76	39,403	9,681	12,065	791	3,566	8,481	0.58	67
	7H-6, 0	59.34	44,962	16,069	18,673	1,623	5,601	13,991	0.59	67
	7H-7, 129	60.85	31,907	14,947	16,935	1,363	6,323	14,141	0.65	65
	7H-9, 15	62.52	40,074	13,210	15,377	1,187	4,262	10,697	0.55	68
	8H-2, 68	65.46	28,428	11,903	11,843	1,255	2,974	7,630	0.63	65
	8H-4, 0	67.63	40,337	14,851	16,731	1,185	5,322	11,937	0.61	66
	8H-5, 91	68.76	30,326	10,911	12,487	1,364	3,467	8,368	0.55	68
	9H-2, 68	74.97	27,107	10,503	12,794	2,236	4,028	10,255	0.57	68
	9H-4, 0	77.14	55,126	18,984	23,422	1,368	7,600	17,203	0.48	72
IIA	10H-2, 103	83.31	29,234	15,520	19,897	1,212	7,367	16,208	0.73	61
	10H-3, 0	83.47	36,764	16,966	20,057	1,405	6,684	15,371	0.63	65
	11H-1, 110	85.91	26,514	12,455	15,886	1,692	5,320	12,494	0.70	62
	11H-2, 0	86.24	23,284	14,750	17,911	1,327	6,217	14,443	0.69	63
	12X-6, 0	94.99	28,866	17,359	22,486	1,168	9,236	20,017	0.69	63
	12X-8, 64	97.32	13,988	9,665	9,615	2,300	2,779	6,801	0.73	61
	13X-3, 0	101.27	34,898	19,451	23,573	1,304	7,562	18,152	0.64	65
	13X-8, 10	107.28	17,540	12,187	15,740	1,284	6,574	13,387	0.73	61
	14X-5, 0	113.58	20,393	14,487	17,927	1,688	6,861	15,349	0.71	62
	14X-8, 15	116.82	22,095	12,072	15,791	1,595	5,608	12,446	0.71	62
IIB	15X-2, 0	119.13	28,048	10,970	12,734	1,398	4,575	10,153	0.65	64
	15X-7, 0	125.91	30,987	17,929	22,170	1,348	6,942	17,100	0.75	60
	316-C0004D-									
IIB	4R-2, 0	129.07	35,441	13,380	16,278	1,051	4,793	10,990	0.61	66
	5R-3, 0	139.54	44,125	20,658	26,314	1,532	8,496	19,380	0.58	67
	7R-2, 0	152.91	23,839	13,144	15,010	1,008	4,099	10,326	0.67	64
	13R-2, 14	179.54	47,116	20,220	22,668	1,459	7,271	15,945	0.70	62
	16R-2, 13	203.26	45,492	12,369	15,173	950	4,631	10,701	0.58	67
	19R-2, 1	226.67	40,670	11,129	12,969	1,006	3,802	10,263	0.57	68
	23R-1, 97	247.97	31,812	10,718	11,513	1,209	3,819	8,765	0.63	65
III	26R-3, 0	262.59	33,554	13,173	14,433	1,186	5,083	11,054	0.64	65
	27R-2, 95	267.37	52,425	19,769	21,630	1,140	6,603	16,065	0.56	68
	28R-1, 43	269.94	57,507	18,947	22,138	1,139	5,400	14,697	0.56	68
	28R-2, 80	271.71	39,594	12,214	13,096	958	3,977	8,965	0.65	64
	29R-1, 120	275.20	42,421	15,910	16,877	1,263	5,186	11,791	0.64	65
	29R-CC, 18	277.14	51,082	15,019	17,795	1,325	5,091	12,931	0.56	68
	30R-1, 117	279.67	37,658	13,870	17,983	1,066	5,699	12,400	0.63	65
	30R-2, 53	280.44	37,933	14,673	17,982	1,041	4,707	11,851	0.58	67
	30R-2, 88	280.79	45,729	14,515	17,159	1,104	4,482	12,524	0.65	64
	30R-3, 29	281.61	49,680	17,376	21,581	1,560	7,773	17,430	0.59	67
	30R-3, 76	282.08	35,202	12,126	15,565	1,036	4,845	12,049	0.60	67
	32R-2, 120	290.11	43,839	16,233	17,636	1,191	4,470	10,127	0.57	68
	34R-1, 15	296.65	45,956	14,431	16,795	1,049	4,214	10,932	0.64	65
	36R-2, 0	306.69	49,598	14,724	16,979	1,391	4,407	12,032	0.59	67
IV	37R-1, 59	310.59	52,722	18,782	21,036	1,354	6,675	16,384	0.54	69
	39R-2, 8	320.18	27,707	11,520	14,643	1,425	5,380	11,451	0.58	67
	39R-3, 79	321.19	30,266	12,386	14,376	1,662	5,216	11,630	0.58	67
	41R-2, 20	329.60	48,002	15,466	16,880	1,668	5,806	12,316	0.53	70
	44R-2, 71	343.61	27,900	9,122	11,203	1,346	3,835	8,279	0.54	69
	44R-3, 0	344.09	34,749	12,422	14,777	1,897	4,899	11,521	0.55	68
	46R-2, 28	352.20	33,085	12,439	14,657	1,532	4,214	10,339	0.60	66
	48R-1, 37	359.87	29,977	11,720	13,712	1,336	4,861	10,579	0.56	68
	48R-2, 17	361.07	30,965	12,972	15,036	1,557	6,491	13,578	0.58	67
	49R-1, 111	365.11	36,565	13,060	16,270	1,615	5,742	12,551	0.52	70
	49R-2, 30	365.72	36,429	12,505	14,398	1,815	4,914	11,639	0.52	70
	49R-3, 79	367.61	38,924	15,060	17,176	1,804	5,218	13,314	0.59	67
	51R-1, 90	373.91	30,858	10,738	12,033	1,332	3,219	8,707	0.58	67
	51R-2, 50	374.92	44,915	13,906	16,630	1,403	4,802	11,847	0.56	68
	51R-2, 103	375.45	24,613	11,712	14,272	1,721	4,508	11,588	0.58	67
	52R-1, 10	377.60	29,861	11,607	14,794	1,243	4,166	11,472	0.63	65
	52R-2, 79	379.69	22,210	9,138	11,884	1,480	3,557	8,132	0.60	66
	52R-3, 18	380.49	31,599	11,751	15,943	1,658	5,732	12,990	0.61	66
	52R-3, 76	381.07	35,659	10,763	14,934	1,262	4,736	9,793	0.54	69
	52R-3, 110	381.41	45,915	12,257	15,319	974	3,831	9,161	0.53	70
	53R-2, 51	383.92	46,236	11,649	14,507	1,694	5,225	11,620	0.49	71
	54R-1, 107	387.58	35,531	10,526	12,548	1,546	3,787	9,329	0.60	67
	54R-2, 11	388.02	28,713	8,288	10,297	959	3,239	7,669	0.61	66

Table T2 (continued). (Continued on next page.)

Unit	Sample location		Integrated peak area (total counts)						I/S mixed-layer clay	
	Core, section, interval (cm)	Depth CSF (m)	Smectite (001)	Illite (001)	Chlorite (002) + Kaolinite (001)	Quartz (100)	Half chlorite (004)	Chlorite (004) + Kaolinite (002)	Saddle:peak (intensity ratio)	Expandability (%)
	54R-2, 116	389.06	22,600	6,539	8,066	953	2,804	5,756	0.64	65
	54R-3, 0	389.31	20,591	7,367	8,727	823	2,823	7,133	0.66	64
IV	54R-3, 44	389.75	22,861	9,544	11,618	1,364	3,456	8,451	0.63	65
	54R-3, 77	390.09	39,889	11,605	15,966	1,191	4,884	12,081	0.56	68
	55R-1, 36	391.36	30,476	10,007	11,791	1,925	3,977	8,875	0.53	70
	55R-2, 97	393.38	24,045	11,670	14,256	1,323	4,662	10,655	0.62	65
	316-C0006C-									
I	1H-2, 0	1.27	22,929	10,500	12,961	1,121	4,525	10,000	0.64	65
	1H-6, 0	5.97	38,822	13,006	17,741	1,230	6,200	13,973	0.57	68
	316-C0006D-									
	1H-2, 0	1.21	19,686	11,518	13,740	1,022	4,093	9,209	0.69	63
I	1H-2, 20	1.41	26,725	15,329	15,709	1,014	4,651	10,521	0.68	63
	1H-5, 0	4.04	10,622	10,403	10,167	1,356	3,114	6,591	0.77	59
	316-C0006E-									
	1H-2, 0	1.21	25,123	19,355	21,971	1,292	7,229	15,185	0.66	64
	1H-4, 69	3.53	21,110	14,680	17,636	1,536	6,889	14,707	0.72	62
	1H-5, 0	4.24	16,091	13,256	14,537	1,159	5,036	10,729	0.76	60
	1H-6, 49	4.97	19,894	10,568	13,380	1,062	4,859	9,936	0.60	66
	2H-3, 0	7.79	19,359	17,342	22,271	1,391	7,957	18,327	0.73	61
I	2H-4, 115	9.18	14,803	8,648	11,086	1,126	3,912	8,046	0.64	65
	2H-7, 0	12.09	14,577	12,810	15,993	1,245	6,421	13,327	0.71	62
	3H-3, 0	17.29	25,403	17,384	19,851	1,294	6,523	13,321	0.67	63
	3H-6, 55	20.98	21,451	9,733	13,061	1,063	3,508	9,085	0.58	67
	3H-6, 95	20.98	24,905	14,530	17,838	1,593	6,078	12,904	0.64	65
	3H-7, 0	21.66	37,760	13,154	17,002	1,000	4,976	12,340	0.59	67
	4H-4, 29	29.92	27,855	21,372	25,316	1,527	7,546	17,763	0.70	63
	4H-5, 0	29.92	29,276	19,833	26,526	1,207	8,689	17,236	0.61	66
	5H-1, 126	34.49	24,713	10,935	16,456	1,329	5,895	12,255	0.59	67
	5H-3, 0	35.84	22,046	16,425	18,776	870	4,698	12,674	0.66	64
	5H-4, 20	36.26	18,693	10,217	15,926	1,083	5,193	11,769	0.59	67
	5H-5, 70	38.20	15,112	14,576	19,530	932	5,535	14,012	0.64	65
	7H-2, 115	41.25	20,638	12,931	19,928	1,343	7,008	14,975	0.58	67
	7H-4, 0	42.92	15,674	11,402	14,575	712	3,716	8,911	0.64	65
	7H-4, 20	43.12	47,898	19,346	21,275	897	5,100	11,343	0.46	73
	8H-1, 55	48.74	9,229	7,308	9,807	1,058	2,827	7,420	0.75	60
	8H-2, 86	50.45	14,892	13,818	16,836	629	3,816	9,549	0.69	63
	8H-4, 0	51.79	17,688	9,541	13,489	822	4,466	9,278	0.60	66
	9H-2, 93	60.04	34,951	13,119	20,745	1,158	6,770	13,814	0.49	71
	9H-5, 0	62.41	16,986	14,053	18,617	903	4,892	12,037	0.64	65
	10H-8, 0	64.51	8,712	7,185	7,986	716	2,249	5,217	0.75	60
	11H-1, 79	65.46	32,865	11,543	17,510	1,350	5,421	12,745	0.55	68
	11H-4, 0	67.70	13,589	15,002	17,828	785	4,867	12,398	0.68	63
	12H-6, 0	76.31	27,836	13,058	21,080	1,196	6,547	14,965	0.51	70
	16X-1, 96	89.80	23,265	13,397	20,254	1,037	7,173	15,466	0.66	64
	16X-2, 0	90.11	31,783	16,869	24,884	1,411	8,016	18,350	0.54	69
II	17X-1, 115	99.49	33,270	13,309	20,101	1,100	5,165	13,017	0.57	68
	17X-3, 0	100.30	22,396	14,998	20,799	922	5,297	12,683	0.59	67
	17X-5, 27	101.45	26,655	13,681	20,382	1,090	6,522	14,981	0.55	69
	19X-3, 113	118.40	24,790	13,205	20,279	1,305	6,445	13,641	0.57	68
	19X-4, 95	119.62	36,387	20,091	27,627	1,245	8,234	17,377	0.54	69
	19X-5, 0	119.76	14,358	12,374	16,569	1,409	5,872	12,808	0.72	62
	19X-6, 39	120.47	18,340	8,910	14,323	1,141	4,591	10,808	0.62	66
	20X-1, 38	125.72	21,693	13,318	17,793	959	5,519	12,416	0.60	67
	20X-1, 118	126.52	40,727	10,220	16,569	1,212	4,646	10,452	0.45	74
	20X-2, 121	127.96	22,284	20,032	24,619	2,062	8,624	18,484	0.66	64
	20X-3, 0	128.16	26,892	29,542	33,693	1,708	9,625	19,380	0.65	64
	20X-5, 33	131.34	26,045	11,013	16,674	1,538	5,755	12,032	0.57	68
	20X-5, 108	132.09	26,371	11,943	19,673	1,537	6,834	14,460	0.55	69
	20X-7, 0	132.85	26,789	11,113	16,048	799	4,860	10,789	0.64	65
	21X-3, 0	137.38	46,453	18,335	32,151	1,010	8,330	18,750	0.49	71
	22X-2, 33	146.07	26,732	14,103	21,421	1,848	7,552	18,115	0.59	67
	22X-3, 0	146.83	23,487	13,501	22,231	1,215	8,749	18,318	0.61	66
	22X-4, 30	147.48	22,123	16,548	24,102	1,404	8,947	18,783	0.67	64
	22X-4, 115	148.33	38,204	23,189	34,104	1,203	10,256	21,139	0.53	70
	22X-6, 20	150.20	26,503	14,167	23,874	1,217	8,673	18,813	0.55	68
	22X-6, 66	150.66	18,661	17,816	26,418	1,185	8,510	21,340	0.64	65

Table T2 (continued). (Continued on next page.)

