行政院國家科學委員會專題研究計畫  期中進度報告

ODP/IODP 國際海洋鑽探計畫及 IMAGES 國際海洋古全球變遷
最近五萬年高解析度黑潮古海洋

計畫類別：整合型計畫
計畫編號：
執行期間：92年08月01日至93年12月31日
執行單位：國立成功大學地球科學系(所)

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報告類型：精簡報告
報告附件：出席國際會議研究心得報告及發表論文
處理方式：本計畫可公開查詢

中華民國93年05月31日
Core 20 (172.3 - 180.15 mbsf)

Core 20 is characterized by occurrence of turbidite sand layers, especially in the lower part (sections 3-5, Fig. 1). Basal erosion and grading feature from fine sand upward to silt and mud are commonly observed in turbidite sand layer in which planktic foraminifers are very abundant (for example 100-105 cm of section 4), but slate chips and mica flakes are rare. Bioclastics of echinoderm spines and thin-shell bivalves are also rich in turbidite sands.
Figure 1. Sedimentological features of Core 20, Hole 1202D.

**Core 21 (172.3 - 180.15 mbsf)**

Number and thickness of sand layer increase downward from Core 21 to Core 31.

Core 21 (Fig.2) is characterized by occurrence of rich foraminifers tests, molluscan fragments and echinoderm spines with abundant slate chip in thicker sand layer (> 5 cm, for example 38-43 cm and 99-104 cm of section 2), while bioclastics, foraminifers and slate chips are rare, but mica flakes are abundant in thinner sand layers (< 5 cm; for example, 21.2-25.6 cm of section 1; 103-108 cm and 125-130 cm of section 3). Distinct sorting effect by a stronger turbidity flow would result in a deposition of thicker turbidite sand layer and common occurrences of continent-derived slate chips and displaced shallow-marine bioclastics.
Figure 2. Sedimentological features of Core 21, Hole 1202D.

Core 22 (191.7 - 199.73 mbsf)

Grading features are commonly found in the turbidite sand layers of Core 22 (Fig. 3). Pumice grains and slate chips, mica or schist flakes are found in 95-98 cm of section 1. In hemipelagic mud, continent-derived detritus and foraminifers are rare (114-118 cm and 125-130 cm of section 3), while in turbidite sand layers (for examples, 95-98 cm of section 1 and 32-36 cm of section 4) displaced benthic foraminifers and echinoderm spines and molluscan fragments of shallow-marine fauna are common.
Core 23 (201.3 - 208.5 m)

Core 23 contains lost of turbidite sand layers (Fig. 4). Some of them may reach 5-8 cm in thickness of which basal erosion and grading features are common. Most of sand layers contain rich slate fragments. However, volcanic detritus and minerals with well-crystallized forms along with slate chips and quartz grains are observed in fine sands of section 5 (108-110 cm). Again like what was found in the other core, abundant shallow-marine benthic foraminifers, molluscan fragments and echinoderm plates and spines are found in the thick turbidite sands (138-143 cm of section 3), but they are rare in hemipelagic mud. Instate, indigenous benthic foraminifers are predominant in hemipelagic muds (125-130 cm of section 3).
Figure 4. Sedimentological features of Core 23, Hole 1202D.

**Core 24 (210.9 - 219.13 mbsf)**

Turbidite sand layers are commonly observed in Core 24 (Fig. 5). Volcanic detritus and minerals with well-developed crystal forms are found in 74-77 cm, section 5. Displaced shallow-marine benthic foraminifers, molluscan fragments and echinoderm spines are very rich in thick turbidite sand layers (74-77 cm, section 5).
Figure 5. Sedimentological features of Core 24, Hole 1202D.

Core 25 (220.5 - 224.31 mbsf)

A large part of Core 25 (Fig. 6) was not recovered by XBC coring probably due to a pre-dominance of sand layers. Volcanic detritus are found in 63-67 cm of section 2 with very rare foraminifers. However, slate chips are abundant in bottom of core CC.

Figure 6. Sedimentological features of Core 25, Hole 1202D.

Core 26 (230.1 - 230.3 m)
Core 26 was almost un-recovered (Fig. 7). Fine sands without foraminifers, but with abundant mica flakes and organic carbon materials (grass?), were observed in core CC.

Figure 7. Sedimentological features of Core 26, Hole 1202D.

**Core 27 (239.7 - 244.0 mbsf)**

Core 27 is almost dominated by turbidite sand layers with normal grading structures and basal erosions (Fig. 8). Fauna are very rare in either hemipelagic mud or turbidite sand layers. If there are benthic foraminifers, they are all shallow-marine species displaced from shallow-marine environments. However, organic carbon materials and mica flakes are found in some fine sand layers (for example, 113-116 cm, section 3).

Figure 8. Sedimentological features of Core 27, Hole 1202D.
Core 28 (249.3 - 253.29 m)

Core 28 is composed predominantly of turbidite fine grained sands with grading structures (Fig. 9). Each turbidite sand layer may reach 15 cm in thickness. Samples collected from very fine sand to silt part of turbidite layer (125-130 cm, section 2; 70-75 cm of section 3) contains very rich mica flakes and quartz grains, presumably derived from Central Range of Taiwan. Organic carbon materials are abundant, suggesting deposition site was not far away from land. Microfossils foraminifers are very rare.

Figure 9. Sedimentological features of Core 28, Hole 1202D.

Core 29 (nothing recovered)

Nothing was recovered from Core 29.

