

SITE 875 HOLE A CORE 1R

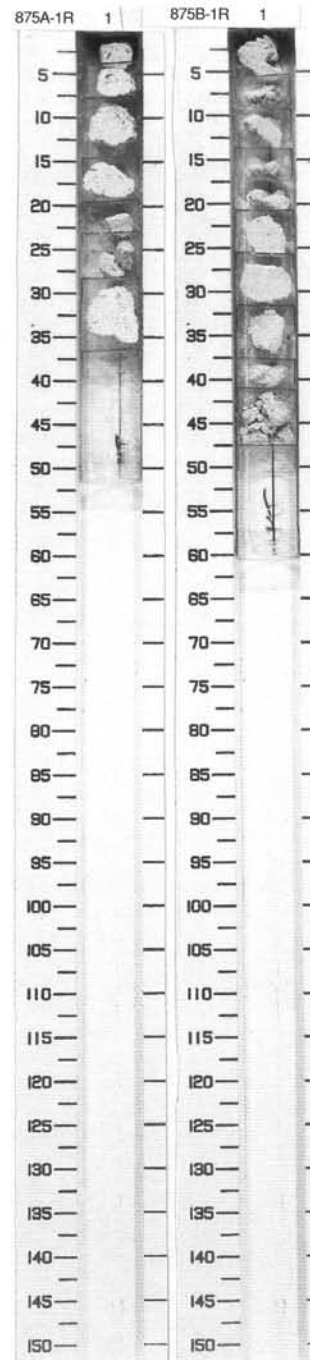
CORED 0.0 – 11.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
.1 .2 .3		1	Maastrichtian				10YR 8/2	<p><b>SKELETAL PACKSTONE</b></p> <p>Major Lithology: Section 1, 0–36 cm: SKELETAL PACKSTONE, white (10YR 8/2), coarse-grained with grains 0.7–1.2 mm in diameter; maximum size of grains is 9 mm. Packstone is unsorted, grains without preferential orientation and is composed of dasycladacean algae and red algae, which occur as debris as well as encrusting layers. Other components are foraminifers, rudist debris, rare coral debris, and thick-walled mollusk debris. Intraparticle voids are in part infilled by micrite. In some places, there are small crystals of drusy, sparry calcite. Porosity is leached, vuggy (about 10%); vugs are infilled by cement. Some of the vugs are stained yellowish by limonite. In Section 1, 17 cm, a yellow-stained interval is sprinkled with Fe/Mn micronodules. In Section 1, 0–3 cm, there is a fragment of calcisponge.</p> <p>General Description: Rollers: Section 1, 7–19 cm and 28–36 cm; Drilling pebbles: Section 1, 0–7 cm and 19–28 cm.</p>

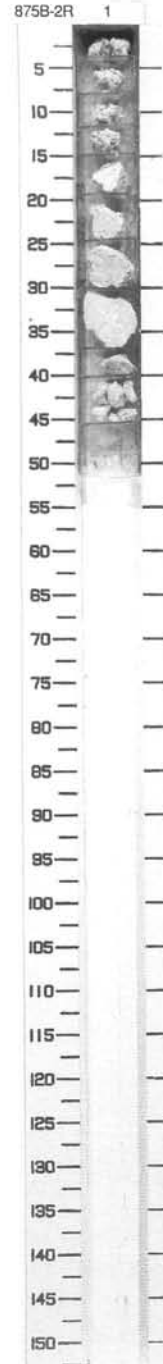
SITE 875 HOLE B CORE 1R

CORED 0.0 – 11.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
.1 .2 .3 .4		1	Maastrichtian				10YR 8/2	<p><b>SKELETAL GRAINSTONE</b></p> <p>Major Lithology: The entire section (all 9 pieces) consists of white (10YR 8/2), very friable SKELETAL GRAINSTONE. Skeletal components include common large benthic foraminifers and bivalve (rudist) fragments, many red algae, especially rhodoliths (few; 2 cm diameter), and trace amounts of coral fragments. There is very little intergranular cement. Porosity is 15%, mostly solution-enlarged interparticle, solution-enlarged intraparticle, and vuggy. Rare vugs and intraparticle pores have a lining of yellow-brown (phosphate?) with black dendritic grains (manganese?). Rock fabric is leached (chalkified?). Grain size ranges from coarse (0.5–1.0 mm) to very coarse (1.0–2.0 mm) sand. Grains are relatively well sorted. Some of the grains are worn. At the top of the core, there is a piece of coral encrusted by red algae. The coral was leached out and the void partially filled by skeletal debris and stained by limonite with a few manganese micronodules.</p> <p>General Description: Rollers: Section 1, 0–13 cm and 20–40 cm; Drilling pebbles: Section 1, 13–20 cm and 40–47 cm. Thin section samples: none.</p>



Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
.1		1	Maastrichtian				10YR 8/2	<p><b>SKELETAL GRAINSTONE</b></p> <p>Major Lithology: Section 1, 0-45 cm, is comprised of white (10YR 8/2), very friable SKELETAL GRAINSTONE (9 pieces). Skeletal components include common large benthic foraminifers and bivalve fragments. There are also a few rudist fragments, each nearly 1 cm-long (Section 1, 40-45 cm), many red algae, and trace amounts of coral fragments. Porosity is 15%, mostly solution-enlarged interparticle, intraparticle, and microvuggy. Very little calcite cement. Grain size is coarse to very coarse sand, which is relatively well sorted.</p> <p>General Description: Rollers: Section 1, 24-37 cm; Drilling pebbles: Section 1, 0-24 cm and 37-45 cm. Thin section samples: none.</p>
.2								
.3								
.4								



875A-1R CORED 0.0 - 11.2 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
.1		1	Maastrichtian							10YR 8/2
.2										
.3										
.4										

875B-1R CORED 0.0 - 11.2 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
.1		1	Maastrichtian							10YR 8/2
.2										
.3										
.4										

875B-2R CORED 11.2-20.7 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
.1		1	Maastrichtian							10YR 8/2
.2										
.3										
.4										

## SITE 875 HOLE B CORE 3R

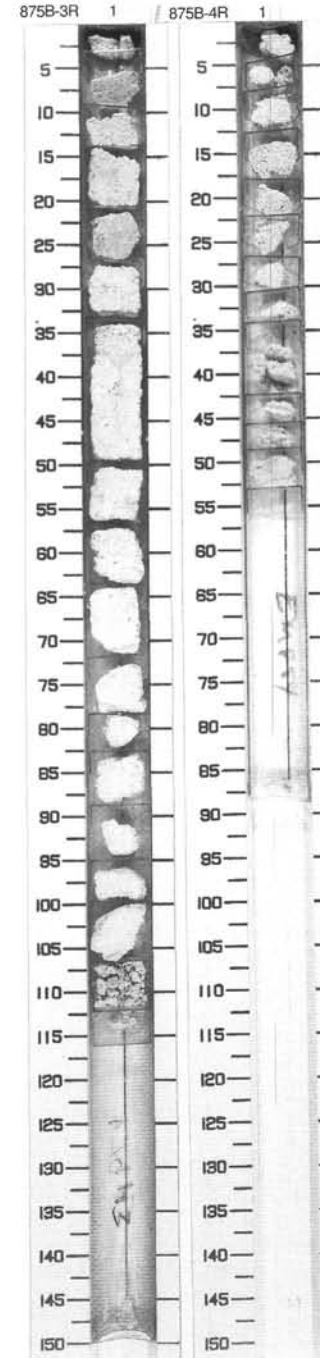
CORED 20.7 - 30.3 mbsf





Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0 1 2 3 4 5		1	Maastrichtian			T	10YR 8/2	<p><b>SKELETAL GRAINSTONE</b> Major Lithology: Section 1, 0–116 cm, is comprised of white (10YR 8/2), very friable, very coarse-grained to granular SKELETAL GRAINSTONE (18 pieces). Components include abundant bivalve (rudist) fragments, common red algae, and many large benthic foraminifers. Rudist (radiolitid) fragments are observed; they are up to 3.0 cm-long, 2.5 cm-wide (in Section 1, 3–9 cm) and 2 cm across (in Section 1, 107–112 cm). There is very little intergranular cement.</p> <p>General Description: Cylinders: Section 1, 14–78 cm; Rollers: Section 1, 78–107 cm; Drilling pebbles: Section 1, 0–14 cm and 107–116 cm. Thin section sample: Section 1, 65–67 cm.</p>

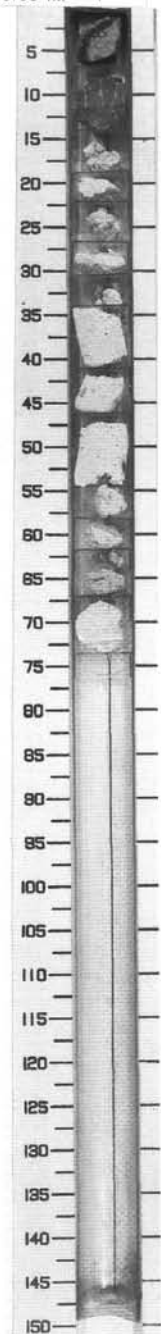
## SITE 875 HOLE B CORE 4R

CORED 30.3 – 40.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0 0.1 0.2 0.3 0.4 0.5		1	Maastrichtian				10YR 8/2	<p><b>SKELETAL GRAINSTONE</b> Major Lithology: Section 1, 0–53 cm, is comprised of white (10YR 8/2), very friable SKELETAL GRAINSTONE. Components include common rudist fragments and large benthic foraminifers, and many red algae. Grain size is primarily coarse sand with some very coarse sand, all of which is relatively well sorted. Porosity is 15%, mostly solution-enlarged interparticle and microvuggy. There is very little intergranular calcite cement.</p> <p>General Description: Rollers: Section 1, 12–17 cm; Drilling pebbles: Section 1, 0–12 cm and 17–53 cm. Thin section samples: none.</p>



Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0.5		1	Maastrichtian	  		T T T	5YR 6/6 to 10YR 8/2	<p><b>FORAMINIFER LIMESTONE, MANGANESE CRUST AND MANGANIFEROUS AND PHOSPHATIC SKELETAL GRAINSTONE</b></p> <p>Major Lithologies:                      Section 1, 0-7 cm: FORAMINIFER LIMESTONE, MANGANESE CRUST AND MANGANIFEROUS AND PHOSPHATIC SKELETAL GRAINSTONE. The lower 60% of this sample is a reddish-brown (5YR 6/6) MANGANIFEROUS AND PHOSPHATIC SKELETAL GRAINSTONE. This is overlain by a 1 cm-thick, black (N2) MANGANESE CRUST, which is overlain by white (10YR 8/2), light gray (10YR 7/2), and very pale brown (10YR 7/4) FORAMINIFER LIMESTONE. Dendritic "pillars" of manganese grow outward from the central manganese crust. Pelagic carbonate resides in space between manganese "pillars". Numerous foraminifers are stained reddish yellow by phosphate (?). Manganese "pillars" also cross-cut individual foraminifer tests. The SKELETAL GRAINSTONE is heavily phosphatized and slightly leached. Components include abundant bivalve fragments, common large benthic foraminifers, rare red algae, and trace amounts of calcisponge (?). Many internal cavities of the grainstone are filled with pelagic carbonate. Porosity is 3%, mostly interparticle, intraparticle, and microvuggy. Calcite cement is limited (few); mainly PB3C. Manganese grains are common in the grainstone. Section 1, 7-14 cm, is comprised of FORAMINIFER LIMESTONE, MANGANESE CRUST, AND MANGANIFEROUS AND PHOSPHATIC SKELETAL GRAINSTONE. Spectacular columnar structures of manganese ("stromatolites": 1-1.5 cm-wide and 3 cm-tall). Intercolumnar space is filled with white (10YR 8/2) FORAMINIFER LIMESTONE. Manganese dendrites cross-cut foraminifers. Faint hemispheric banding can be seen within individual "stromatolite" heads. Banding is caused by phosphatization of distinct manganese horizons. Individual manganese columns originate from the same 5 mm-thick manganese crust. This crust overlies MANGANIFEROUS AND PHOSPHATIC SKELETAL GRAINSTONE. Skeletal grainstone is multicolored: white (10YR 8/2), very pale brown (10YR 7/3), and reddish yellow (5YR 6/6). Components include abundant rudist fragments, common large benthic foraminifers, and trace red algae. Porosity is 5%, mostly interparticle, intraparticle, and vuggy. Calcite cement is rare. Most pores contain black manganese grains. Section 1, 14-73 cm, is comprised of white (10YR 8/2), friable, SKELETAL GRAINSTONE. The following skeletal components are present: abundant bivalve (rudist) fragments, many red algae fragments, and few large benthic foraminifers. Grain size is mostly coarse sand (0.5-1.0 mm). Porosity (10%-15%) is mostly interparticle, with a few molds of bivalves. Several skeletal grains are stained brown (phosphate?) within Section 1, 20-30 cm. There is very little pore-filling calcite cement.</p> <p>General Description:                      Cylinders: Section 1, 7-14 cm and 34-54 cm; Rollers: Section 1, 0-7 cm; Drilling pebbles: Section 1, 14-34 cm and 54-73 cm. Thin section samples: Section 1, 0-2 cm, 4-6 cm, 8-9 cm and 34-36 cm.</p>
							10YR 8/2	



875B-3R CORED 20.7-30.3 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1		1	Maastrichtian	B	B	F/P			T	10YR 8/2

875B-4R CORED 30.3-40.0 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1		1	Maastrichtian	B	B	C/M				10YR 8/2
2										
3										
4										
5										

875C-1M CORED 0.0 - 9.5 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
0.1		1	Maastrichtian	B	B	F/P				8Y 6/6 to 10YR 8/2
0.2										
0.3										
0.4										
0.5										
0.6										
0.7										