	Sample location		Integrated peak area (total counts)						I/S mixed-layer clay	
Unit	Core, section, interval (cm)	Depth CSF (m)	Smectite (001)	Illite (001)	Chlorite (002) + Kaolinite (001)	Quartz (100)	Half chlorite (004)	Chlorite (004) + Kaolinite (002)	Saddle:peak (intensity ratio)	Expandability (%)
	23X-1, 65	154.48	25,256	12,422	19,380	1,143	6,016	12,443	0.54	69
	23X-1, 101	154.84	29,769	16,126	24,161	1,233	7,350	16,312	0.54	69
	23X-3, 26	156.91	32,058	14,120	22,285	1,089	7,280	14,739	0.50	71
	23X-3, 67	157.32	13,513	9,889	14,092	1,275	5,441	11,475	0.67	64
	23X-4, 0	157.74	26,207	13,044	19,056	1,501	6,802	13,790	0.58	67
	23X-5, 90	158.98	31,306	12,629	21,198	1,246	6,995	15,541	0.54	69
	25X-6, 25	180.12	33,535	15,564	24,613	1,292	7,871	17,142	0.50	71
	25X-7, 0	180.79	21,424	17,261	27,390	1,052	8,640	18,924	0.65	64
	26X-1, 147	183.81	36,267	13,641	22,516	1,512	7,361	16,643	0.46	73
	26X-4, 0	186.65	36,723	17,113	24,360	1,348	7,258	15,475	0.50	71
	26X-8, 94	191.82	42,178	16,029	24,979	1,812	9,110	18,294	0.48	72
	27X-1, 60	192.43	25,114	11,659	19,482	1,158	6,735	14,456	0.59	67
	27X-5, 16	197.65	25,560	15,930	24,730	1,104	8,137	17,386	0.56	68
	27X-8, 30	200.62	33,044	14,950	21,406	926	5,563	12,937	0.53	70
	28X-1, 31	201.64	52,662	16,539	24,111	1,643	6,623	14,576	0.47	73
	28X-1, 91	202.24	36,538	14,496	22,893	1,276	7,867	16,857	0.55	69
	28X-3, 0	203.81	43,057	16,209	24,478	1,334	7,121	16,905	0.46	73
	28X-4, 75	204.92	43,834	14,551	24,092	1,203	6,914	15,352	0.49	71
	29X-2, 84	213.11	37,138	19,207	29,374	1,747	10,172	22,475	0.58	67
	29X-7, 0	219.04	40,891	16,889	28,859	1,474	9,000	21,042	0.54	69
	30X-1, 107	221.40	36,235	14,582	23,494	1,331	7,993	16,509	0.51	70
	30X-3, 0	223.16	27,752	13,793	20,041	1,438	6,178	15,224	0.57	68
	30X-8, 80	229.63	29,079	12,292	15,776	1,459	4,815	10,491	0.61	66
	31X-3, 0	232.32	17,383	8,724	16,617	901	4,931	11,051	0.54	69
	31X-4, 65	233.34	38,734	14,019	19,628	871	6,075	12,996	0.53	70
	32X-4, 0	243.21	23,453	9,606	16,362	1,149	5,561	11,646	0.62	66
	32X-5, 23	243.82	22,306	14,420	21,751	1,534	7,101	15,516	0.58	67
	32X-5, 91	244.51	25,944	12,649	18,893	1,276	5,631	13,628	0.55	68
	32X-6, 18	245.19	39,203	15,549	25,551	1,327	7,518	16,703	0.55	69
	34X-3, 94	262.09	53,575	17,327	23,924	1,450	7,364	16,141	0.51	71
	34X-4, 44	263.01	29,355	10,317	16,318	1,204	5,915	12,363	0.53	69
II	34X-5, 0	263.62	41,224	12,585	17,017	1,187	5,478	13,302	0.56	68
	35X-2, 0	268.69	41,411	10,876	21,734	931	6,508	14,831	0.44	74
	35X-3, 118	270.24	51,254	19,219	28,863	1,618	9,218	19,646	0.45	73
	35X-4, 10	270.56	28,105	10,620	16,914	1,375	6,183	13,370	0.57	68
	36X-1, 100	278.33	33,836	21,322	30,249	1,490	9,907	21,496	0.62	66
	36X-4, 0	281.56	25,978	9,980	14,381	1,565	4,870	10,788	0.56	68
	37X-2, 78	289.03	19,349	7,059	10,642	1,548	3,283	7,759	0.57	68
	37X-4, 18	291.25	24,200	8,588	11,607	1,173	3,716	7,934	0.62	66
	37X-4, 58	291.65	22,375	9,562	13,792	1,280	5,030	11,155	0.59	67
	37X-5, 0	292.12	55,839	31,758	50,545	1,806	15,186	33,211	0.51	71
	38X-2, 0	296.70	44,900	16,208	23,226	1,582	6,926	16,219	0.51	70
	39X-3, 71	309.36	28,330	13,243	21,072	1,368	7,244	15,061	0.56	68
	39X-4, 0	309.69	27,617	11,712	18,862	1,138	5,509	13,067	0.60	67
	39X-CC, 31	315.66	24,124	8,695	13,912	1,336	4,561	9,767	0.57	68
	40X-7, 0	322.01	32,363	13,522	18,374	1,835	6,309	13,232	0.59	67
	40X-8, 60	323.01	29,742	9,701	13,650	1,123	4,487	9,960	0.55	69
	41X-4, 0	328.83	34,456	12,308	20,565	1,526	6,920	15,430	0.51	70
	42X-5, 0	339.58	14,932	6,073	9,871	1,359	3,458	7,554	0.62	66
	42X-8, 56	343.36	31,428	10,715	12,203	1,381	3,394	7,705	0.67	64
	43X-5, 0	349.11	53,074	16,156	22,474	1,662	7,601	16,743	0.50	71
	44X-5, 0	358.99	30,619	17,583	29,095	1,279	7,883	18,163	0.58	67
	45X-1, 37	363.21	19,457	7,896	13,815	1,191	4,191	9,681	0.60	66
	45X-3, 63	366.27	32,391	11,706	19,822	1,325	6,196	14,244	0.54	69
	45X-3, 81	366.45	30,726	13,819	19,923	1,424	5,546	14,054	0.60	67
	45X-4, 0	366.66	23,123	12,772	21,692	1,423	7,351	16,987	0.60	66
	46X-3, 138	376.55	37,333	11,978	18,148	977	6,018	12,782	0.50	71
	46X-5, 0	377.60	32,955	14,373	20,378	1,576	5,705	12,838	0.61	66
	47X-3, 93	385.58	16,606	5,673	8,587	1,127	2,374	6,052	0.60	66
	47X-4, 14	386.20	25,447	6,262	8,024	796	2,350	4,955	0.55	69
	47X-5, 0	386.72	27,187	8,565	12,640	1,322	4,269	8,771	0.56	68
	48X-5, 0	396.98	37,341	8,282	12,454	971	3,048	8,124	0.47	73
	49X-4, 0	404.68	25,272	16,379	25,700	1,320	7,331	17,015	0.59	67
	316-C0006F-									
	2R-2, 0	405.52	34,891	11,510	18,426	1,288	6,039	13,559	0.46	73
II	3R-1, 0	414.00	29,662	10,466	10,757	1,240	3,286	7,399	0.60	67
	4R-2, 33	425.24	32,816	10,386	13,622	1,152	4,379	9,946	0.56	68

Table T2 (continued). (Continued on next page.)

Unit	Sample location: Core, section, interval (cm)	Sample location: Depth CSF (m)	Integrated peak area (total counts): Smectite (001)	Illite (001)	Chlorite (002) + Kaolinite (001)	Quartz (100)	Half chlorite (004)	Chlorite (004) + Kaolinite (002)	I/S mixed-layer clay: Saddle:peak (intensity ratio)	Expandability (%)
	5R-1, 117	434.17	24,160	8,377	13,657	1,020	4,951	11,041	0.57	68
II	6R-1, 120	439.20	15,885	6,082	6,379	948	2,046	5,252	0.71	62
	7R-1, 90	448.40	26,169	8,222	9,773	830	3,237	7,224	0.64	65
	8R-1, 12	457.13	44,379	17,816	18,046	1,002	4,486	10,588	0.72	61
	8R-1, 103	458.03	40,867	14,602	17,370	967	4,917	13,537	0.65	65
	8R-2, 42	458.84	29,395	8,009	9,914	897	2,848	6,935	0.65	64
	9R-1, 53	467.04	44,304	13,197	14,134	1,022	3,742	9,146	0.62	65
	9R-1, 105	467.56	36,865	9,680	10,984	941	2,855	7,624	0.61	66
	9R-2, 41	468.42	47,537	16,195	17,879	730	5,583	13,221	0.65	65
	10R-1, 27	476.28	42,193	11,381	12,666	927	3,632	9,185	0.65	64
	10R-1, 124	477.25	46,085	13,137	14,010	1,034	4,272	9,831	0.65	64
	11R-1, 60	486.10	45,167	12,240	13,188	1,061	3,753	9,065	0.65	64
	11R-2, 46	487.48	34,753	11,119	11,354	867	3,031	7,445	0.63	65
	11R-CC, 19	488.01	38,087	12,264	12,998	1,192	3,840	9,382	0.68	63
	12R-1, 62	495.63	51,799	15,648	15,268	1,420	4,546	11,499	0.65	65
	12R-2, 0	496.44	67,686	20,055	18,202	1,454	5,286	13,337	0.58	67
	13R-1, 119	505.69	42,435	15,211	15,459	1,026	3,618	10,096	0.71	62
	13R-2, 20	506.10	37,548	11,962	11,438	899	2,608	7,175	0.70	62
	13R-2, 86	506.76	27,443	11,093	12,371	891	3,721	9,525	0.72	61
III	14R-1, 104	515.04	29,097	10,316	11,391	1,142	3,825	9,423	0.71	62
	14R-2, 0	515.51	40,954	12,369	13,389	925	3,674	8,962	0.58	67
	14R-2, 37	515.88	45,128	17,306	16,168	1,204	4,340	10,801	0.68	63
	14R-3, 22	517.24	26,859	9,394	11,143	807	3,485	9,459	0.68	63
	15R-1, 0	523.50	46,226	17,403	17,703	1,157	5,248	12,859	0.67	64
	15R-1, 121	524.71	55,171	13,947	15,285	838	4,287	11,090	0.54	69
	15R-2, 57	525.57	61,506	20,402	19,115	1,159	7,868	16,728	0.57	68
	16R-1, 100	534.00	20,766	11,031	10,180	789	4,022	8,550	0.72	62
	17R-1, 15	542.65	39,276	12,678	13,212	1,028	3,694	8,976	0.64	65
	18R-1, 113	553.13	33,397	12,130	13,341	901	4,626	11,598	0.66	64
	19R-1, 122	562.73	55,016	18,944	18,865	1,279	5,586	13,930	0.53	69
	19R-2, 78	563.69	56,800	24,616	23,254	1,961	6,983	17,129	0.53	70
	19R-3, 0	564.31	82,925	23,883	22,893	1,146	6,103	15,507	0.50	71
	19R-3, 43	564.75	77,915	18,580	16,625	896	4,832	11,911	0.48	72
	19R-CC, 13	567.84	30,640	10,898	10,590	927	2,299	6,621	0.72	61
	20R-1, 0	571.00	47,537	22,063	20,823	1,538	5,834	16,853	0.58	67
	22R-1, 0	590.00	29,962	8,445	8,992	736	2,522	6,473	0.66	64
	23R-1, 49	593.99	32,772	9,787	10,115	879	2,775	6,622	0.67	64
	316-C0007A-									
	1H-2, 0	1.42	19,006	14,446	16,416	1,141	6,148	13,635	0.71	62
I	1H-4, 0	2.73	27,871	14,757	17,323	1,474	5,846	12,207	0.60	66
	1H-CC, 14	3.01	32,512	15,015	16,746	1,491	5,261	12,117	0.62	66
	316-C0007B-									
	1H-1, 66	3.80	30,161	13,765	15,843	1,504	5,208	10,655	0.53	69
I	1H-3, 0	5.73	23,932	2,439	3,909	374	1,146	2,376	0.40	77
	1H-6, 15	8.92	7,459	12,797	13,775	2,397	3,759	8,872	0.87	53
	1H-7, 0	9.77	24,959	15,653	19,801	1,700	7,564	15,701	0.71	62
	316-C0007C-									
	1H-1, 60	13.24	18,793	23,647	28,401	2,087	8,720	19,084	0.70	62
	1H-2, 0	14.05	12,700	17,498	22,549	1,990	9,223	18,665	0.75	60
	1H-5, 0	16.89	28,403	28,363	28,124	1,430	8,390	17,438	0.71	62
I	3H-2, 0	31.50	11,251	16,049	19,008	1,292	5,916	12,587	0.74	61
	3H-3, 103	32.76	10,394	12,155	15,553	1,303	6,747	13,727	0.77	59
	3H-4, 0	32.92	21,863	25,690	25,961	1,175	7,907	18,899	0.75	60
	3H-5, 0	33.00	34,259	24,240	30,439	1,807	10,197	20,413	0.62	66
	6X-2, 75	54.75	19,297	11,911	16,963	1,318	6,644	13,965	0.62	66
	6X-3, 0	55.18	17,433	10,550	17,341	1,318	7,359	15,131	0.57	68
	6X-4, 55	55.95	24,238	20,173	24,460	1,274	8,144	19,186	0.67	63
	6X-CC, 22	56.47	25,992	15,970	21,984	1,762	7,410	15,427	0.55	69
	7X-1, 95	63.04	38,475	23,162	29,751	922	9,986	20,860	0.52	70
II	7X-3, 0	64.68	22,233	16,421	21,898	1,579	7,605	15,495	0.58	67
	7X-4, 39	65.30	20,660	14,236	21,714	1,507	7,938	17,180	0.65	64
	7X-5, 102	67.34	23,380	14,737	19,557	1,449	6,541	14,897	0.62	66
	8X-2, 15	73.16	11,039	11,738	18,078	1,058	8,023	17,679	0.72	61
	8X-3, 0	74.42	29,043	28,768	31,679	1,197	10,186	21,246	0.56	68
	8X-5, 64	76.48	22,675	8,305	14,107	1,275	5,203	10,426	0.52	70
	9X-1, 65	81.74	11,425	9,899	14,491	1,688	5,429	11,706	0.69	63

Table T2 (continued). (Continued on next page.)

Unit	Sample location: Core, section, interval (cm)	Sample location: Depth CSF (m)	Integrated peak area (total counts): Smectite (001)	Illite (001)	Chlorite (002) + Kaolinite (001)	Quartz (100)	Half chlorite (004)	Chlorite (004) + Kaolinite (002)	I/S mixed-layer clay: Saddle:peak (intensity ratio)	Expandability (%)
II	9X-5, 0	86.52	13,884	8,307	11,663	1,104	3,698	8,449	0.63	65
II	9X-6, 40	87.14	23,851	12,756	16,588	1,299	5,573	12,316	0.62	66
II	10X-1, 111	91.70	28,072	22,732	29,408	1,452	10,503	21,226	0.55	69
II	10X-2, 0	92.00	16,569	16,670	22,241	1,375	8,631	18,639	0.69	63
II	10X-CC, 6	94.31	5,172	14,887	16,231	1,024	6,552	13,306	0.83	56
II	11X-1, 22	100.32	40,420	15,988	27,785	1,615	8,712	19,302	0.47	72
II	11X-2, 56	102.07	17,424	17,179	21,441	1,868	7,284	16,306	0.67	64
II	11X-3, 0	102.70	8,912	23,469	23,658	1,097	7,754	16,315	0.82	56
II	11X-4, 67	103.61	8,295	14,012	14,760	797	4,694	10,169	0.76	60
II	11X-CC, 21	103.83	5,641	33,513	32,179	1,301	9,349	21,182	0.86	54
II	14X-2, 0	129.73	21,862	23,896	30,219	1,369	9,807	22,072	0.70	62
II	16H-2, 0	149.00	31,938	24,043	28,127	773	6,671	15,314	0.63	65
	316-C0007D-									
II	3R-2, 0	191.42	37,495	18,633	24,177	3,008	8,068	17,874	0.58	67
II	3R-3, 69	192.45	26,338	14,390	20,604	1,502	6,988	17,084	0.65	64
II	4R-1, 37	199.87	57,893	22,413	32,333	1,293	10,760	23,965	0.55	69
II	5R-1, 0	209.00	23,443	9,432	14,150	1,500	4,940	11,048	0.63	65
II	6R-3, 98	221.44	21,782	9,635	13,608	1,610	4,369	10,081	0.61	66
II	7R-1, 98	228.99	39,067	9,139	14,484	1,765	4,989	10,028	0.50	71
II	8R-1, 90	238.40	31,953	9,250	13,904	1,514	4,747	10,973	0.53	69
II	9R-2, 23	248.65	53,646	13,967	19,038	1,643	5,678	12,185	0.48	72
II	9R-2, 77	249.20	32,332	11,018	15,974	1,540	6,475	13,038	0.53	69
II	10R-1, 50	257.00	39,001	14,723	18,863	1,487	5,230	12,652	0.55	69
II	15R-1, 85	304.35	30,943	9,401	13,398	1,677	4,807	9,922	0.56	68
II	16R-1, 95	313.95	30,362	11,044	16,071	1,872	5,559	13,373	0.57	68
II	16R-2, 100	315.42	27,162	8,847	11,983	1,432	4,110	9,273	0.54	69
II	17R-3, 0	325.30	48,177	14,967	21,168	1,878	7,893	15,788	0.46	73
II	17R-CC, 10	327.12	37,510	13,979	18,593	1,605	6,631	14,103	0.57	68
II	18R-1, 24	332.24	39,094	11,046	12,018	1,888	3,831	8,140	0.57	67
II	18R-1, 62	332.62	15,296	5,599	6,887	1,264	2,297	5,500	0.69	63
II	19R-1, 31	341.81	49,052	15,122	21,178	1,783	6,845	14,874	0.53	70
II	20R-1, 84	351.85	37,990	12,111	14,163	1,523	4,784	11,045	0.54	69
II	21R-1, 57	361.07	40,922	15,989	14,922	1,010	5,909	12,078	0.72	61
III	22R-1, 47	370.47	54,789	16,934	18,264	1,292	5,746	13,641	0.69	63
III	22R-2, 78	372.19	50,839	10,658	13,166	701	4,087	8,722	0.60	66
III	22R-3, 97	373.79	70,087	18,487	20,303	1,236	6,540	14,995	0.60	67
III	23R-2, 23	381.14	66,435	18,157	19,499	1,307	5,666	14,159	0.58	67
III	23R-2, 113	382.04	75,279	23,640	22,144	1,490	6,217	15,519	0.66	64
III	23R-3, 62	382.96	61,091	21,901	23,712	1,283	6,855	18,084	0.64	65
III	23R-4, 14	383.89	47,685	17,667	18,613	1,213	5,607	13,289	0.60	66
III	24R-1, 16	389.17	71,855	22,359	23,252	961	7,406	16,243	0.56	68
III	24R-2, 105	391.47	41,457	14,587	15,277	1,337	4,427	11,708	0.66	64
III	24R-3, 66	392.51	68,748	21,875	22,049	1,378	6,007	15,077	0.58	67
III	24R-3, 98	392.83	44,752	18,123	19,775	1,344	5,970	14,066	0.71	62
III	24R-5, 42	395.09	67,641	20,090	19,872	1,305	5,564	14,033	0.61	66
III	25R-2, 80	400.73	38,467	12,003	13,929	1,168	3,522	9,809	0.58	67
III	25R-3, 50	401.87	30,287	13,990	15,515	1,237	5,002	10,579	0.55	69
III	26R-1, 0	408.00	55,996	19,778	18,590	1,243	4,394	12,885	0.60	67
III	26R-1, 133	409.34	56,105	21,989	20,733	1,253	5,206	13,969	0.62	66
III	27R-1, 24	417.74	44,049	15,224	15,152	1,127	3,848	10,900	0.73	61
III	28R-4, 12	431.37	57,070	20,408	19,533	1,464	6,411	16,371	0.59	67
III	29R-1, 31	436.81	58,174	18,308	18,234	1,119	5,077	13,600	0.60	66
III	29R-2, 77	438.68	66,315	16,516	17,499	1,347	5,388	13,404	0.56	68
	316-C0008A-									
IA	1H-3, 0	1.64	11,589	7,723	9,094	776	3,358	8,013	0.81	57
IA	1H-7, 0	5.43	16,640	9,249	11,579	1,414	4,323	9,625	0.74	60
IA	2H-2, 0	8.35	11,079	5,338	5,498	1,339	1,802	3,993	0.80	58
IA	2H-8, 0	15.43	25,218	11,094	12,427	1,129	4,231	8,508	0.69	63
IA	3H-1, 55	16.05	25,073	14,823	16,478	1,782	5,805	13,085	0.64	65
IA	3H-3, 0	18.41	25,781	11,022	11,423	1,549	3,509	8,428	0.59	67
IA	3H-8, 0	22.98	21,820	8,940	10,799	1,206	3,360	7,794	0.61	66
IA	3H-10, 98	25.40	31,857	13,425	16,052	1,588	4,968	13,222	0.57	68
IA	4H-4, 0	29.18	30,048	11,567	13,235	1,245	3,503	9,263	0.57	68
IA	4H-6, 32	30.89	34,478	11,064	13,631	1,267	4,620	9,855	0.62	65
IA	4H-9, 59	35.20	20,096	14,322	17,749	1,247	4,517	12,865	0.69	63
IA	5H-4, 0	38.72	25,862	15,646	19,063	1,469	7,075	15,469	0.63	65
IA	5H-6, 72	40.76	25,260	8,661	8,897	1,048	2,763	6,409	0.57	68