Core 30 (268.5 - 270.54 mbsf)

Only a small portion of Core 30 was recovered (Fig. 10). Core 30 is predominated by turbidite sands with grading structures. Foraminifers are rare to common. Most of
them were displaced from shallow-marine environment. Mica flakes are very abundant.

Figure 10. Sedimentological features of Core 30, Hole 1202D.

Core 31 (279.6 - 286.47 mbsf)

Number of sand layers decreases from Core 31 (Fig. 11) downward. Although turbidite sand layers are much less than in Cores 30-20, foraminifers in either hemipelagic mud (80-85 cm, section 2) or turbidite sands (80-85 cm of section 3; 15.0-15.2 cm of section 5; 24-34 cm and 54-59 cm of section 6) are predominated by displaced shallow-marine species. Volcanic pumice and volcanic minerals with well-developed crystal forms are observed in 80-85 cm of section 4 and 24-27 cm, 27-34 cm, 54-59 cm of section 6). Slate chips are also found in some sand layer (80-85 cm of section 4).
Figure 11. Sedimentological features of Core 31, Hole 1202D.

Core 32 (287.8 - 295.15 mbsf)

Core 32 (Fig. 12) contains more sand layers than in Core 31 (Fig. 11). Volcanic detritus are commonly found in the lower part (58-69 cm of section 4 and 9-14 cm, 114-121 cm of sections 5). Foraminifers are always rare in turbidite sand layers.
Figure 12. Sedimentological features of Core 32, Hole 1202D.

**Core 33 (297.4 - 305.93 mbsf)**

Core 33 is composed of predominant hemipelagic mud with several very fine sand layers (Fig. 13). Detritus of coarse fraction are rare, but mica and slate were found. Foraminifers are almost barren in either hemipelagic mud or sand layers indicating a high sedimentation rate.

![Figure 13](image)

Figure 13. Sedimentological features of Core 33, Hole 1202D.

**Core 34 (307.0 - 315.57 mbsf)**

Core 34 consists of predominant hemipelagic mud (Fig. 14). Turbidite sands with volcanic detritus were found in 25-39 cm of section 2, 105-109 cm of section 3, and 55-59 cm of section 4. Foraminifers are rare in which benthic species are all
indigenous species. Mica flakes can be found in hemipelagic mud.

Figure 14. Sedimentological features of Core 34, Hole 1202D.

Core 35 (316.6 - 325.29 mbsf)

Core 35 is composed of hemipelagic mud with some silt to very fine sand layers (Fig. 15). Due to a high sedimentation rate, microfossils are all very rare in sediments. Volcanic detritus are frequently found in sections 3, 4 and 5.
Figure 15. Sedimentological features of Core 35, Hole 1202D.

**Core 36 (326.2 - 335.9 mbsf)**

Core 36 (Fig. 16) is predominated by hemipelagic mud almost without any visible turbidite sedimentation feature. Microfossils are very rare. Few mica flakes and slate chips can be found in hemipelagic mud.
Figure 16. Sedimentological features of Core 36, Hole 1202D.

**Core 37 (335.9 - 344.27 mbsf) and Core 38 (345.6 - 354.72 mbsf)**

Sedimentological feature of Core 37 (Fig. 17) is similar to Core 38 (Fig. 35).

There are several very fine sand to silt layers. Mica flakes can be found in coarse fraction (>250 um) and foraminifers are always very rare.

Figure 17. Sedimentological features of Core 37, Hole 1202D.
Figure 18. Sedimentological features of Core 38, Hole 1202D.

Core 39 (355.30 - 363.27 m)

Core 39 is predominated by hemipelagic mud (Fig. 19). In these fine sediments both benthic and planktic foraminifers are all very rare (<20 tests in 20 gram dry sediment), indicating a clear dilution effect due to high sedimentation rate. Mica flakes are observed in several very fine sand to silt layers.
Core 40 (364.9 - 373.42 mbsf)

Core 40 consists of predominant hemipelagic mud (Fig. 20). No turbidite structure is observed. Volcanic detritus can be found in core CC (37-42 cm), section 4 (39-44 cm) and 134-139 cm of section 2. Foraminifers are rare (<20 tests in 20 grams of dry sediments), but they are all in situ fauna.
Figure 20. Sedimentological features of Core 40, Hole 1202D.

Core 41 (374.6 – 383.37 mbsf)

Core 41 is composed of hemipelagic muds with rare very thin (<0.1 cm) very fine sand to silt layers (Fig. 21). No turbidite structure is observed. Volcanic detritus is found in upper part (4-6 cm of section 1) of the core. Microfossils are very rare (<10 tests in 20 grams of dry sediments).

Figure 21. Sedimentological features of Core 41, Hole 1202D.

Core 42 (384.2 - 392.95 mbsf)

Lithology of Core 42 (Fig. 22) is very similar to Core 41 (Fig. 21). However, foraminiferal tests in Core 42 are much abundant than in Core 41 (>100 tests/20 g dry sediments). These benthic foraminifers are all indigenous deep-water species.
Core 43 (393.9 - 399.19 m) and Core 44 (403.5 - 408.1 m)

Both Core 43 (Fig. 23) and Core 44 (Fig. 24) are predominated by hemipelagic muds. Some mica and slate chips are found in hemipelagic muds in which benthic foraminifers of well-preserved indigenous deep-marine species are generally rare to common. No turbidite feature is found.
Figure 23. Sedimentological features of Core 43, Hole 1202D.

Figure 23. Sedimentological features of Core 44, Hole 1202D.