SITE 875 HOLE C CORE 2M

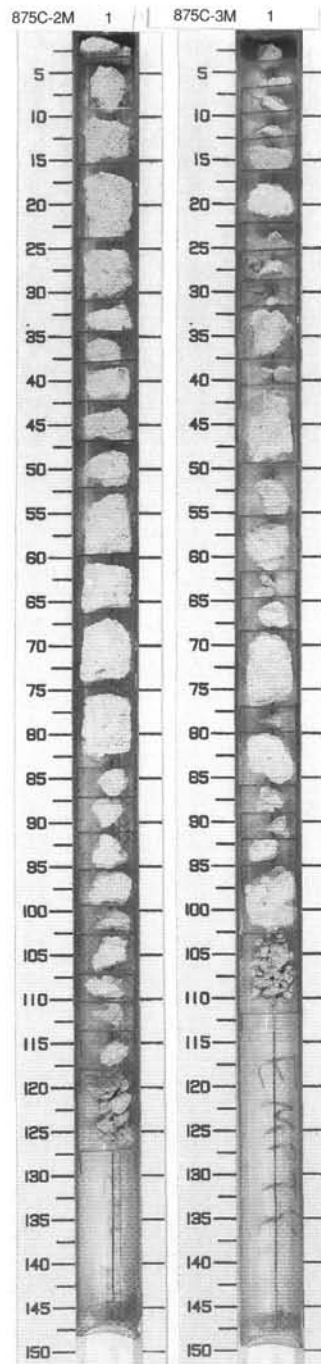
CORED 9.5-17.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0-17.5		1	Maastrichtian			T	10YR 8/2	<p><b>SKELETAL GRAINSTONE</b></p> <p>Major Lithology: Section 1, 0-127 cm, is comprised of white (10YR 8/2), very friable SKELETAL GRAINSTONE, with abundant bivalve (rudist) fragments; some of the fragments are up to 2.5 mm-long (Section 1, 15-23 cm), some have been bored (Section 1, 66-74 cm). Other components include common red algae, many large benthic foraminifers, and trace coral fragments; rare algae are 7 mm across (in Section 1, 60-66 cm). Grain size ranges from coarse sand to granular; grains are moderately sorted. Porosity is 15%, mostly solution enlarged interparticle, vuggy, and rare moldic. There is very little intergranular cement. Brown (phosphate?) grains line the intergranular pore space between large benthic foraminifers in Section 1, 23-30 cm. One large (3 cm-long by 3.5 cm-wide) radiolite mold is observed on the back-side of Section 1, 74-83 cm. One very well-cemented (coarse spar; neomorphosed bivalve shell wall?) drilling pebble is found in Section 1, 118-127 cm. This pebble has abundant worm tubes, some up to 1 cm-long.</p> <p>General Description: Cylinders: Section 1, 9-30 cm and 52-83 cm; Rollers: Section 1, 30-52 cm and 83-99 cm; Drilling pebbles: Section 1, 0-9 cm and 99-127 cm. Thin section sample: Section 1, 61-63 cm.</p>

SITE 875 HOLE C CORE 3M

CORED 17.5-27.1 mbsf

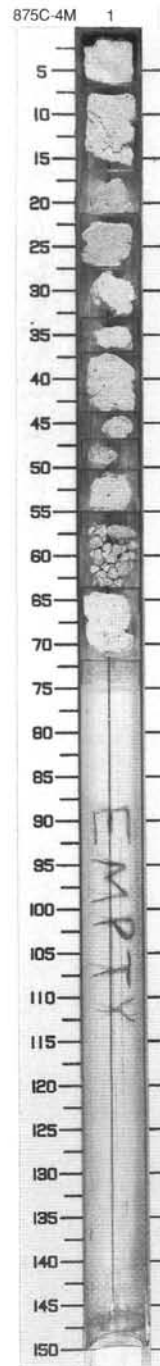
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0-27.1		1	Maastrichtian				10YR 8/2	<p><b>SKELETAL GRAINSTONE</b></p> <p>Major Lithology: Section 1, 0-112 cm, is comprised of white (10YR 8/2), very friable, SKELETAL GRAINSTONE, with common bivalve (rudist) fragments, many large benthic foraminifers, and trace coral fragments. Brown (phosphate?) stains are observed in Section 1, 31-37 cm, 40-49 cm, and 68-76 cm. Grain size varies from coarse to very coarse sand; grains are well sorted. One 3 mm-long burrow (in Section 1, 95-102 cm) is filled with phosphatized(?) skeletal allochems. Porosity is 15%, mostly solution enlarged interparticle and moldic (few).</p> <p>General Description: Cylinders: Section 1, 40-49 cm, 68-76 cm, and 95-102 cm; Rollers: Section 1, 16-21 cm, 31-37 cm, 49-61 cm, and 80-85 cm; Drilling Pebbles: Section 1, 0-16 cm, 21-31 cm, 37-40 cm, 61-68 cm, 76-80 cm, 76-80 cm, 85-95 cm, and 102-112 cm. Thin section sample: none.</p>



SITE 875 HOLE C CORE 4M

CORED 27.1 – 36.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
						T		<b>SKELETAL GRAINSTONE, RUDSTONE, AND FLOATSTONE</b>
							↑	
							10YR 8/6	Major Lithology: Section 1, 0–71 cm, is comprised of very pale brown (10YR 8/3) and white (10YR 8/2) SKELETAL GRAINSTONE, with coarser intervals of RUDSTONE (in Section 1, 26–33 cm and 50–72 cm) and FLOATSTONE (Section 1, 33–44 cm). The top of this core (Section 1, 0–6 cm) is stained yellow (10YR 8/6). The grainstone and matrix are moderately sorted, coarse sand size. Coarser components that could be identified are coralline algae (many), large benthic foraminifers (few to many), radiolitid rudists (rare to common); caprinid rudists (rare), other bivalves (rare), and corals (few). Porosity is high throughout the core; the average estimated porosity is 25%. Interparticle porosity is 15%; the porosity declines from 25% at the top to 10% below Section 1, 46 cm. Moldic porosity averages 10%; it increases from 5% at the top to 15% below Section 1, 46 cm. Visible cement is rare; crusts of coarsely crystalline bladed calcite occur in molds (PB5C).
							10YR 8/3 to 10YR 8/2	General Description: Cylinders: Section 1, 0–16 cm, 37–43 cm and 63–71 cm; Rollers: Section 1, 16–37 cm and 43–55 cm; Drilling pebbles: Section 1, 55–63 cm. Thin section sample: Section 1, 2–5 cm.
.5								