Table T2 (continued). (Continued on next page.)

Unit	Sample location: Core, section, interval (cm)	Sample location: Depth CSF (m)	Integrated peak area (total counts): Smectite (001)	Illite (001)	Chlorite (002) + Kaolinite (001)	Quartz (100)	Half chlorite (004)	Chlorite (004) + Kaolinite (002)	I/S mixed-layer clay: Saddle:peak (intensity ratio)	Expandability (%)
	6H-3, 59	47.35	28,835	15,281	22,635	1,526	7,415	18,659	0.62	66
	6H-5, 0	49.27	34,270	15,027	25,418	1,171	7,534	20,667	0.60	67
	6H-6, 100	50.50	24,800	8,371	11,493	1,350	3,638	8,576	0.58	67
	7H-3, 28	56.46	18,602	11,625	17,805	1,350	6,350	15,961	0.66	64
	7H-5, 0	58.63	11,896	7,135	9,746	1,711	3,788	8,952	0.72	61
	7H-8, 113	62.75	23,295	15,161	18,737	811	5,051	12,347	0.73	61
	8H-4, 72	67.66	20,716	12,684	23,104	1,369	7,497	19,016	0.63	65
	8H-5, 0	68.25	23,902	12,280	18,088	1,031	6,653	14,705	0.66	64
	9H-3, 107	76.19	25,228	13,497	22,302	1,499	5,529	16,407	0.71	62
	9H-5, 0	77.56	16,223	12,023	19,089	1,839	7,696	18,326	0.75	60
	10H-6, 0	87.23	32,588	17,753	26,147	1,300	10,126	23,695	0.59	67
	10H-7, 31	87.83	28,476	11,967	14,705	1,243	4,456	11,617	0.60	67
	10H-8, 125	90.17	19,285	7,859	8,438	790	2,551	6,519	0.84	55
	11H-4, 0	94.73	19,657	9,223	14,475	1,957	5,305	12,626	0.69	63
	11H-5, 49	95.50	34,446	12,961	18,965	1,122	5,664	15,341	0.61	66
	11H-6, 28	96.47	17,738	9,810	14,263	1,338	4,313	10,751	0.68	63
	11H-7, 31	98.02	35,740	15,362	17,385	1,154	5,691	14,240	0.57	68
	12H-5, 0	104.92	24,922	18,357	26,919	1,083	8,690	20,741	0.73	61
	12H-6, 98	106.18	32,290	13,193	16,724	1,275	6,390	14,072	0.56	68
	13H-5, 0	114.79	23,759	12,232	13,846	1,652	4,472	10,539	0.62	66
	15H-2, 0	120.14	23,045	11,935	19,611	1,269	6,184	16,187	0.76	60
	16H-4, 0	128.82	32,475	12,124	13,082	1,798	3,636	8,773	0.59	67
	16H-5, 33	129.44	22,518	13,083	15,078	1,366	4,929	12,144	0.62	66
	17H-6, 0	136.14	32,706	22,570	26,992	1,422	9,862	23,253	0.68	63
	17H-7, 21	136.63	37,852	22,811	27,282	1,451	9,191	22,563	0.62	66
	17H-8, 23	137.97	26,212	13,375	15,851	1,194	5,508	13,589	0.67	63
IA	18H-3, 0	143.02	22,652	12,038	17,778	1,153	7,456	16,323	0.61	66
	18H-3, 25	143.27	14,394	8,635	13,119	1,550	5,592	12,286	0.69	63
	19H-2, 0	151.38	30,260	10,290	11,472	1,522	3,792	8,489	0.53	69
	20H-3, 0	155.11	21,350	9,089	11,266	1,321	3,975	9,912	0.68	63
	20H-4, 94	156.33	15,539	6,476	7,603	1,319	2,671	6,589	0.71	62
	20H-5, 34	157.05	29,021	9,337	11,243	1,793	4,203	8,740	0.59	67
	21H-3, 80	162.34	24,677	10,498	12,053	1,393	4,264	9,442	0.58	67
	21H-4, 48	163.42	29,711	12,244	14,175	1,333	5,641	11,530	0.60	66
	21H-5, 26	164.38	33,814	14,055	16,214	1,311	5,292	13,712	0.58	67
	22H-5, 68	173.19	23,248	9,727	10,850	1,308	3,709	8,747	0.55	69
	22H-6, 0	173.62	29,747	13,620	15,434	1,127	5,130	13,094	0.55	69
	23H-3, 40	180.75	17,041	8,227	10,373	1,638	4,123	9,235	0.57	68
	23H-5, 0	182.04	28,963	9,479	10,592	1,863	3,751	7,854	0.61	66
	24H-2, 23	187.92	30,579	16,592	21,423	1,917	6,159	15,897	0.56	68
	24H-4, 83	191.14	21,099	7,925	8,616	1,537	2,968	6,879	0.59	67
	24H-6, 0	192.78	54,924	18,772	19,894	1,880	4,759	10,689	0.50	71
	25H-2, 0	198.21	35,621	15,978	19,002	1,395	7,927	17,047	0.67	63
	26H-2, 0	202.21	58,509	21,236	22,965	1,343	6,700	13,875	0.50	71
	27H-1, 68	211.07	15,506	9,274	10,843	2,001	4,162	8,926	0.70	62
	27H-2, 35	212.05	24,243	8,643	11,916	1,195	4,089	9,888	0.73	61
	27H-5, 0	215.64	14,141	8,985	10,649	1,807	3,311	8,966	0.72	62
	28H-1, 88	220.78	36,101	12,078	13,377	1,494	3,768	9,309	0.55	68
	28H-2, 5BG	221.25	29,185	9,747	11,433	1,492	4,130	8,718	0.60	66
	28H-2, 83	222.03	26,856	12,821	15,251	1,430	5,716	13,010	0.58	67
	28H-3, 0	222.22	18,842	9,521	10,273	1,857	3,640	7,821	0.69	63
	28H-4, 51	223.03	20,745	9,379	8,919	1,243	3,514	7,372	0.62	65
	29X-5, 0	229.25	29,150	9,745	11,133	1,187	3,134	7,517	0.58	67
	30X-7, 0	240.16	49,799	16,035	17,372	1,170	5,633	12,463	0.49	72
	31X-2, 55M	245.53	21,785	7,873	10,528	1,355	4,440	9,450	0.60	66
	31X-6, 0	249.92	38,947	14,409	15,515	1,694	5,002	11,893	0.55	69
	32X-1, 118C	254.45	69,255	14,308	14,552	914	3,655	9,548	0.56	68
	32X-2, 3BL	254.53	37,879	11,191	13,853	913	4,896	11,945	0.60	66
IB	32X-2, 3C	254.53	48,798	13,071	14,420	946	4,600	10,501	0.66	64
	32X-2, 54C	255.04	48,665	9,857	11,126	900	4,045	8,963	0.58	67
	32X-2, 54M	255.04	34,562	11,796	13,748	1,439	4,044	9,808	0.61	66
	32X-7, 0	260.72	19,037	6,492	11,468	1,314	3,421	8,621	0.82	56
	33X-4, 0	266.70	55,418	16,304	19,056	1,048	5,987	13,047	0.52	70
	33X-5, 51M	267.54	29,277	10,331	15,526	1,286	4,668	11,098	0.67	64
	316-C0008B-									
IA	1H-5, 0	5.65	13,701	6,201	6,572	932	2,407	5,121	0.76	60

Table T2 (continued).

Unit	Sample location: Core, section, interval (cm)	Sample location: Depth CSF (m)	Integrated peak area (total counts): Smectite (001)	Illite (001)	Chlorite (002) + Kaolinite (001)	Quartz (100)	Half chlorite (004)	Chlorite (004) + Kaolinite (002)	I/S mixed-layer clay: Saddle:peak (intensity ratio)	Expandability (%)
	316-C0008C-									
IA	1H-2, 0	1.43	18,526	6,523	7,214	844	2,983	6,479	0.71	62
IA	1H-5, 0	4.27	5,395	4,866	5,740	677	2,035	4,730	0.89	52
IA	2H-2, 0	6.82	14,631	7,346	7,132	1,234	2,345	5,112	0.78	59
IA	2H-7, 0	12.19	17,934	7,589	8,173	861	2,503	5,861	0.74	61
IA	3H-3, 0	17.73	48,122	20,639	28,242	1,393	9,875	23,915	0.59	67
IA	3H-4, 28	18.26	23,814	16,053	19,471	1,650	6,375	15,276	0.68	63
IA	3H-5, 35	19.55	14,100	11,818	13,246	1,786	4,221	10,053	0.73	61
IA	3H-7, 0	21.94	26,730	9,525	9,982	1,238	3,417	7,968	0.66	64
IA	3H-10, 65	25.24	37,414	13,214	13,191	1,714	3,955	10,263	0.55	69
IA	4H-5, 0	29.39	16,339	10,052	12,255	1,076	4,184	9,162	0.69	63
IA	4H-6, 24	29.85	31,826	14,475	16,786	1,459	5,362	12,752	0.60	66
IA	5H-2, 18	34.58	21,040	13,143	16,260	1,192	6,367	15,403	0.66	64
IA	5H-4, 20	36.91	46,449	13,511	17,434	1,309	5,561	13,626	0.58	67
IA	5H-5, 0	38.02	32,554	12,881	18,319	1,834	5,761	15,223	0.58	67
IA	6H-2, 100	45.81	23,084	9,471	13,062	1,173	4,827	10,123	0.62	66
IA	6H-3, 50	46.80	29,098	9,500	12,315	1,475	3,926	9,643	0.60	67
IA	6H-4, 0	47.73	23,949	6,079	7,602	1,193	2,509	5,999	0.64	65
IA	7H-4, 0	55.87	11,704	13,647	16,688	2,052	6,303	15,802	0.78	59
IA	7H-8, 129	61.11	55,060	25,702	29,832	1,194	8,533	23,090	0.55	69
IA	7H-9, 15	61.27	22,672	11,907	16,879	980	6,016	13,646	0.62	66
IA	9H-3, 58	69.87	44,711	21,053	31,021	1,440	10,358	26,449	0.63	65
IA	9H-4, 0	70.71	34,159	14,704	18,456	1,486	6,764	15,845	0.60	67
IA	9H-5, 70	71.64	19,991	14,743	18,293	1,299	7,636	15,965	0.68	63
IA	10H-9, 0	83.30	29,070	12,653	16,167	1,275	5,625	13,631	0.59	67
IA	10H-10, 45	83.98	25,752	12,031	17,234	967	5,716	12,958	0.56	68
IA	11H-3, 12	83.08	15,030	5,969	6,914	1,195	2,638	5,308	0.72	62
IA	11H-8, 113	86.58	15,655	9,146	11,520	1,549	3,340	7,901	0.75	60
IA	11H-10, 0	88.10	20,538	9,068	9,964	2,068	3,318	7,492	0.64	65
IA	13H-7, 48	94.25	24,981	14,681	19,248	954	5,581	13,170	0.53	70
IA	13H-7, 91	94.68	23,574	14,379	16,820	1,755	5,491	12,688	0.61	66
IA	13H-8, 0	94.88	22,204	13,668	15,850	1,328	4,490	12,423	0.63	65
IA	14H-6, 0	102.71	22,299	11,450	13,030	1,141	4,058	9,364	0.62	66
IA	15H-5, 0	103.32	27,915	8,854	10,875	1,462	4,368	8,919	0.60	66
IA	16H-5, 0	112.35	38,805	16,626	18,301	1,349	7,245	15,211	0.59	67
IA	18H-1, 35	120.25	46,373	16,705	19,009	1,516	6,033	14,724	0.58	67
IA	18H-4, 42	124.27	27,251	11,016	14,555	1,682	5,706	11,657	0.57	68
IA	18H-6, 0	126.23	33,836	12,635	15,531	1,628	5,247	12,426	0.54	69
IA	19H-2, 2BG	126.41	37,576	15,100	16,660	1,481	5,541	12,834	0.53	69
IA	21H-4, 39	133.95	39,171	14,803	16,607	1,522	5,066	12,314	0.54	69
IA	21H-5, 0	134.40	37,771	15,733	17,965	1,691	5,835	13,319	0.58	67
IA	22X-5, 0	144.08	23,554	10,518	11,600	1,213	3,839	8,222	0.63	65
IA	23X-4, 0	150.38	17,557	11,367	15,014	1,284	5,149	12,740	0.66	64
IA	23X-6, 107	152.78	30,699	10,331	12,078	997	3,768	8,530	0.60	66
IA	24X-3, 97	160.63	30,648	13,592	14,793	1,430	4,773	12,213	0.55	69
IA	24X-4, 0	160.96	37,871	11,541	14,293	1,232	4,611	11,011	0.54	69
IA	24X-10, 20	166.46	33,775	14,584	15,881	1,504	4,870	11,454	0.64	65
IB	25X-7, 22C	169.18	58,733	14,290	14,224	954	4,178	9,338	0.61	66
IB	25X-7, 22M	169.18	31,697	11,568	13,617	1,454	4,845	11,353	0.58	67
IB	25X-9, 0	171.59	38,496	10,066	12,802	1,048	3,685	9,289	0.53	70
IB	25X-10, 25C	172.17	43,842	10,659	11,802	1,083	3,702	8,384	0.57	68
IB	25X-10, 25M	172.17	29,013	8,844	10,684	1,167	4,052	8,919	0.57	68
IB	25X-10, 30	172.23	39,426	13,881	14,273	1,338	4,414	10,288	0.59	67
IB	25X-11, 94	173.86	32,211	12,587	13,656	1,258	4,368	9,574	0.60	66

I/S = illite/smectite. BG = background mudstone, M = matrix, C = clasts, BL = bulk sample.

Table T3. Calculated mineral abundances from X-ray diffraction analysis of clay-size fraction (<2 µm), Sites C0001, C0002, C0004, C0006, C0007, and C0008. (Continued on next 10 pages.)

	Sample location		Relative mineral abundance in clay-size fraction									Relative mineral abundance in bulk mud(stone), SVD factors (wt%)				
			SVD normalization factors (wt%)					Biscaye factors (area %)								
Unit	Core, section interval (cm)	Depth CSF (m)	Smectite	Illite	Kaolinite	Chlorite	Quartz	Smectite	Illite	Kaolinite	Chlorite	Total clay	Smectite	Illite	Kaolinite	Chlorite
	315-C0001E-															
	1H-3, 100	2.59	23	36	1	24	16	18	52	1	29	37	10	16	0	11
	1H-4, 19	3.07	17	38	7	23	15	11	54	8	27	39	8	18	3	11
	1H-6, 0	3.80	47	34	4	13	2	40	41	4	15	40	19	14	2	5
	1H-7, 0	4.03	24	45	6	19	7	20	54	6	20	41	10	20	3	8
	2H-3, 34	7.45	22	37	8	19	14	18	51	9	22	31	8	13	3	7
	2H-4, 10	8.73	21	35	5	21	18	14	53	6	27	31	8	13	2	8
	2H-5, 132	10.17	25	39	5	18	14	20	54	6	20	28	8	13	2	6
	2H-6, 140	11.76	26	38	3	20	12	22	52	4	23	28	8	12	1	7
	4H-2, 52	25.55	31	38	3	20	8	27	48	4	22	39	13	16	1	8
	4H-2, 95	25.98	28	32	3	20	16	24	47	4	25	43	14	16	2	10
	4H-4, 0	27.41	25	36	5	20	14	21	51	6	23	43	12	18	3	10
	5H-3, 54	36.18	19	42	4	21	15	13	59	5	24	43	9	21	2	11
	5H-4, 0	36.93	28	36	1	25	10	24	47	1	28	45	14	18	0	12
	5H-6, 60	39.33	27	40	5	19	9	23	50	6	21	48	14	21	3	10
	6H-1, 95	43.05	26	38	3	22	11	21	50	4	25	45	13	19	2	11
	6H-3, 30	45.22	32	33	6	16	14	28	47	7	18	36	13	14	2	6
	6H-4, 0	46.12	26	37	2	23	12	22	50	3	26	36	10	15	1	9
	6H-6, 25	48.02	29	38	7	18	9	25	48	7	19	36	11	15	3	7
	6H-6, 49	48.26	26	38	7	17	11	22	51	8	19	41	12	18	3	8
	7H-2, 20	53.20	30	39	4	20	7	26	48	4	21	39	13	16	2	8
	7H-4, 0	55.73	34	34	5	19	7	31	42	6	21	34	13	12	2	7
I	7H-5, 8	56.02	33	35	11	14	7	29	44	12	15	41	14	15	5	6
	7H-7, 70	58.27	32	35	6	17	11	28	46	7	19	39	14	15	3	7
	8H-3, 90	64.84	30	38	10	15	8	26	48	10	16	43	14	18	4	7
	8H-4, 0	65.16	31	35	5	19	10	27	46	6	21	41	14	16	2	9
	8H-7, 35	67.36	35	32	6	16	12	32	43	7	18	43	17	15	3	8
	9H-2, 49	72.50	34	34	6	18	8	30	43	7	20	45	17	17	3	9
	9H-2, 129	73.30	40	34	6	15	5	35	42	7	16	42	18	15	3	7
	9H-4, 0	74.78	31	35	4	20	11	27	46	4	23	41	14	16	2	9
	9H-5, 132	76.32	26	38	9	18	10	22	49	10	19	42	12	17	4	8
	9H-8, 118	80.49	28	40	7	16	9	24	51	7	18	37	11	16	3	6
	10H-3, 20	83.24	37	36	7	15	6	32	44	7	16	41	16	16	3	7
	10H-5, 90	85.42	33	35	7	17	9	29	45	7	18	48	18	18	4	9
	10H-7, 0	87.17	21	38	11	22	9	18	48	11	23	47	11	19	6	11
	11H-1, 100	90.60	29	36	4	21	9	26	46	5	24	46	15	18	2	11
	11H-4, 19	93.80	29	36	11	16	8	25	46	12	17	50	16	19	6	9
	11H-5, 115	94.98	26	36	10	18	11	22	47	11	20	45	13	18	5	9
	12H-3, 130	103.20	28	41	6	25	0	22	47	6	25	50	14	20	3	13
	12H-4, 23	103.55	30	37	7	17	9	27	47	8	18	42	14	17	3	8
	12H-5, 0	104.51	32	36	7	17	8	28	45	8	18	44	15	17	3	8
	13H-4	112.67	28	38	6	19	9	24	49	6	21	55	17	23	4	12
	13H-6, 50	114.86	34	34	2	21	9	30	44	3	23	43	16	16	1	10
	13H-8, 109	118.37	31	35	8	18	8	28	44	9	19	46	16	18	4	9
	315-C0001F-															
	1H-1, 10	108.10	29	38	4	22	7	25	47	4	24	45	14	18	2	11
	1H-4, 0	111.99	30	33	5	19	14	26	47	6	22	41	14	16	2	9
	2H-3, 33	120.65	34	34	6	18	8	31	43	7	19	43	16	16	3	8
	2H-5, 0	122.94	34	35	11	13	7	30	44	12	14	39	14	15	5	6
	3H-1, 130	128.30	36	33	4	19	8	32	42	5	21	39	15	14	2	8
	3H-2, 80	129.22	32	34	5	19	10	28	45	6	21	40	14	15	2	8
	4H-3, 0	139.10	34	35	4	19	9	30	45	4	21	47	17	18	2	10
	4H-5, 89	141.61	33	36	6	18	8	29	46	6	19	47	17	18	3	9
	4H-7, 82	144.45	33	33	2	22	10	29	44	2	25	40	14	15	1	10
	5H-1, 59	146.59	38	33	1	21	8	34	42	1	23	43	18	15	1	10
I	5H-2, 15	147.50	39	34	9	13	6	35	42	9	14	52	22	18	5	7
	5H-4, 0	149.88	43	34	4	17	3	37	41	4	18	46	20	16	2	8
	6H-4, 20	158.64	35	35	6	16	7	31	45	6	18	47	18	18	3	8
	6H-5, 0	158.66	31	32	6	16	14	28	46	7	19	52	19	20	4	10
	6H-6, 120	161.08	33	36	2	21	7	29	45	2	23	47	17	18	1	11
	7H-12, 20	168.14	32	36	7	16	9	28	46	8	18	51	18	20	4	9
	8H-1, 0	170.98	34	34	3	20	8	30	44	4	22	45	17	17	2	10
	8H-1, 130	172.28	33	37	2	21	7	29	46	3	22	54	19	21	1	12
	8H-2, 65	173.04	36	34	3	19	8	32	43	3	21	50	20	19	2	11
	8H-6, 50	177.26	31	35	5	19	10	28	46	5	22	46	16	18	2	10

Table T3 (continued). (Continued on next page.)

Unit	Sample location: Core, section interval (cm)	Depth CSF (m)	Relative mineral abundance in clay-size fraction: SVD normalization factors (wt%) Smectite	Illite	Kaolinite	Chlorite	Quartz	Biscaye factors (area %) Smectite	Illite	Kaolinite	Chlorite	Relative mineral abundance in bulk mud(stone), SVD factors (wt%) Total clay	Smectite	Illite	Kaolinite	Chlorite
	9H-1, 118	180.92	33	36	4	20	7	29	45	4	21	49	18	19	2	10
	9H-3, 78	183.48	35	35	6	17	8	31	44	7	18	44	17	16	3	8
	9H-4, 0	183.89	39	34	3	19	5	34	42	3	21	46	19	17	1	9
I	10H-10, 0	193.25	38	34	3	20	5	34	42	4	21	46	18	16	2	9
	10H-11, 13	193.60	35	35	6	18	6	31	43	7	19	54	20	20	4	10
	10H-11, 128	194.75	43	32	6	16	3	38	39	6	17	44	20	15	3	7
	13H-1, 0	202.37	39	35	8	14	4	35	43	8	15	36	15	13	3	5
	14H-1, 50	207.67	43	31	6	15	5	39	39	6	17	61	28	20	4	10
	14H-2, 54	209.12	35	35	5	19	6	31	44	5	20	50	19	19	3	10
	14H-3, 90	210.91	34	34	5	20	7	30	43	6	21	58	21	21	3	12
	14H-4, 0	211.21	34	35	3	21	6	31	43	4	22	60	22	22	2	13
	15H-2, 10	214.81	34	33	7	17	9	31	43	8	19	53	20	19	4	10
	15H-2, 44	215.15	34	34	7	18	8	30	43	8	19	56	21	20	4	11
II	15H-4, 0	217.19	43	34	4	16	3	37	41	4	17	60	26	21	2	10
	18H-4, 20	222.82	36	37	7	16	5	32	45	7	16	63	24	24	5	10
	18H-6, 62	224.89	39	35	6	17	3	34	42	6	18	61	24	22	4	11
	18H-6, 108	225.35	41	36	6	14	3	35	43	6	15	65	27	24	4	10
	19H-4, 0	228.45	31	42	4	19	4	27	50	4	19	63	20	28	3	12
	19H-4, 18	228.64	38	38	9	12	3	33	45	9	13	66	26	26	6	8
	20X-5, 0	235.21	33	39	6	16	5	29	48	7	17	58	20	24	4	10
	21X-4, 0	243.27	36	38	12	11	3	31	45	12	11	64	24	25	8	7
	315-C0001H-															
	1R-3, 0	230.00	33	39	10	13	6	28	48	10	14	60	21	25	6	8
	1R-4, 95	233.79	39	39	5	16	1	33	45	6	16	64	25	25	4	10
	2R-2, 128	242.12	41	37	9	12	2	35	43	9	13	62	26	23	6	8
	2R-3, 105	243.37	37	40	8	12	3	31	47	8	13	63	24	26	5	8
	3R-2, 107	251.48	40	36	6	15	4	35	43	7	15	62	26	23	4	9
	3R-4, 0	252.82	34	39	7	15	5	29	47	8	16	61	22	25	5	10
	4R-4, 0	262.33	31	40	9	16	5	27	47	9	17	63	20	26	6	11
	4R-6, 61	264.78	35	37	8	15	4	31	45	9	16	60	22	23	5	10
	5R-2, 75	270.17	37	38	10	12	3	32	45	11	13	62	23	24	7	8
	5R-3, 0	270.42	36	37	8	16	3	31	44	8	16	68	25	26	6	11
	6R-1, 50	278.00	35	38	10	13	3	31	45	11	13	64	23	25	7	9
	6R-2, 0	278.49	36	36	5	17	5	32	44	6	18	64	24	25	4	12
	7R-2, 66	289.07	34	38	9	15	4	30	45	9	16	64	23	25	6	10
	7R-3, 20	290.05	30	39	7	17	6	26	48	7	18	64	21	27	5	12
	7R-3, 38	290.23	27	41	9	16	7	23	51	9	17	60	18	27	6	10
	7R-4, 39	291.24	29	40	7	18	5	25	49	7	19	61	19	26	4	12
	7R-6, 29	292.98	36	38	9	15	3	32	44	9	15	63	24	24	6	10
	8R-1, 55	297.05	37	36	11	11	4	33	43	12	12	65	25	25	8	8
	8R-4, 20	301.12	39	34	10	14	3	34	41	10	15	65	26	23	6	10
	10R-3, 28	315.14	28	43	9	15	4	24	51	10	15	60	18	27	6	10
	10R-4, 0	315.86	27	43	10	14	5	23	51	11	15	63	18	28	7	10
	10R-7, 5	319.18	44	35	4	16	1	38	41	5	16	61	27	22	3	10
II	11R-2, 20	323.12	34	36	10	14	6	30	45	11	15	65	23	25	7	10
	11R-4, 0	325.34	28	43	10	15	4	24	51	10	15	62	18	28	6	9
	12R-2, 104	333.45	36	37	7	14	5	32	45	8	15	63	24	24	5	9
	12R-4, 0	333.48	34	37	7	17	5	30	45	7	18	62	22	24	5	11
	12R-5, 97	336.24	34	36	5	19	6	30	44	6	20	63	23	24	4	13
	13R-5, 0	345.74	33	37	8	15	6	29	46	9	16	60	21	24	5	10
	13R-6, 59	346.75	36	37	9	13	4	32	44	10	14	68	26	26	7	9
	14R-3, 59	353.42	41	38	8	13	1	35	44	8	13	67	28	26	5	9
	14R-4, 0	353.83	43	36	7	13	0	37	41	8	14	66	29	24	5	9
	14R-6, 76	356.42	33	40	7	16	4	28	48	7	17	67	23	28	5	11
	15R-1, 95	360.45	40	37	9	12	3	35	44	10	12	62	25	23	6	7
	15R-1, 112	360.62	41	35	8	13	4	36	42	8	14	65	28	24	5	9
	15R-5, 8	363.92	36	36	6	16	6	32	44	7	17	64	25	25	4	11
	16R-3, 84	372.67	33	37	8	15	6	29	46	9	16	59	21	23	5	10
	16R-4, 0	372.83	32	37	5	19	7	28	46	5	21	62	21	25	3	13
	17R-2, 74	380.65	36	37	11	12	4	31	44	12	13	62	23	24	7	8
	18R-1, 44	388.44	38	36	7	16	3	33	43	7	16	66	26	25	5	11
	18R-3, 22	390.65	28	38	8	18	8	25	48	9	19	64	20	27	6	12
	19R-2, 65	399.57	44	34	6	14	2	38	41	6	14	62	28	22	4	9
	19R-2, 76	399.68	34	37	8	15	5	30	45	9	16	64	23	25	6	10
	19R-3, 39	400.30	42	34	8	12	4	37	42	8	13	57	25	21	5	7
	19R-4, 15	400.48	39	36	5	15	5	35	44	6	16	64	26	24	4	10
	21R-2, 66	414.57	31	37	7	20	5	27	45	7	20	61	20	24	4	13

Table T3 (continued). (Continued on next page.)