875C-2M CORED 9.5-17.5 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1		1	Maastrichtian	B	B	F/P			T	10YR 8/2

875C-3M CORED 17.5 - 27.1 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1		1	Maastrichtian	B	B	T/P				10YR 8/2

875C-4M CORED 27.1 - 36.8 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1		1	Maastrichtian	B	B	C/M			T	10YR 8/3 to 10YR 8/2
										10YR 8/6

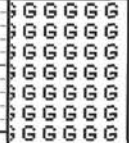

## SITE 875 HOLE C CORE 5M CORED 36.8 – 46.4 mbsf

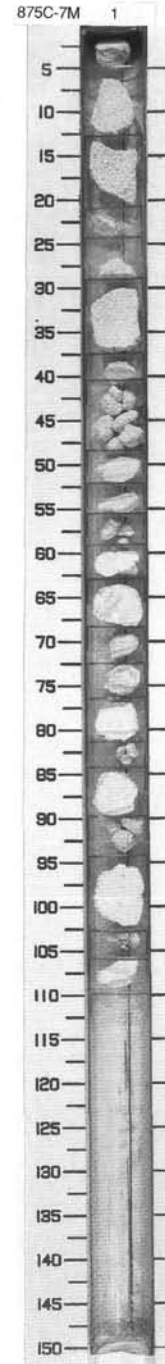
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0-12		1	Maastrichtian			T	10YR 8/2	<p><b>SKELETAL GRAINSTONE</b></p> <p>Major Lithology: Section 1, 0–112 cm, is comprised of white (10YR 8/2), very friable, poorly-cemented SKELETAL GRAINSTONE, with common bivalve (rudist) fragments, many red algae, rare large benthic foraminifers, and trace coral fragments. Trace geopetal fill is observed in molds. Grain size is very coarse sand, which is well sorted. Porosity is 15%, mostly interparticle and moldic. Calcite cement (as crusts) is rare. Section 2, 0–15 cm, is comprised of white (10YR 8/2), very friable, poorly cemented SKELETAL GRAINSTONE. This is the same as in Section 1.</p> <p>General Description: Cylinders: Section 1, 10–58 cm and 87–96 cm, Section 2, 0–9 cm; Rollers: Section 1, 0–10 cm, 58–63 cm, 70–82 cm, 96–112 cm, and 119–150 cm, Section 2, 9–15 cm; Drilling pebbles: Section 1, 63–70 cm, 82–87 cm, 112–119 cm. Thin section sample: Section 1, 131–136 cm.</p>

## SITE 875 HOLE C CORE 6M CORED 46.4 – 56.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0-15		1	Maastrichtian			T	10YR 8/2	<p><b>SKELETAL GRAINSTONE</b></p> <p>Major Lithology: Section 1, 0–150 cm, is comprised of white (10YR 8/2), very friable, poorly-cemented SKELETAL GRAINSTONE, with many bivalve (rudist) fragments (especially, 3 cm-wide by 3.5 cm-long radiolitids), few red algae and corals, rare rhodoliths (about 2 cm in diameter) and rare large benthic foraminifers. Trace geopetal fill is found in molds. There are rare occurrences of unidentified carbonate grains that have tube-like projections into pore spaces (sort of a "bed of nails" appearance). Individual skeletal grains are often difficult to identify. Grain size is very coarse sand, which is well sorted. Porosity is 15%, mostly interparticle and moldic (few). There is very little calcite cement.</p> <p>General Description: Cylinders: Section 1, 12–26 cm, 61–70 cm, 93–100 cm, 107–113 cm, and 117–138 cm; Rollers: Section 1, 0–12 cm, 26–40 cm, 51–56 cm, 84–90 cm, and 138–150 cm; Drilling Pebbles: Section 1, 40–51 cm, 56–61 cm, 70–84 cm, 90–93 cm, 100–107 cm, and 113–117 cm. Thin section sample: Section 1, 93–94 cm.</p>



Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0-110		1				T	10YR 8/2	<p><b>GRAINSTONE</b></p> <p>Major Lithology: Section 1, 0–110 cm, is comprised of white (10YR 8/2), coarse-grained (0.6 mm), well-sorted, slightly friable GRAINSTONE. The grainstone is composed of foraminifers, fragments of red algae (up to 6 mm in size; below Section 1, 60 cm), rare coral debris and a few worn clasts of mollusk shell (1 cm diameter). Patchy cement of drusy sparry calcite is brecciated in places and incorporated as sizeable fragments in the grainstone (possibly drilling disturbance). Most sand-size grains are unidentifiable. Interparticle porosity is high (15%) in Section 1, 0–84 cm; porosity decreases in Section 1, 84–110 cm to about 5%. Grain size also decreases below Section 1, 84 cm to an average of about 0.5 mm, with a few tabulate fragments, 6 mm in length.</p> <p>General Description: Cylinders: Section 1, 4–20 cm, 28–37 cm, and 94–102 cm; Rollers: Section 1, 48–55 cm, 58–68 cm, 76–81 cm, and 84–89 cm; Drilling Pebbles: Section 1, 0–4 cm, 20–28 cm, 37–48 cm, 55–58 cm, 68–76 cm, 81–84 cm, 89–94 cm, and 102–110 cm. Thin section sample: Section 1, 29–30 cm.</p>
middle Maastrichtian								



875C-5M CORED 36.8 - 46.4 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
		1	Maastrichtian						T	10YR 8/2
2				B	F/M	C/M				

875C-6M CORED 46.4 - 56.0 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
		1	Maastrichtian						T	10YR 8/2
				B	F/M	C/M				

875C-7M CORED 56.0 - 65.7 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
		1		<i>G. gansseri</i>	F/P	Maastrichtian			T	10YR 8/2

middle Maastrichtian F/P

SITE 875 HOLE C CORE 8M

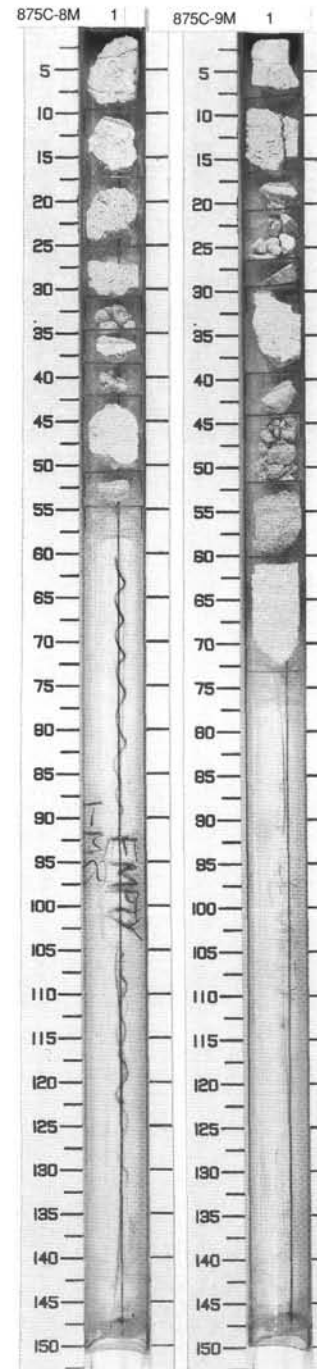
CORED 65.7 – 75.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0-55		1	Maastrichtian			T	10YR 8/2	<p><b>GRAINSTONE</b></p> <p>Major Lithology: Section 1, 0–55 cm, is comprised of white (10YR 8/2), coarse-grained (1.2 mm) GRAINSTONE, with large benthic foraminifers and red algae debris. Less common are fragments of corals up to 2 cm in size. Some of the corals are coated by encrusting red algae. Sand-size to gravel-size fragments of rudists are rare. Grains are loosely packed. Coral debris and flakey, unidentified fossil debris in Section 1, 10–30 cm. Porosity is 3%–10% and consists of interparticle, moldic, and vuggy types. Grainstone is moderately sorted, coarse-grained, with 3% porosity in Section 1, 42–55 cm. The grainstone composition lacks corals, but a few rudist fragments are present.</p> <p>General Description: Cylinders: Section 1, 0–10 cm and 42–51 cm; Rollers: Section 1, 10–31 cm; Drilling Pebbles: Section 1, 31–42 cm and 51–55 cm. Thin section sample: Section 1, 18–19 cm.</p>