Unit	Sample location: Core, section interval (cm)	Sample location: Depth CSF (m)	Clay-size fraction, SVD normalization factors (wt%): Smectite	Illite	Kaolinite	Chlorite	Quartz	Clay-size fraction, Biscaye factors (area %): Smectite	Illite	Kaolinite	Chlorite	Bulk mud(stone), SVD factors (wt%): Total clay	Smectite	Illite	Kaolinite	Chlorite
	21R-3, 0	414.89	29	40	7	17	7	25	49	8	18	62	19	26	5	11
	21R-4, 71	416.06	35	37	8	16	4	31	45	8	17	61	22	24	5	10
	22R-2, 92	421.84	36	40	8	14	2	31	46	8	14	65	24	26	5	9
	23R-2, 0	430.42	40	35	6	17	2	35	41	6	18	66	27	23	4	11
	23R-3, 20	430.93	39	37	7	15	3	34	43	7	16	63	25	24	5	10
II	24R-1, 36	438.86	35	37	5	18	5	31	45	6	19	64	23	25	4	12
	24R-2, 0	439.94	34	37	9	14	6	30	45	9	15	61	22	24	6	9
	24R-3, 19	440.54	36	36	9	14	5	31	44	10	15	69	26	26	7	10
	25R-1, 69	447.89	36	35	6	17	7	31	44	6	18	61	23	23	4	11
	25R-1, 100	448.20	36	35	8	17	4	32	42	8	18	67	25	24	5	12
	25R-2, 9	448.70	39	34	8	15	4	35	41	9	16	64	26	22	6	10
	315-C0002D-															
	1H-3, 100	2.63	25	38	5	16	16	19	55	6	20					
	2H-5, 37	10.50	23	37	2	22	16	17	55	2	26					
	3H-5, 85	20.50	22	38	9	17	14	17	53	10	19					
	4H-5, 25	29.56	23	40	0	23	14	18	56	0	26					
	5H-5, 21	39.03	21	38	4	22	15	16	54	4	26					
	6H-6, 77	50.30	30	36	4	18	11	26	49	5	21					
	7H-5, 23	58.08	22	40	4	21	13	18	55	4	24					
I	8H-5, 8	67.11	21	41	5	20	13	16	56	6	23					
	9H-6, 35	78.56	23	40	1	23	12	18	54	2	26					
	10H-5, 55	86.86	22	38	5	21	14	17	53	6	24					
	11H-4, 43	95.84	29	33	2	20	15	25	48	3	24					
	12H-4, 64	105.74	22	37	4	23	14	18	52	4	26					
	13H-4, 49	114.98	12	41	8	27	13	8	54	9	30					
	14H-4, 46	123.69	13	44	7	23	13	8	59	8	26					
	15X-4, 8	132.55	27	33	8	22	10	24	43	9	24					
	16H-4, 12	154.33	15	39	6	31	10	13	49	6	32					
II	17X-3, 8	159.69	10	42	5	32	11	7	54	5	34					
	18H-4, 23	202.27	24	34	7	22	12	21	46	8	25					
	315-C0002B-															
	1R-2, 0	476.42	27	38	11	16	9	23	48	12	17	53	16	22	6	9
	4R-1, 84	504.34	19	36	9	24	11	16	47	10	27	53	12	21	5	14
	4R-2, 0	504.60	19	35	4	29	13	16	47	5	33	49	11	20	3	16
	8R-2, 0	534.41	22	34	11	22	11	19	45	12	24	59	15	22	7	14
	8R-3, 73	535.46	26	36	7	21	11	22	47	8	23	50	14	20	4	11
	9R-3, 0	544.99	24	33	7	25	11	21	43	8	28	59	16	22	5	17
	9R-4, 123	546.54	24	34	11	22	9	22	43	12	24	60	16	22	7	15
	10R-2, 0	553.41	29	31	5	26	9	26	40	6	28	52	17	18	3	15
	10R-3, 23	553.95	22	31	3	29	15	18	43	4	35	49	13	18	2	17
	11R-3, 0	564.32	31	31	9	19	10	28	40	10	21	58	20	20	6	12
	11R-4, 84	565.47	24	35	8	21	13	20	47	9	24	42	12	17	4	10
	12R-2, 65	573.06	28	32	11	19	11	24	42	13	21	50	15	18	6	10
	13R-2, 0	581.91	25	34	8	23	10	22	44	9	25	49	13	18	5	12
	13R-3, 24	582.47	24	35	9	21	11	21	46	10	23	50	14	20	5	12
	15R-3, 32	602.65	20	36	9	27	7	18	45	9	28	40	9	16	4	12
	16R-3, 0	611.41	22	37	4	23	14	17	52	4	27	47	12	20	2	13
	16R-4, 9	611.91	22	36	5	22	15	17	51	6	26	43	11	18	3	11
II	16R-4, 127	613.09	24	35	0	26	14	20	49	1	31	42	12	17	0	13
	17R-4, 27	623.00	22	37	0	27	15	17	52	0	31	46	12	20	0	14
	19R-2, 127	640.18	23	36	6	22	12	20	48	7	25	45	12	18	3	11
	19R-3, 0	640.31	32	33	5	25	5	29	40	6	26	53	18	18	3	14
	19R-4, 87	641.60	31	33	7	17	12	28	45	8	19	48	17	18	4	9
	20R-2, 125	649.67	23	34	3	21	19	16	52	4	27	47	13	20	2	13
	20R-3, 57	650.40	31	31	7	16	15	27	44	9	20	41	15	15	3	8
	21R-2, 43	658.34	25	31	3	22	18	20	47	4	28	41	13	16	2	11
	21R-3, 0	658.90	21	34	5	23	16	16	50	6	28	44	11	18	3	12
	21R-4, 28	659.59	25	35	3	22	15	20	49	4	27	31	9	13	1	8
	23R-2, 66	677.07	21	35	2	25	17	15	51	3	30	48	12	20	1	14
	23R-3, 0	677.82	20	40	4	23	12	16	54	5	26	51	12	24	3	13
	24R-2, 0	685.91	21	35	2	24	18	14	53	2	30	43	11	18	1	13
	24R-3, 71	687.04	25	37	7	18	14	20	52	8	21	41	12	18	3	8
	27R-2, 0	714.11	22	37	6	21	14	17	52	7	24	53	14	23	4	13
	28R-2, 30	724.21	24	39	2	24	11	20	51	2	27	43	12	19	1	12
	29R-2, 0	733.41	25	36	5	20	14	20	51	6	23	40	12	17	2	9
	30R-1, 124	742.74	24	38	3	23	11	20	51	3	26	40	11	17	1	10

Table T3 (continued). (Continued on next page.)

Unit	Sample location: Core, section interval (cm)	Sample location: Depth CSF (m)	Relative mineral abundance in clay-size fraction — SVD normalization factors (wt%): Smectite	Illite	Kaolinite	Chlorite	Quartz	Biscaye factors (area %): Smectite	Illite	Kaolinite	Chlorite	Relative mineral abundance in bulk mud(stone), SVD factors (wt%): Total clay	Smectite	Illite	Kaolinite	Chlorite
	30R-2, 0	742.91	24	37	5	22	13	20	50	5	25	48	13	20	3	12
	31R-1, 127	752.27	27	33	3	21	16	22	48	3	26	45	14	18	1	11
	32R-2, 67	762.58	22	34	4	21	18	16	52	5	26	50	14	21	3	13
	32R-2, 89	762.80	25	34	5	20	16	20	50	6	24	46	14	19	3	11
	32R-5, 0	764.29	24	36	2	22	16	18	52	3	27	41	12	18	1	11
II	33R-1, 85	770.85	22	40	4	24	10	18	51	4	26	48	12	21	2	13
	33R-2, 40	771.39	22	38	1	27	13	17	52	1	30	46	11	20	0	14
	37R-2, 0	806.91	28	36	3	20	13	24	49	3	23	41	13	17	1	9
	38R-3, 0	817.82	25	38	0	24	12	21	51	0	28	41	12	18	0	11
	38R-4, 13	818.37	28	35	2	22	13	23	48	2	26	47	15	19	1	12
	40R-2, 0	835.41	26	33	2	24	15	22	48	2	28	41	13	16	1	11
	40R-3, 98	836.81	28	34	1	23	14	24	48	1	27	44	15	17	0	12
	41R-3, 40	846.73	30	36	2	21	13	25	49	2	24	39	13	16	1	9
	41R-4, 8	846.82	35	34	6	15	11	31	46	6	17	46	18	17	3	8
	42R-1, 16	853.16	30	40	5	17	8	26	51	5	19	52	17	23	3	10
	42R-1, 31	853.31	49	30	0	14	7	44	39	0	17	57	30	19	0	9
	43R-1, 17	862.67	35	37	1	19	8	31	47	1	21	43	16	17	0	9
	43R-1, 40	862.90	33	38	3	18	8	29	49	3	19	43	16	18	1	8
	43R-5, 40	868.15	33	35	6	15	12	29	48	6	17	41	15	16	3	7
	44R-1, 124	873.24	34	38	8	14	6	30	46	8	15	48	17	19	4	7
	44R-2, 48	873.89	36	34	5	15	11	32	45	5	17	50	20	19	3	8
	44R-4, 125	877.48	36	36	3	19	7	32	45	3	21	42	16	16	1	9
III	45R-1, 44	881.94	40	33	4	15	8	36	42	4	17	32	14	12	1	5
	46R-3, 8	893.91	31	37	0	23	8	27	47	0	25	37	13	15	0	9
	46R-4, 0	894.81	39	34	7	13	7	35	44	8	14	40	17	15	3	5
	46R-5, 94	896.16	38	34	5	16	7	34	43	6	18	45	18	16	2	8
	47R-1, 37	900.87	34	35	6	16	10	30	45	7	18	40	15	15	3	7
	47R-1, 61	901.11	35	37	6	16	7	31	46	6	17	43	16	17	3	7
	47R-3, 38	903.70	36	33	7	14	10	32	44	8	16	40	16	15	3	6
	48R-2, 35	911.76	35	32	2	20	11	31	44	2	23	46	18	17	1	10
	48R-5, 0	915.24	34	33	6	15	12	31	45	7	17	52	20	19	3	9
	48R-6, 65	916.31	41	32	5	14	8	37	42	6	16	52	23	18	3	8
	48R-6, 89	916.55	42	32	1	16	10	38	43	1	18	45	21	16	0	8
	49R-1, 96	920.46	35	35	5	13	12	31	48	6	15	50	20	20	3	7
	49R-1, 121	920.71	39	32	3	15	11	35	44	4	17	53	23	19	2	9
	49R-3, 0	921.90	33	35	10	11	11	29	48	12	12	54	20	22	6	6
	51R-1, 34	938.84	44	28	0	17	11	41	39	0	20	44	22	14	0	8
	51R-5, 0	943.71	56	29	3	12	–0	48	35	4	14	56	31	16	2	7
	51R-6, 26	944.38	36	33	5	17	8	32	43	5	19	53	21	19	3	10
	51R-6, 51	944.63	52	27	6	11	4	47	34	7	13	65	35	18	4	8
	58R-1, 46	1,005.46	22	31	9	19	18	17	46	12	25	51	14	19	6	12
	59R-1, 121	1,010.71	32	33	1	27	7	29	41	1	29	62	21	22	1	18
	59R-2, 0	1,010.91	42	33	5	14	6	37	42	5	16	54	24	19	3	8
	59R-3, 23	1,011.56	51	25	8	12	4	46	32	9	13	45	24	12	4	5
IV	60R-1, 69	1,014.69	60	24	7	9	1	53	29	8	10	45	27	11	3	4
	61R-2, 121	1,021.12	53	30	6	10	0	46	36	7	11	63	33	19	4	6
	61R-3, 0	1,021.32	45	34	3	13	4	40	42	4	15	59	28	21	2	8
	61R-4, 22	1,021.96	31	30	7	22	9	28	39	8	25	70	24	23	6	17
	62R-1, 50	1,023.50	55	28	3	13	1	48	34	3	15	49	27	14	1	7
	62R-2, 0	1,024.00	40	35	5	13	8	36	45	5	14	61	26	23	3	8
	63R-1, 120	1,033.70	38	36	5	15	6	33	45	6	16	60	24	23	3	10
	64R-1, 39	1,042.39	43	31	4	14	7	39	40	5	16	57	27	19	3	9
	64R-2, 0	1,043.00	43	31	7	13	6	39	39	8	14	42	19	14	3	6
	65R-1, 105	1,047.55	35	34	2	17	11	31	46	3	20	49	19	19	1	9
	65R-2, 125	1,049.17	39	34	7	14	7	35	43	7	15	61	25	22	4	9
	316-C0004C-															
	1H-2, 119	2.61	35	37	4	17	8	30	47	4	19	39	15	16	1	7
	1H-5, 92	5.17	22	43	11	15	9	18	54	12	16	43	11	20	5	7
	1H-5, 117	5.41	25	42	5	21	8	21	52	5	22	44	12	20	2	10
	2H-4, 0	9.20	33	35	4	18	10	29	46	4	21	47	17	18	2	10
	2H-5, 35	10.98	32	38	8	15	7	28	48	9	16	49	17	20	4	8
I	2H-6, 119	13.26	29	35	2	22	11	25	47	3	25	45	15	18	1	11
	3H-2, 25	17.54	34	37	5	18	6	30	46	5	19	45	17	18	2	9
	3H-8, 20	22.96	25	40	7	18	10	21	52	8	20	47	13	21	4	9
	4H-1, 58	25.97	39	35	3	17	6	34	43	4	19	44	18	16	2	8
	4H-4, 20	29.61	39	34	4	18	5	34	42	4	20	52	21	19	2	10
	5H-1, 63	35.51	29	38	9	19	6	25	46	9	19	56	17	23	5	11

Table T3 (continued). (Continued on next page.)

Unit	Sample location: Core, section interval (cm)	Sample location: Depth CSF (m)	Relative mineral abundance in clay-size fraction: SVD normalization factors (wt%): Smectite	Illite	Kaolinite	Chlorite	Quartz	Relative mineral abundance in clay-size fraction: Biscaye factors (area %): Smectite	Illite	Kaolinite	Chlorite	Relative mineral abundance in bulk mud(stone), SVD factors (wt%): Total clay	Smectite	Illite	Kaolinite	Chlorite
I	5H-4, 0	39.07	29	28	8	15	21	24	45	10	20	53	19	19	5	10
I	6H-2, 63	46.44	30	35	6	19	11	27	46	6	21	48	16	19	3	10
I	6H-4, 0	48.48	34	40	5	15	5	30	49	6	16	48	17	20	3	7
I	6H-7, 15	51.76	44	31	5	17	3	39	38	5	18	52	24	17	3	9
I	7H-6, 0	59.34	35	35	6	17	7	31	44	7	19	60	23	23	4	11
I	7H-7, 129	60.85	29	38	4	21	8	25	48	4	23	59	19	24	2	14
I	7H-9, 15	62.52	37	35	6	17	6	32	43	7	18	56	22	20	4	10
I	8H-2, 68	65.46	33	37	6	15	9	29	48	7	17	46	17	19	3	8
I	8H-4, 0	67.63	34	36	4	20	5	30	45	4	21	45	16	17	2	10
I	8H-5, 91	68.76	34	34	5	17	9	31	44	6	19	48	18	18	3	9
I	9H-2, 68	74.97	32	30	6	16	15	29	44	8	19	55	21	20	4	10
I	9H-4, 0	77.14	35	35	4	21	4	31	43	4	22	54	20	20	2	12
IIA	10H-2, 103	83.31	26	38	4	25	8	22	47	4	26	48	13	20	2	13
IIA	10H-3, 0	83.47	29	38	5	21	7	25	47	5	23	54	17	22	3	12
IIA	11H-1, 110	85.91	28	34	5	21	12	25	46	6	23	54	17	21	3	13
IIA	11H-2, 0	86.24	23	39	5	23	10	20	50	6	24	55	14	24	3	14
IIA	12X-6, 0	94.99	23	40	3	27	7	20	48	3	28	56	14	24	2	16
IIA	12X-8, 64	97.32	26	33	5	15	20	19	54	7	20	53	17	22	3	10
IIA	13X-3, 0	101.27	25	40	7	22	7	22	49	7	23	59	16	25	4	14
IIA	13X-8, 10	107.28	22	38	1	28	11	18	50	1	31	58	14	25	0	18
IIA	14X-5, 0	113.58	22	38	4	24	12	18	51	5	27	58	15	25	3	16
IIA	14X-8, 15	116.82	26	35	4	23	12	22	47	4	27	57	17	23	2	15
IIB	15X-2, 0	119.13	33	34	3	20	10	29	45	4	23	54	20	21	2	12
IIB	15X-7, 0	125.91	24	39	7	21	8	21	49	8	22	59	16	25	5	14
	316-C0004D-															
IIB	4R-2, 0	129.07	33	36	5	21	6	29	44	5	22	47	17	18	2	11
IIB	5R-3, 0	139.54	28	38	5	23	6	25	46	5	24	54	16	22	3	14
IIB	7R-2, 0	152.91	26	40	8	19	8	22	49	8	20	56	16	24	5	12
IIB	13R-2, 14	179.54	31	38	3	22	6	27	47	3	23	57	19	23	2	13
IIB	16R-2, 13	203.26	41	33	4	19	3	36	39	5	20	58	25	20	3	11
IIB	19R-2, 1	226.67	41	33	8	14	4	37	40	8	15	57	25	20	5	8
IIB	23R-1, 97	247.97	37	34	4	18	8	33	44	4	19	60	24	22	2	11
III	26R-3, 0	262.59	33	37	3	21	7	29	46	3	22	59	21	23	2	13
III	27R-2, 95	267.37	34	38	6	18	3	30	45	6	19	65	23	26	4	12
III	28R-1, 43	269.94	37	36	9	16	3	32	43	9	16	59	23	22	5	10
III	28R-2, 80	271.71	39	35	3	18	4	35	43	4	19	53	22	19	2	10
III	29R-1, 120	275.20	35	37	4	19	6	30	46	4	20					
III	29R-CC, 18	277.14	39	33	7	16	5	35	41	7	17	61	25	21	4	10
III	30R-1, 117	279.67	33	35	3	24	5	29	43	3	25	58	20	22	2	14
III	30R-2, 53	280.44	32	37	7	19	5	29	44	8	20	57	19	22	4	11
III	30R-2, 88	280.79	38	35	9	15	4	33	42	9	15	55	22	20	5	8
III	30R-3, 29	281.61	34	35	4	21	6	31	43	4	23	55	20	20	2	12
III	30R-3, 76	282.08	34	34	7	19	6	31	42	7	20	59	22	21	4	12
III	32R-2, 120	290.11	35	37	4	19	5	30	45	4	20	59	22	23	2	12
III	34R-1, 15	296.65	38	35	7	16	4	33	42	8	17	62	24	22	5	10
III	36R-2, 0	306.69	39	33	8	14	5	35	41	9	15	61	25	21	5	9
IV	37R-1, 59	310.59	35	37	6	18	4	31	44	6	18	55	20	21	3	10
IV	39R-2, 8	320.18	30	34	2	23	10	27	45	2	26	48	16	18	1	12
IV	39R-3, 79	321.19	32	34	3	20	11	28	46	4	23					
IV	41R-2, 20	329.60	38	34	2	20	7	33	43	2	22	49	20	18	1	10
IV	44R-2, 71	343.61	36	32	2	20	10	32	42	3	23	47	19	17	1	11
IV	44R-3, 0	344.09	34	32	5	18	11	30	44	5	21	49	19	18	3	10
IV	46R-2, 28	352.20	33	34	6	18	9	29	44	7	20	46	17	17	3	9
IV	48R-1, 37	359.87	33	35	3	21	9	29	45	3	23	53	19	20	2	12
IV	48R-2, 17	361.07	31	35	1	22	10	27	46	2	25	47	16	18	1	12
IV	49R-1, 111	365.11	34	33	3	21	9	30	43	3	24	55	20	20	2	13
IV	49R-2, 30	365.72	35	32	5	17	10	32	43	5	20	49	19	18	3	9
IV	49R-3, 79	367.61	33	35	7	16	9	29	45	8	18	53	19	20	4	10
IV	51R-1, 90	373.91	35	34	8	14	9	32	44	9	16	54	21	20	5	8
IV	51R-2, 50	374.92	38	33	6	17	6	34	42	6	18	53	21	19	3	10
IV	51R-2, 103	375.45	29	34	7	17	13	25	47	9	20	47	15	18	4	9
IV	52R-1, 10	377.60	32	34	9	16	8	28	44	10	18	54	19	20	6	10
IV	52R-2, 79	379.69	30	32	4	20	13	27	44	5	24	50	17	18	2	12
IV	52R-3, 18	380.49	32	32	4	21	11	29	43	5	24	54	19	19	3	13
IV	52R-3, 76	381.07	36	31	1	24	7	33	40	1	26	47	18	16	1	12
IV	52R-3, 110	381.41	41	32	5	18	3	37	39	6	19	55	24	18	3	10
IV	53R-2, 51	383.92	42	29	3	18	8	38	38	3	20	54	24	17	2	11