SITE 875 HOLE C CORE 9M

CORED 75.3 – 85.0 mbsf

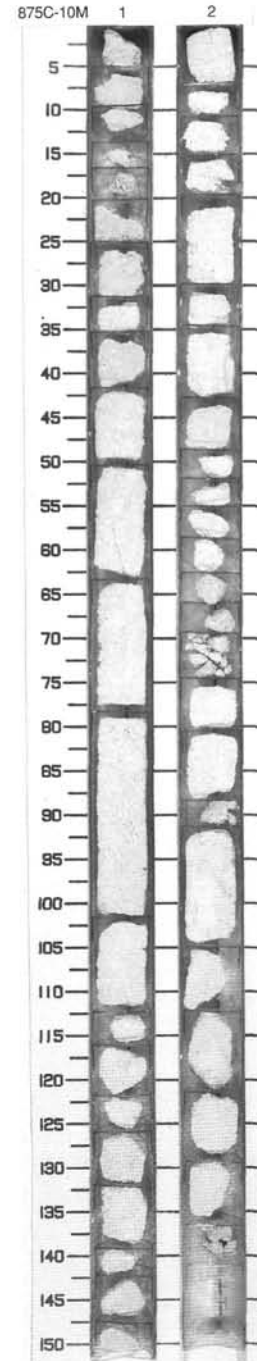
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0-4		1	Maastrichtian			T	10YR 8/2	<p><b>SKELETAL GRAINSTONE and PACKSTONE</b></p> <p>Major Lithologies: Section 1, 0–4 cm, is comprised of white (10YR 8/2), SKELETAL GRAINSTONE, coarse-grained (bimodal grain size of 1.2 mm and 0.2 mm). Skeletal grains, chalky and difficult to identify, include few small bivalve molds, few rudist debris, few red algae, and trace coral fragments; dasycladacean algal debris is rare. Skeletal grains are cemented by drusy sparry calcite crusts. Interparticle and leached porosity is high (15%). Section 1, 4–38 cm, is comprised of PACKSTONE; a sharp, planar contact separates the overlying skeletal grainstone from the underlying packstone. Fragments of corals and caprinid rudists, 1–2 cm in size, are enclosed in the packstone. Other constituents of the packstone are many small bivalve molds and algae debris and a few dasycladacean algae. The matrix is white micrite, patchily distributed. Vuggy and interparticle porosity is high (15%). Section 1, 38–73 cm, is comprised of white (10YR 8/2), medium-grained, GRAINSTONE, with skeletal grains as in Section 1, 0–4 cm. The matrix is micrite. There are several small burrows, which are unfilled and open, and few rhodoliths up to 6 mm in diameter in Section 1, 60–73 cm. Porosity is vuggy, interparticle (7%–15%).</p> <p>General Description: Cylinders: Section 1, 0–16 cm, 29–39 cm, and 51–73 cm; Rollers: Section 1, 16–20 cm; Drilling Pebbles: Section 1, 20–29 cm and 39–51 cm. Thin section samples: Section 1, 0–7 cm and 29–31 cm.</p>



## SITE 875 HOLE C CORE 10M

CORED 85.0 - 94.7 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
1		1	Maastrichtian			T	10YR 8/2	<p><b>SKELETAL GRAINSTONE</b></p> <p>Major Lithology: Section 1, 0–150 cm, is comprised of white (10YR 8/2), SKELETAL GRAINSTONE, with coarse (Section 1, 0–35 cm and 41–132 cm), medium (Section 1, 35–41 cm), and very coarse (Section 1, 132–139 cm) sand size. Sorting is moderate, grains are subrounded and most are unrecognizable without thin section samples. Visible constituents include rare to many large benthic foraminifers and red algal fragments (corallines); bivalves are lacking in Section 1, 0–25 cm, and rare to many in Section 1, 25–152 cm. The bivalves include a few radiolitid fragments and very few caprinid fragments. Echinoderms (including spines), gastropods, coral fragments, and squamariacean red algae are rare to very rare. Porosity (20% to 35%; average 30%) is interparticle (cr sms BP) (25%) and moldic (5%). Intraparticle porosity is probably present, but is not evident with the stereomicroscope. Calcite cement, visible throughout, does not exceed about 5%. Interparticle pores are slightly reduced by medium-crystalline, bladed crusts, or equant crystals (PB4C; PE4). Echinoderm fragments are overgrown syntaxially by medium to very coarsely crystalline calcite (PE4-6Om). Molds contain very thin crusts of finely crystalline calcite (PE3C). Section 2, 0–141 cm, is comprised of white (10YR 8/2), SKELETAL GRAINSTONE, coarse sand size; moderately sorted. Section 2, 121–129 cm is SKELETAL PACKSTONE, with &lt;5% mud. Grains are largely unrecognizable. Constituent grains include: few to many coralline algal fragments; absent to common large benthic foraminifers (fewer than in Section 1); and rare to many bivalves (radiolites and very rare caprinids). Minor components include: corals, calcisponges, echinoderms, gastropods, encrusting squamariacean red algae, codiacean algae, and encrusting foraminifers. A small rhodolith occurs at Section 2, 102 cm. Porosity averages 30% throughout. Interparticle porosity (BP) is dominant, averaging 20%; however, it is 14% in Section 2, 80–141 cm, versus 20% in Section 2, 0–80 cm. Moldic porosity averages 10%, but is 16% in Section 2, 74–105 cm, and 7% elsewhere. Cement is minor except in Section 2, 129–136 cm, where it may reach 10%, mostly as equant, euhedral overgrowths (PE5Om). Cement in inter- and intragranular porosity (BP, WP) is finely to medium crystalline, bladed calcite crusts (PB34C).</p> <p>General Description: Cylinders: Section 1, 25–32 cm, 35–112 cm, and 126–139 cm, Section 2, 0–6 cm, 19–29 cm, 34–48 cm, 80–88 cm, and 91–136 cm; Rollers: Section 1, 0–9 cm, 20–25 cm, 32–35 cm, 112–126 cm, and 139–152 cm, Section 2, 6–19 cm, 29–34 cm, and 74–80 cm; Drilling Pebbles: Section 1, 9–20 cm, Section 2, 48–74 cm, 88–91 cm, and 136–141 cm. Thin section samples: Section 1, 50–52 cm and 122–125 cm, Section 2, 94–96 cm.</p>
2		2				T		
						T		