Table T3 (continued). (Continued on next page.)

Unit	Sample location: Core, section interval (cm)	Sample location: Depth CSF (m)	Relative mineral abundance in clay-size fraction: SVD normalization factors (wt%): Smectite	Illite	Kaolinite	Chlorite	Quartz	Biscaye factors (area %): Smectite	Illite	Kaolinite	Chlorite	Relative mineral abundance in bulk mud(stone), SVD factors (wt%): Total clay	Smectite	Illite	Kaolinite	Chlorite
	54R-1, 107	387.58	38	31	6	16	9	35	41	6	18	53	22	18	3	9
	54R-2, 11	388.02	39	32	5	18	7	35	40	5	20	41	17	14	2	8
	54R-2, 116	389.06	38	31	1	21	9	35	40	1	24	52	22	17	0	12
IV	54R-3, 0	389.31	34	34	7	17	8	30	44	7	18	47	18	17	3	9
	54R-3, 44	389.75	31	34	6	18	11	27	45	7	21	51	18	19	3	10
	54R-3, 77	390.09	38	31	7	19	6	34	39	7	20	49	20	16	3	10
	55R-1, 36	391.36	36	30	3	18	13	32	43	4	21	49	20	17	2	10
	55R-2, 97	393.38	28	36	5	21	10	24	47	5	24	47	15	19	2	11
	316-C0006C-															
	1H-2, 0	1.27	29	36	3	23	9	25	46	4	25	42	13	16	2	10
	1H-6, 0	5.97	34	33	4	22	6	31	41	4	24	43	16	15	2	10
	316-C0006D-															
	1H-2, 0	1.21	25	39	4	23	9	21	49	5	25	45	12	19	2	12
I	1H-2, 20	1.41	26	42	4	21	7	22	51	4	22	40	11	18	2	9
	1H-5, 0	4.04	20	41	2	22	15	15	57	2	26	46	11	22	1	12
	316-C0006E-															
	1H-2, 0	1.21	21	43	2	27	8	17	53	2	28	41	9	19	1	12
	1H-4, 69	3.53	22	39	2	25	11	18	51	3	28	44	11	19	1	12
	1H-5, 0	4.24	20	42	2	25	10	16	54	3	27	36	8	17	1	10
	1H-6, 49	4.97	26	37	1	27	10	22	48	1	29	46	13	19	0	14
	2H-3, 0	7.79	18	41	6	26	10	15	52	6	27	44	9	20	3	12
I	2H-4, 115	9.18	25	36	1	26	12	21	48	1	30	42	12	17	1	12
	2H-7, 0	12.09	19	40	2	28	11	15	52	2	31	41	9	19	1	13
	3H-3, 0	17.29	22	41	1	27	8	19	52	1	29	37	9	17	0	11
	3H-6, 55	20.98	28	35	9	19	9	25	45	9	21	42	13	16	4	9
	3H-6, 95	20.98	25	37	2	25	11	21	49	2	28	42	12	17	1	12
	3H-7, 0	21.66	34	35	7	19	5	30	42	7	20	41	15	15	3	8
	4H-4, 29	29.92	20	42	6	23	9	17	52	6	24	40	9	18	3	10
	4H-5, 0	29.92	21	40	–0	32	7	18	49	–0	33	38	9	16	0	13
	5H-1, 126	34.49	28	33	2	28	10	24	43	2	31	51	16	19	1	16
	5H-3, 0	35.84	21	44	10	19	7	18	52	10	20	35	8	16	4	7
	5H-4, 20	36.26	24	35	5	27	10	20	45	6	29	37	10	14	2	11
	5H-5, 70	38.20	16	42	10	24	9	13	52	10	25	31	6	14	3	8
	7H-2, 115	41.25	22	36	3	30	10	18	46	3	32	29	7	12	1	10
	7H-4, 0	42.92	20	41	7	24	7	17	50	7	25	30	7	13	2	8
	7H-4, 20	43.12	33	40	4	22	3	29	46	4	22	28	9	11	1	6
	8H-1, 55	48.74	21	36	9	20	15	16	50	11	23	53	13	22	6	12
	8H-2, 86	50.45	17	45	9	23	7	14	53	9	24	29	5	14	3	7
	8H-4, 0	51.79	24	37	2	29	8	21	46	2	31	46	12	18	1	15
	9H-2, 93	60.04	30	33	1	30	6	27	41	1	31	47	15	16	0	15
	9H-5, 0	62.41	18	41	8	24	8	15	51	9	25	28	6	13	3	7
	10H-8, 0	64.51	21	41	5	22	12	16	54	6	24	32	7	15	2	8
	11H-1, 79	65.46	32	32	6	22	8	29	40	6	24	48	17	17	3	12
	11H-4, 0	67.70	15	45	9	23	8	12	55	10	23	32	5	16	3	8
	12H-6, 0	76.31	25	34	6	27	8	23	43	6	28	39	11	14	2	11
	16X-1, 96	89.80	23	37	3	30	8	20	46	4	31	44	11	18	2	14
II	16X-2, 0	90.11	24	36	6	26	8	21	45	6	28	39	10	15	2	11
	17X-1, 115	99.49	29	34	9	22	6	26	42	9	23	37	12	13	3	9
	17X-3, 0	100.30	21	40	7	25	7	18	48	8	26	37	8	16	3	10
	17X-5, 27	101.45	25	36	6	26	7	22	45	6	27	36	10	14	2	10
	19X-3, 113	118.40	24	35	2	29	9	21	45	3	32	38	10	15	1	12
	19X-4, 95	119.62	24	39	2	29	6	21	47	2	30	42	11	17	1	13
	19X-5, 0	119.76	19	38	4	27	13	15	51	4	30	47	10	20	2	14
	19X-6, 39	120.47	25	33	6	25	11	22	43	7	27	48	14	18	3	13
	20X-1, 38	125.72	23	39	5	26	8	20	48	5	27	33	8	14	2	9
	20X-1, 118	126.52	39	28	4	23	6	35	36	4	24	40	16	12	2	10
	20X-2, 121	127.96	19	40	3	26	12	15	53	3	29	50	11	23	2	15
	20X-3, 0	128.16	16	45	0	30	8	13	56	0	31	49	9	24	0	16
	20X-5, 33	131.34	28	32	2	27	11	25	43	2	30	51	16	18	1	15
	20X-5, 108	132.09	26	32	2	29	11	23	42	3	32	41	12	15	1	13
	20X-7, 0	132.85	29	35	4	26	6	26	43	4	27	37	11	14	2	10
	21X-3, 0	137.38	28	34	5	30	4	25	40	5	29	42	12	15	2	13
	22X-2, 33	146.07	25	34	7	23	12	21	45	8	26	46	13	17	4	12
	22X-3, 0	146.83	22	35	2	32	9	19	44	2	34	38	9	14	1	13
	22X-4, 30	147.48	19	38	2	31	10	16	48	2	33	51	11	21	1	17
	22X-4, 115	148.33	21	39	1	33	6	19	47	1	33	39	9	16	1	13

Table T3 (continued). (Continued on next page.)

	Sample location		Relative mineral abundance in clay-size fraction									Relative mineral abundance in bulk mud(stone), SVD factors (wt%)				
			SVD normalization factors (wt%)					Biscaye factors (area %)								
Unit	Core, section interval (cm)	Depth CSF (m)	Smectite	Illite	Kaolinite	Chlorite	Quartz	Smectite	Illite	Kaolinite	Chlorite	Total clay	Smectite	Illite	Kaolinite	Chlorite
	22X-6, 20	150.20	23	35	4	31	8	20	43	4	32	39	10	15	2	13
	22X-6, 66	150.66	16	40	10	26	9	13	50	10	27	32	5	14	3	9
	23X-1, 65	154.48	25	35	2	31	8	22	44	2	32	52	14	20	1	17
	23X-1, 101	154.84	24	37	4	28	7	21	45	5	29	41	11	16	2	13
	23X-3, 26	156.91	27	35	1	32	6	24	42	1	33	37	11	14	0	13
	23X-3, 67	157.32	21	36	2	28	13	17	49	3	32	50	12	21	1	16
	23X-4, 0	157.74	26	34	1	29	10	22	45	1	32	55	16	21	0	18
	23X-5, 90	158.98	28	32	4	28	8	25	41	5	29	44	13	15	2	13
	25X-6, 25	180.12	26	35	4	29	7	23	43	4	30	43	12	16	2	13
	25X-7, 0	180.79	17	39	4	32	8	15	48	5	33	35	6	15	2	12
	26X-1, 147	183.81	30	32	5	26	8	27	40	5	28	47	15	16	3	13
	26X-4, 0	186.65	27	36	3	28	7	24	44	3	29	54	16	21	2	16
	26X-8, 94	191.82	30	32	0	29	8	27	41	0	32	39	13	14	0	12
	27X-1, 60	192.43	25	33	3	30	9	23	42	3	32	49	14	18	2	16
	27X-5, 16	197.65	21	37	3	31	7	18	46	3	32	35	8	14	1	12
	27X-8, 30	200.62	27	37	6	25	5	24	44	6	25	34	10	13	2	9
	28X-1, 31	201.64	35	32	3	24	6	32	40	4	25	49	18	17	2	12
	28X-1, 91	202.24	31	36	3	30	0	26	41	3	30	39	12	14	1	12
	28X-3, 0	203.81	31	34	7	23	6	27	41	7	24	43	14	15	3	11
	28X-4, 75	204.92	32	32	4	27	5	29	39	4	28	41	14	14	2	12
	29X-2, 84	213.11	24	35	4	28	8	22	44	5	29	52	14	20	2	16
	29X-7, 0	219.04	27	33	7	27	7	25	41	7	28	51	15	18	4	15
	30X-1, 107	221.40	28	33	1	30	7	26	41	1	32	48	15	17	1	16
	30X-3, 0	223.16	26	35	8	22	9	23	45	8	24	56	16	22	5	14
	30X-8, 80	229.63	30	34	3	23	10	26	45	3	25	55	18	21	2	14
	31X-3, 0	232.32	23	32	5	31	9	20	41	6	33	31	8	11	2	10
	31X-4, 65	233.34	32	35	3	26	4	29	42	3	27	42	14	15	1	11
	32X-4, 0	243.21	28	31	2	30	9	25	41	2	32	51	15	18	1	17
	32X-5, 23	243.82	21	36	4	28	11	18	47	4	31	52	12	21	2	16
	32X-5, 91	244.51	26	35	7	23	9	23	44	8	25	42	12	16	3	11
	32X-6, 18	245.19	28	33	4	28	7	26	41	5	29	46	14	16	2	14
	34X-3, 94	262.09	35	33	3	23	5	31	41	3	25	49	18	17	2	12
II	34X-4, 44	263.01	31	31	2	27	8	28	40	2	30	48	17	16	1	14
	34X-5, 0	263.62	37	32	6	19	5	33	40	7	21	50	19	17	3	10
	35X-2, 0	268.69	35	28	6	27	4	32	34	6	28	39	14	11	2	11
	35X-3, 118	270.24	31	34	3	27	6	28	41	3	28	44	14	16	1	13
	35X-4, 10	270.56	30	31	3	26	10	27	41	3	29	45	15	15	2	13
	36X-1, 100	278.33	22	38	4	29	8	19	47	4	30	55	13	23	2	17
	36X-4, 0	281.56	31	31	4	23	12	27	42	4	26	51	18	18	2	13
	37X-2, 78	289.03	31	29	5	20	15	28	41	7	24	51	19	17	3	12
	37X-4, 18	291.25	33	32	2	23	10	30	42	3	26	44	16	16	1	11
	37X-4, 58	291.65	29	33	4	24	11	25	43	4	27	58	19	21	2	16
	37X-5, 0	292.12	22	37	4	31	6	20	45	4	31	37	9	15	2	12
	38X-2, 0	296.70	32	33	6	22	7	29	42	6	24	48	17	17	3	12
	39X-3, 71	309.36	26	34	2	30	9	23	43	2	32	53	15	19	1	17
	39X-4, 0	309.69	27	33	7	25	8	25	42	7	26	50	15	18	4	13
	39X-CC, 31	315.66	31	30	3	26	11	28	40	3	29	43	15	14	1	12
	40X-7, 0	322.01	30	33	2	25	11	26	44	2	28	49	16	18	1	14
	40X-8, 60	323.01	34	32	4	23	8	31	40	4	25	48	18	16	2	12
	41X-4, 0	328.83	30	31	4	26	9	28	39	5	28	54	18	18	3	15
	42X-5, 0	339.58	29	28	3	24	16	25	41	4	30	40	14	14	2	11
	42X-8, 56	343.36	36	33	4	18	9	32	43	4	21	56	22	20	2	11
	43X-5, 0	349.11	36	32	3	22	6	33	40	4	24	45	17	15	2	11
	44X-5, 0	358.99	22	36	6	29	7	19	44	7	30	45	10	17	3	14
	45X-1, 37	363.21	28	30	6	25	11	25	40	7	29	50	16	17	3	14
	45X-3, 63	366.27	30	31	6	25	8	27	39	6	27	51	17	17	3	14
	45X-3, 81	366.45	28	34	8	21	9	24	44	9	23	52	16	19	5	12
	45X-4, 0	366.66	23	33	6	27	10	20	43	7	30	49	12	18	3	15
	46X-3, 138	376.55	34	32	2	26	5	31	39	2	27	44	16	15	1	12
	46X-5, 0	377.60	28	34	4	24	9	25	44	5	26	44	14	17	2	12
	47X-3, 93	385.58	32	29	7	18	13	29	40	9	21	47	18	16	4	10
	47X-4, 14	386.20	42	30	2	20	6	38	38	2	22	47	21	15	1	10
	47X-5, 0	386.72	34	30	1	25	10	31	40	1	28	49	19	16	1	13
	48X-5, 0	396.98	43	28	8	16	5	39	35	9	17	50	23	15	4	8
	49X-4, 0	404.68	20	37	7	28	9	18	46	7	29	48	11	19	3	15
	316-C0006F-															
II	2R-2, 0	405.52	33	31	4	25	7	30	39	5	27	46	16	15	2	12

Table T3 (continued). (Continued on next page.)

	Sample location		Relative mineral abundance in clay-size fraction									Relative mineral abundance in bulk mud(stone), SVD factors (wt%)				
			SVD normalization factors (wt%)					Biscaye factors (area %)								
Unit	Core, section interval (cm)	Depth CSF (m)	Smectite	Illite	Kaolinite	Chlorite	Quartz	Smectite	Illite	Kaolinite	Chlorite	Total clay	Smectite	Illite	Kaolinite	Chlorite
II	3R-1, 0	414.00	36	35	3	17	9	32	45	4	20	49	19	19	2	9
	4R-2, 33	425.24	36	32	4	21	7	32	41	4	22	57	22	20	3	13
	5R-1, 117	434.17	31	31	4	25	9	28	39	5	27	49	17	16	2	14
	6R-1, 120	439.20	34	33	6	15	12	30	46	7	17	55	21	21	4	9
	7R-1, 90	448.40	37	33	3	20	6	33	42	4	21	54	22	19	2	11
III	8R-1, 12	457.13	34	40	5	18	4	29	47	5	19	65	23	27	3	12
	8R-1, 103	458.03	35	36	9	16	4	30	44	10	16	63	23	24	6	10
	8R-2, 42	458.84	40	31	5	17	6	36	39	6	18	63	27	21	4	11
	9R-1, 53	467.04	40	35	5	16	4	35	42	6	17	68	29	25	4	11
	9R-1, 105	467.56	43	32	7	14	4	38	40	8	15	63	28	21	5	9
	9R-2, 41	468.42	37	38	5	19	1	32	44	5	19	63	24	24	3	12
	10R-1, 27	476.28	42	33	6	15	3	37	40	6	16	67	29	23	4	10
	10R-1, 124	477.25	42	34	4	17	3	36	41	4	18	66	28	23	3	12
	11R-1, 60	486.10	43	33	5	16	4	37	41	5	17	67	30	23	3	11
	11R-2, 46	487.48	39	36	5	16	4	34	44	6	17	57	23	21	3	9
	11R-CC, 19	488.01	38	35	5	16	6	34	43	6	17	63	26	23	4	11
	12R-1, 62	495.63	41	35	6	14	5	36	43	6	15	65	28	24	4	9
	12R-2, 0	496.44	42	36	5	13	3	37	44	6	14	60	26	22	3	8
	13R-1, 119	505.69	36	38	8	14	4	32	45	9	14	65	25	26	6	9
	13R-2, 20	506.10	40	37	7	12	4	35	44	8	13	68	28	26	5	9
	13R-2, 86	506.76	32	37	7	17	6	28	46	8	18	65	23	26	5	12
	14R-1, 104	515.04	35	35	6	16	8	31	44	6	18	64	24	24	4	11
	14R-2, 0	515.51	40	35	5	16	3	35	42	6	17	66	27	24	4	11
	14R-2, 37	515.88	35	39	6	15	5	31	47	6	16	61	23	25	4	10
	14R-3, 22	517.24	35	35	9	16	6	31	43	9	17	67	25	25	6	11
	15R-1, 0	523.50	35	38	6	17	4	31	46	6	17	64	24	26	4	11
	15R-1, 121	524.71	45	34	6	14	1	39	39	7	15	65	29	22	4	9
	15R-2, 57	525.57	39	38	2	18	2	34	45	2	19	67	27	26	1	13
	16R-1, 100	534.00	29	42	2	21	7	24	52	2	22	64	20	29	1	14
	17R-1, 15	542.65	38	36	5	16	5	34	44	6	17	65	26	24	4	11
	18R-1, 113	553.13	35	37	6	17	5	31	45	7	18	65	24	25	4	12
	19R-1, 122	562.73	38	38	6	15	4	33	45	6	16	68	26	26	4	11
	19R-2, 78	563.69	33	39	5	16	6	28	49	6	17	63	22	26	4	11
	19R-3, 0	564.31	43	37	6	14	0	37	43	6	14	63	27	23	4	9
	19R-3, 43	564.75	49	35	4	12	0	42	40	5	13	64	32	22	3	8
	19R-CC, 13	567.84	37	37	8	12	6	32	46	9	13	68	27	27	6	9
	20R-1, 0	571.00	31	41	9	13	6	27	50	10	14	67	22	29	7	9
	22R-1, 0	590.00	42	34	6	14	4	37	41	7	15	61	26	21	4	9
	23R-1, 49	593.99	40	35	5	16	5	36	42	5	17	66	28	24	3	11
	316-C0007A-															
I	1H-2, 0	1.42	21	42	4	24	9	17	53	4	26	45	10	21	2	12
	1H-4, 0	2.73	27	38	2	25	10	23	49	2	27	41	12	17	1	11
	1H-CC, 14	3.01	30	37	4	20	9	26	48	5	22	36	12	15	2	8
	316-C0007B-															
I	1H-1, 66	3.80	30	36	1	24	9	26	47	1	26	42	14	17	0	11
	1H-3, 0	5.73	66	18	1	16	–1	58	24	1	18	48	31	9	0	7
	1H-6, 15	8.92	17	38	5	20	20	9	59	7	25	36	8	17	2	9
	1H-7, 0	9.77	23	37	1	27	11	20	49	2	30	45	12	19	1	14
	316-C0007C-															
I	1H-1, 60	13.24	15	42	4	27	12	11	56	4	29	34	6	16	1	10
	1H-2, 0	14.05	15	40	1	30	14	10	55	1	35	33	6	15	0	11
	1H-5, 0	16.89	18	47	1	26	7	14	57	2	27	35	7	18	1	10
	3H-2, 0	31.50	14	44	3	28	11	10	57	3	31	36	6	18	1	11
	3H-3, 103	32.76	16	40	1	30	13	12	54	1	34	47	9	21	0	16
	3H-4, 0	32.92	15	48	7	22	7	12	58	7	23	41	7	21	3	10
	3H-5, 0	33.00	21	40	0	30	9	18	50	0	32	44	10	19	0	14
II	6X-2, 75	54.75	23	36	2	28	11	19	47	2	31	50	13	20	1	16
	6X-3, 0	55.18	22	34	1	31	12	18	45	1	35	36	9	14	1	13
	6X-4, 55	55.95	19	43	6	24	8	16	52	7	25	35	7	16	2	9
	6X-CC, 22	56.47	23	36	2	28	11	19	48	2	31	53	14	22	1	17
	7X-1, 95	63.04	23	42	2	30	4	20	49	2	29	37	9	16	1	11
	7X-3, 0	64.68	20	38	1	30	11	17	50	1	32	36	8	16	0	12
	7X-4, 39	65.30	20	36	3	29	11	17	47	4	32	43	10	18	2	14
	7X-5, 102	67.34	23	38	5	25	10	19	49	5	27	38	10	16	2	10
	8X-2, 15	73.16	15	38	5	31	11	12	50	5	33	35	6	15	2	12
	8X-3, 0	74.42	17	47	2	29	6	14	55	2	29	37	7	19	1	11

Table T3 (continued). (Continued on next page.)

Unit	Sample location		Relative mineral abundance in clay-size fraction									Relative mineral abundance in bulk mud(stone), SVD factors (wt%)				
			SVD normalization factors (wt%)					Biscaye factors (area %)								
	Core, section interval (cm)	Depth CSF (m)	Smectite	Illite	Kaolinite	Chlorite	Quartz	Smectite	Illite	Kaolinite	Chlorite	Total clay	Smectite	Illite	Kaolinite	Chlorite
	8X-5, 64	76.48	30	30	0	29	11	27	39	0	33	46	16	15	0	15
	9X-1, 65	81.74	20	34	3	27	16	14	49	4	33	50	12	20	2	16
	9X-5, 0	86.52	24	35	5	24	13	20	47	6	27	37	10	15	2	10
	9X-6, 40	87.14	26	37	4	24	10	22	47	4	27	42	12	17	2	11
	10X-1, 111	91.70	19	41	0	31	8	16	51	0	33	48	10	21	0	16
	10X-2, 0	92.00	16	41	3	29	11	13	52	4	31	45	8	20	2	15
II	10X-CC, 6	94.31	10	47	1	30	12	5	61	1	33	28	3	15	0	10
	11X-1, 22	100.32	28	32	4	28	8	25	40	5	30	38	12	13	2	12
	11X-2, 56	102.07	18	40	4	25	13	14	53	5	28	51	11	23	3	15
	11X-3, 0	102.70	9	51	2	29	9	6	63	2	29	33	3	18	1	10
	11X-4, 67	103.61	12	48	3	27	10	9	60	3	28	31	4	17	1	9
	11X-CC, 21	103.83	6	54	5	26	9	3	66	5	26	28	2	16	2	8
	14X-2, 0	129.73	15	44	5	28	8	12	54	5	29	35	6	17	2	11
	16H-2, 0	149.00	20	45	6	25	4	17	52	5	25	27	5	13	2	7
	316-C0007D-															
	3R-2, 0	191.42	27	33	4	22	14	23	46	4	26	44	14	17	2	11
	3R-3, 69	192.45	24	36	8	23	10	21	46	8	25	41	11	16	3	10
	4R-1, 37	199.87	30	36	4	26	4	27	42	4	26	38	12	14	2	10
	5R-1, 0	209.00	29	31	4	23	12	26	42	5	27	39	13	14	2	10
	6R-3, 98	221.44	28	32	5	22	13	25	44	6	25	49	16	18	3	12
	7R-1, 98	228.99	40	26	0	24	10	37	35	0	27	50	22	14	0	13
	8R-1, 90	238.40	36	29	5	20	10	33	38	5	23	52	21	16	3	12
	9R-2, 23	248.65	40	30	2	21	6	36	38	2	23	49	21	16	1	11
	9R-2, 77	249.20	33	31	0	26	10	30	41	0	29	50	18	17	0	14
II	10R-1, 50	257.00	32	34	6	20	8	29	43	7	21	53	18	20	3	11
	15R-1, 85	304.35	35	29	1	23	12	32	39	1	27	54	22	18	1	14
	16R-1, 95	313.95	32	30	6	20	12	28	41	7	23	53	19	18	4	12
	16R-2, 100	315.42	35	30	4	20	11	31	41	4	23	53	20	18	2	12
	17R-3, 0	325.30	35	31	0	26	8	32	40	0	28	49	19	16	0	14
	17R-CC, 10	327.12	32	33	2	24	9	29	43	2	26	54	19	20	1	14
	18R-1, 24	332.24	40	30	2	18	11	36	41	2	21	56	25	19	1	11
	18R-1, 62	332.62	33	30	5	17	16	30	44	6	21	49	19	17	3	10
	19R-1, 31	341.81	36	31	3	23	7	32	40	3	25	51	20	17	2	12
	20R-1, 84	351.85	37	33	4	18	8	33	42	5	20	53	21	19	2	10
	21R-1, 57	361.07	35	40	1	20	4	30	47	1	21	56	20	23	0	12
	22R-1, 47	370.47	39	35	5	17	4	34	43	5	18	63	26	23	3	11
	22R-2, 78	372.19	49	30	2	19	–0	42	36	2	20	65	32	20	1	12
	22R-3, 97	373.79	44	34	4	17	2	38	40	4	18	65	29	22	2	11
	23R-2, 23	381.14	43	34	6	15	2	37	41	6	16	65	28	23	4	10
	23R-2, 113	382.04	41	37	5	14	2	35	44	6	15	67	28	26	4	10
	23R-3, 62	382.96	36	38	8	16	3	31	45	8	16	61	23	24	5	10
	23R-4, 14	383.89	35	38	5	18	4	31	45	5	19	67	24	26	3	12
	24R-1, 16	389.17	40	38	3	19	0	35	43	3	20	64	26	24	2	12
	24R-2, 105	391.47	36	36	7	15	6	32	45	8	16	66	26	25	5	10
III	24R-3, 66	392.51	40	37	6	15	3	34	44	6	16	64	26	24	4	10
	24R-3, 98	392.83	33	38	5	19	6	29	46	5	20	62	22	25	3	12
	24R-5, 42	395.09	42	36	6	14	2	36	43	6	15	68	29	25	4	10
	25R-2, 80	400.73	38	34	9	14	6	34	42	9	15	63	25	23	6	9
	25R-3, 50	401.87	30	38	2	23	8	26	48	2	24	64	21	26	1	16
	26R-1, 0	408.00	38	39	9	12	3	33	46	9	12	68	26	27	6	8
	26R-1, 133	409.34	35	40	7	14	3	30	47	8	15	65	23	27	5	9
	27R-1, 24	417.74	37	37	8	13	4	33	45	9	14	61	24	24	5	8
	28R-4, 12	431.37	37	38	6	15	4	32	46	6	15	67	26	27	4	10
	29R-1, 31	436.81	40	37	7	14	2	35	44	7	14	64	26	24	5	9
	29R-2, 77	438.68	45	33	5	14	3	40	39	6	15	43	14	15	3	11
	316-C0008A-															
	1H-3, 0	1.64	23	39	6	21	11	19	51	7	23	42	11	18	3	10
	1H-7, 0	5.43	26	35	4	22	14	22	48	4	26	38	11	15	2	10
	2H-2, 0	8.35	30	31	3	17	19	26	49	3	22	27	10	11	1	6
	2H-8, 0	15.43	31	37	0	24	9	27	47	0	26	35	12	14	0	9
IA	3H-1, 55	16.05	26	38	4	21	12	21	51	4	24	46	13	20	2	11
	3H-3, 0	18.41	32	35	5	17	12	28	48	6	19	46	17	18	3	9
	3H-8, 0	22.98	31	34	5	19	11	28	45	5	22	40	14	15	2	9
	3H-10, 98	25.40	31	35	8	16	10	27	46	9	18	44	15	17	4	8
	4H-4, 0	29.18	33	35	8	16	8	29	45	8	17	48	17	19	4	8
	4H-6, 32	30.89	36	33	2	21	8	33	42	2	23	50	19	18	1	11

Table T3 (continued). (Continued on next page.)

Unit	Sample location: Core, section interval (cm)	Sample location: Depth CSF (m)	Relative mineral abundance in clay-size fraction: SVD normalization factors (wt%): Smectite	Illite	Kaolinite	Chlorite	Quartz	Biscaye factors (area %): Smectite	Illite	Kaolinite	Chlorite	Relative mineral abundance in bulk mud(stone), SVD factors (wt%): Total clay	Smectite	Illite	Kaolinite	Chlorite
	4H-9, 59	35.20	21	40	12	18	10	18	51	12	19	39	9	17	5	8
	5H-4, 0	38.72	24	38	3	24	10	20	49	4	27	53	14	23	2	14
	5H-6, 72	40.76	37	34	4	17	9	33	45	4	19	47	19	18	2	9
	6H-3, 59	47.35	24	35	9	22	9	21	45	9	24	46	13	18	4	11
	6H-5, 0	49.27	26	34	12	21	6	24	41	13	22	55	15	20	7	13
	6H-6, 100	50.50	34	30	5	19	11	31	41	6	22	54	20	18	3	12
	7H-3, 28	56.46	22	35	9	23	11	18	46	10	25	52	13	20	5	13
	7H-5, 0	58.63	25	31	5	20	19	20	48	7	26	31	10	12	2	8
	7H-8, 113	62.75	22	42	8	23	6	19	50	8	23	31	7	14	2	7
	8H-4, 72	67.66	20	33	10	26	10	18	43	11	28	48	11	18	6	14
	8H-5, 0	68.25	25	36	4	27	8	22	45	4	29	52	14	20	2	15
	9H-3, 107	76.19	23	34	14	19	10	20	44	16	20	44	11	16	7	9
	9H-5, 0	77.56	20	34	7	25	15	16	47	8	29	39	9	15	3	11
	10H-6, 0	87.23	24	37	6	26	7	21	46	7	27	52	13	21	4	14
	10H-7, 31	87.83	31	35	8	17	8	27	45	9	19	49	16	19	4	9
	10H-8, 125	90.17	33	37	7	16	8	29	47	7	18	46	16	18	3	8
	11H-4, 0	94.73	27	30	6	21	16	23	43	7	26	41	13	14	3	10
	11H-5, 49	95.50	31	34	10	19	6	28	42	11	20	58	19	21	6	12
	11H-6, 28	96.47	24	34	8	21	12	21	46	9	24	36	10	14	3	9
	11H-7, 31	98.02	31	38	7	18	6	27	47	7	19	44	15	18	3	9
	12H-5, 0	104.92	19	40	8	27	7	16	48	8	27	43	9	18	4	12
	12H-6, 98	106.18	31	35	3	23	8	27	45	4	25	51	17	20	2	13
	13H-5, 0	114.79	28	36	5	19	12	24	49	6	22	48	15	20	3	10
	15H-2, 0	120.14	24	34	10	22	10	21	43	11	24	52	14	19	6	13
	16H-4, 0	128.82	34	33	5	16	11	30	45	6	19	50	19	19	3	9
	16H-5, 33	129.44	25	38	7	19	10	21	50	7	21	37	11	16	3	8
	17H-6, 0	136.14	22	42	6	23	7	18	51	6	24	52	12	23	3	13
IA	17H-7, 21	136.63	24	41	7	21	7	21	50	8	22	51	13	22	4	12
	17H-8, 23	137.97	27	38	7	20	8	24	48	7	21	51	15	21	4	11
	18H-3, 0	143.02	24	36	4	27	9	21	45	4	29	64	17	25	3	19
	18H-3, 25	143.27	24	32	4	25	15	19	46	4	31	54	15	21	2	16
	19H-2, 0	151.38	36	33	3	18	11	32	44	4	21	51	20	19	2	10
	20H-3, 0	155.11	30	33	7	18	12	27	45	8	20	47	16	18	4	10
	20H-4, 94	156.33	31	31	6	16	15	27	46	7	20	48	18	18	3	9
	20H-5, 34	157.05	36	30	1	20	13	33	42	1	24	58	24	20	1	13
	21H-3, 80	162.34	31	35	3	20	11	27	46	4	23	58	20	22	2	13
	21H-4, 48	163.42	32	36	1	23	9	28	46	1	26	58	20	23	0	15
	21H-5, 26	164.38	31	36	8	17	8	28	46	8	18	58	20	23	5	11
	22H-5, 68	173.19	32	35	5	18	11	28	46	5	20	54	19	21	3	11
	22H-6, 0	173.62	30	38	7	18	7	26	47	8	19	52	17	21	4	10
	23H-3, 40	180.75	28	32	4	20	16	24	47	4	25	51	17	19	2	12
	23H-5, 0	182.04	36	30	1	19	13	33	43	2	23	51	21	18	1	11
	24H-2, 23	187.92	26	36	8	19	11	22	47	9	21	50	14	20	5	11
	24H-4, 83	191.14	34	32	4	17	14	30	45	5	20	51	20	19	2	10
	24H-6, 0	192.78	37	35	3	18	7	32	44	4	20	49	19	18	2	10
	25H-2, 0	198.21	30	37	3	23	7	26	46	3	25	48	15	19	1	12
	26H-2, 0	202.21	35	38	1	22	4	31	45	1	23	45	16	17	1	10
	27H-1, 68	211.07	26	33	2	21	18	21	50	3	26	46	15	18	1	12
	27H-2, 35	212.05	33	32	6	20	10	29	42	7	22	49	18	17	3	11
	27H-5, 0	215.64	25	33	8	16	17	20	50	11	19	45	14	18	5	8
	28H-1, 88	220.78	36	33	6	16	9	32	43	6	18	49	19	18	3	8
	28H-2, 5 BG	221.25	36	32	2	20	11	32	43	2	23					
	28H-2, 83	222.03	29	36	4	21	10	25	47	5	23	50	16	20	2	12
	28H-3, 0	222.22	29	33	2	20	16	24	49	3	24	48	17	19	1	11
	28H-4, 51	223.03	31	37	1	19	11	27	49	2	22	60	21	25	1	13
	29X-5, 0	229.25	36	33	5	17	8	32	43	6	19	39	16	14	2	7
	30X-7, 0	240.16	38	36	3	19	4	33	43	3	20	51	20	19	2	10
	31X-2, 55 M	245.53	33	31	2	22	12	29	42	2	26					
	31X-6, 0	249.92	34	35	5	17	9	31	45	5	19	48	18	18	3	9
	32X-1, 118 C	254.45	52	31	5	12	0	45	37	6	13					
	32X-2, 3 BL	254.53	39	33	6	18	4	34	41	6	19					
IB	32X-2, 3 C	254.53	43	34	4	17	2	38	40	4	18					
	32X-2, 54 C	255.04	50	30	3	16	2	44	36	3	17					
	32X-2, 54 M	255.04	35	33	5	17	9	32	43	6	19					
	32X-7, 0	260.72	31	27	8	20	13	28	38	10	24	52	18	16	5	12
	33X-4, 0	266.70	40	35	3	20	2	35	41	3	21	36	15	13	1	7
	33X-5, 51 M	267.54	32	31	6	22	9	29	41	7	24					

Table T3 (continued).

	Sample location		Relative mineral abundance in clay-size fraction									Relative mineral abundance in bulk mud(stone), SVD factors (wt%)				
			SVD normalization factors (wt%)					Biscaye factors (area %)								
Unit	Core, section interval (cm)	Depth CSF (m)	Smectite	Illite	Kaolinite	Chlorite	Quartz	Smectite	Illite	Kaolinite	Chlorite	Total clay	Smectite	Illite	Kaolinite	Chlorite
	316-C0008B-															
IA	1H-5, 0	5.65	31	35	2	20	13	27	48	2	23	43	15	17	1	10
	316-C0008C-															
	1H-2, 0	1.43	35	34	2	19	9	31	44	3	22	43	17	16	1	9
	1H-5, 0	4.27	20	38	5	22	15	15	54	6	25	38	9	17	2	10
	2H-2, 0	6.82	30	35	2	18	15	25	50	3	22	35	12	14	1	7
	2H-7, 0	12.19	32	36	5	18	9	28	47	5	20	34	12	13	2	7
	3H-3, 0	17.73	29	36	7	22	5	26	44	7	23	47	14	18	3	11
	3H-4, 28	18.26	23	39	6	21	11	19	51	7	24	52	13	23	4	13
	3H-5, 35	19.55	22	37	6	20	16	16	54	7	23	51	13	23	3	12
	3H-7, 0	21.94	35	34	4	17	10	32	45	5	19	38	15	14	2	7
	3H-10, 65	25.24	36	34	6	14	10	32	45	7	16	51	20	19	4	8
	4H-5, 0	29.39	24	38	3	24	11	20	50	4	27	50	13	21	2	13
	4H-6, 24	29.85	30	37	5	19	9	26	47	6	21	46	15	18	3	10
	5H-2, 18	34.58	23	39	7	22	9	20	50	7	23	50	13	21	4	12
	5H-4, 20	36.91	38	32	6	18	5	34	40	7	19	54	22	18	3	10
	5H-5, 0	38.02	30	32	9	18	11	27	43	10	20	48	16	17	5	10
	6H-2, 100	45.81	30	33	2	25	10	27	43	2	28	47	15	17	1	13
	6H-3, 50	46.80	35	31	6	17	11	32	41	7	20	47	18	16	3	9
	6H-4, 0	47.73	40	28	5	16	11	38	38	5	19	46	21	14	2	8
	7H-4, 0	55.87	18	38	8	20	16	12	55	9	24	32	7	14	3	8
	7H-8, 129	61.11	29	40	10	18	4	25	47	10	18	53	16	22	5	10
	7H-9, 15	61.27	25	37	5	26	8	22	46	5	27	56	15	22	3	16
	9H-3, 58	69.87	26	36	9	22	6	23	44	10	23	54	15	21	5	13
	9H-4, 0	70.71	30	36	5	21	8	26	45	6	23	55	18	22	3	13
	9H-5, 70	71.64	21	40	2	28	10	17	51	2	30	45	10	20	1	14
IA	10H-9, 0	83.30	29	35	6	20	8	26	45	7	22	52	17	20	4	11
	10H-10, 45	83.98	27	36	5	25	7	24	44	5	27	49	14	19	3	13
	11H-3, 12	83.08	32	31	0	21	15	29	45	0	26	43	16	16	0	11
	11H-8, 113	86.58	25	34	5	20	15	21	49	7	24	44	13	18	3	10
	11H-10, 0	88.10	31	31	3	17	17	27	47	4	22	47	17	18	2	10
	13H-7, 48	94.25	23	39	6	24	7	20	48	7	25	52	13	22	4	13
	13H-7, 91	94.68	25	37	5	21	12	21	50	5	24	48	14	20	3	12
	13H-8, 0	94.88	24	39	10	17	10	20	50	11	18	51	14	22	6	10
	14H-6, 0	102.71	28	38	5	21	9	24	49	5	23	47	14	20	2	11
	15H-5, 0	103.32	36	31	1	21	11	33	42	1	25	52	21	18	0	13
	16H-5, 0	112.35	31	38	2	23	7	27	47	2	24	55	18	22	1	13
	18H-1, 35	120.25	35	36	6	18	6	31	44	6	19	54	20	21	3	10
	18H-4, 42	124.27	31	32	1	24	12	27	44	1	28	43	15	16	0	12
	18H-6, 0	126.23	33	33	5	19	10	29	44	6	21	53	19	20	3	11
	19H-2, 2 BG	126.41	33	36	4	19	8	29	46	5	21					
	21H-4, 39	133.95	34	35	6	17	8	30	45	6	19	45	17	17	3	9
	21H-5, 0	134.40	31	36	4	20	9	28	46	5	22	46	16	18	2	10
	22X-5, 0	144.08	30	36	2	21	10	27	47	2	24	44	15	18	1	10
	23X-4, 0	150.38	23	37	8	21	11	19	49	8	24	43	11	18	4	10
	23X-6, 107	152.78	36	34	4	20	6	32	43	4	21	54	21	20	2	11
	24X-3, 97	160.63	31	37	7	17	9	27	47	8	18	49	17	20	4	9
	24X-4, 0	160.96	38	33	5	18	6	34	41	6	20	51	20	18	3	10
	24X-10, 20	166.46	31	37	5	19	9	27	47	5	20	52	18	21	3	11
	25X-7, 22 C	169.18	47	34	3	16	1	41	40	3	17					
	25X-7, 22 M	169.18	34	34	5	18	9	30	44	5	21					
	25X-9, 0	171.59	41	31	6	16	5	37	39	7	18	44	19	14	3	8
IB	25X-10, 25 C	172.17	45	31	3	16	4	40	39	3	18					
	25X-10, 25 M	172.17	38	32	3	19	8	34	41	3	22					
	25X-10, 30	172.23	36	36	4	17	7	32	45	5	19	52	20	20	2	9
	25X-11, 94	173.86	33	36	3	20	8	29	46	3	22	47	17	18	1	10

SVD = singular value decomposition. BG = background mudstone, M = matrix, C = clasts, BL = bulk sample.

Table T4. Statistical comparison of maximum, minimum, average, and standard deviation for values of relative mineral abundance and expandability of illite/smectite (I/S) mixed-layer clay, Sites C0001, C0002, C0004, C0006, C0007, and C0008. (Continued on next page.)

Site	Unit	Mineral	Relative abundance (wt%)			Standard deviation
			Maximum	Minimum	Average	
C0002	I	Smectite	30	10	21	6
		Illite	44	33	38	8
		Kaolinite	9	0	5	1
		Chlorite	32	16	22	4
		Quartz	16	10	13	1
		I/S expandability (%)	74	52	59	5
	II	Smectite	32	19	25	3
		Illite	40	31	35	2
		Kaolinite	11	0	5	3
		Chlorite	29	16	22	3
		Quartz	19	5	13	3
		I/S expandability (%)	68	53	61	3
	III	Smectite	49	30	36	4
		Illite	40	30	35	2
		Kaolinite	10	0	4	3
		Chlorite	23	11	16	3
		Quartz	12	6	9	2
		I/S expandability (%)	65	58	61	2
	IV	Smectite	60	22	43	10
		Illite	36	24	31	3
		Kaolinite	9	0	5	2
		Chlorite	27	9	15	4
		Quartz	18	0	6	4
		I/S expandability (%)	72	60	69	5
C0001	I	Smectite	47	17	31	6
		Illite	45	31	36	2
		Kaolinite	11	1	5	2
		Chlorite	25	13	19	3
		Quartz	18	0	9	3
		I/S expandability (%)	69	51	62	4
	II	Smectite	44	27	36	4
		Illite	43	33	37	2
		Kaolinite	12	3	8	2
		Chlorite	21	11	15	2
		Quartz	9	0	4	2
		I/S expandability (%)	69	60	64	2
C0004	I	Smectite	44	22	32	5
		Illite	43	28	36	3
		Kaolinite	11	2	6	2
		Chlorite	22	11	17	3
		Quartz	21	0	7	4
		I/S expandability (%)	72	59	65	3
	IIA	Smectite	33	22	26	3
		Illite	40	33	37	2
		Kaolinite	7	1	4	2
		Chlorite	28	15	23	4
		Quartz	20	7	10	4
		I/S expandability (%)	65	61	62	1
	IIB	Smectite	41	24	28	4
		Illite	40	33	38	2
		Kaolinite	8	3	6	2
		Chlorite	23	19	21	2
		Quartz	8	3	7	1
		I/S expandability (%)	68	64	65	3

Table T4 (continued).

Site	Unit	Mineral	Relative abundance (wt%) Maximum	Minimum	Average	Standard deviation
C0004	III	Smectite	39	32	36	2
		Illite	38	33	36	1
		Kaolinite	9	3	6	2
		Chlorite	24	14	18	3
		Quartz	7	3	5	1
		I/S expandability (%)	68	65	66	2
	IV	Smectite	42	28	34	4
		Illite	36	29	33	2
		Kaolinite	9	1	4	2
		Chlorite	24	14	19	2
		Quartz	13	3	9	2
		I/S expandability (%)	71	69	68	2
C0008	IA	Smectite	38	19	29	5
		Illite	42	30	35	3
		Kaolinite	14	0	6	3
		Chlorite	27	16	20	3
		Quartz	19	4	10	3
		I/S expandability (%)	70	52	65	3
	IB	Smectite	41	18	30	6
		Illite	40	27	35	3
		Kaolinite	10	0	5	2
		Chlorite	28	14	20	3
		Quartz	17	2	10	3
		I/S expandability (%)	72	56	66	4
C0006	I	Smectite	34	18	25	5
		Illite	43	33	38	3
		Kaolinite	9	1	3	2
		Chlorite	28	19	25	3
		Quartz	15	5	10	2
		I/S expandability (%)	68	59	64	3
	II	Smectite	43	15	27	6
		Illite	45	28	35	4
		Kaolinite	10	0	4	2
		Chlorite	33	16	26	4
		Quartz	16	0	8	3
		I/S expandability (%)	74	63	68	3
	III	Smectite	49	20	37	5
		Illite	42	31	36	3
		Kaolinite	9	2	6	2
		Chlorite	28	12	17	3
		Quartz	12	0	5	2
		I/S expandability (%)	72	61	65	3
C0007	I	Smectite	66	14	23	13
		Illite	48	18	39	7
		Kaolinite	7	0	2	2
		Chlorite	30	16	25	4
		Quartz	20	0	10	4
		I/S expandability (%)	77	53	63	5
	II	Smectite	40	6	25	8
		Illite	54	26	35	5
		Kaolinite	8	0	3	2
		Chlorite	31	17	25	4
		Quartz	16	4	9	2
		I/S expandability (%)	73	54	66	4
	III	Smectite	49	30	39	4
		Illite	40	30	36	2
		Kaolinite	9	2	6	2
		Chlorite	23	12	16	3
		Quartz	8	0	3	2
		I/S expandability (%)	69	61	66	2