875C-8M

CORED 65.7 – 75.3 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
5m		1	Maastrichtian						T	10YR 8/2
				B	R/MC/M					

875C-9M

CORED 75.3–85.0 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
5m		1	Maastrichtian						T	10YR 8/2
				B	R/M	F/M				

875C-10M

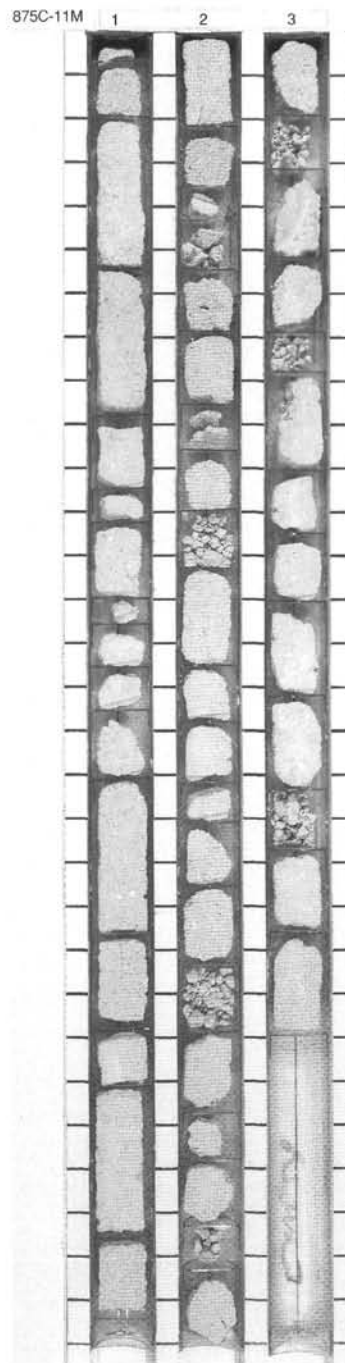
CORED 85.0–94.7 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1m		1	Maastrichtian						T	10YR 8/2
2m		2	Maastrichtian	B	R/MC/M				T	10YR 8/2
									T	10YR 8/2

## SITE 875 HOLE C CORE 11M

CORED 94.7 - 104.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
1		1	Maastrichtian			T	10YR 8/2	<p><b>SKELETAL GRAINSTONE</b></p> <p>Major Lithology:            Section 1, 0-147 cm, is comprised of white (10YR 8/2), very friable, SKELETAL GRAINSTONE, with abundant large benthic foraminifers, common bivalve (rudist) fragments, common red algae (especially rhodoliths in Section 1, 56-64 cm, 69-72 cm, 85-103 cm, and 103-114 cm), and many corals. Grain size is very coarse sand to granular; moderately sorted. Porosity (15%) is mostly interparticle with a few molds. Section 2, 0-150 cm is comprised of white (10YR 8/2), friable, moderately sorted SKELETAL GRAINSTONE. The grainstone is the same as in Section 1. There are (&lt;5 mm) manganese coatings on grains in Section 2, 22-27 cm, and a radiolite fragment (2 cm-long by 0.5 cm-wide) in Section 2, 27-34 cm; algal fragments increase in abundance towards the base of this section. Section 3, 0-115 cm, is comprised of SKELETAL GRAINSTONE, which is similar to Sections 1 and 2, except for a small decrease in grain size. The texture of Section 3 is coarse sand to very coarse sand; there are traces of brown (phosphate?) staining at Section 3, 0-9 cm and 76-86 cm.</p> <p>General Description:            Cylinders: Section 1, 9-52 cm, 56-64 cm, and 85-147 cm, Section 2, 0-17 cm, 27-42 cm, 61-86 cm, 98-107 cm, and 114-122 cm, Section 3, 0-9 cm, 15-34 cm, 39-86 cm, and 93-115 cm; Rollers: Section 1, 3-9 cm, 52-56 cm, and 64-85 cm, Section 2, 42-54 cm, 86-98 cm, 122-136 cm, and 141-150 cm; Drilling Pebbles: Section 1, 0-3 cm, Section 2, 17-27 cm, 54-61 cm, 107-114 cm, and 136-141 cm, Section 3, 9-15 cm, 34-39 cm, and 86-93 cm. Thin section samples: Section 1, 68-71 cm and 121-124 cm, Section 2, 61-64 cm, Section 3, 49-54 cm and 93-97 cm.</p>
2		2				T		
3		3				T		
4			T					







## SITE 875 HOLE C CORE 13M

CORED 113.9 - 123.6 mbsf

875C-13M 1 2

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color
0-2		1	Maastrichtian			T	10YR 8/3
2-2.5		2				T	10YR 7/3

## DESCRIPTION

## FORAMINIFER GRAINSTONE, FORAMINIFER PACKSTONE and LITHOCLAST RUDSTONE

## Major Lithologies:

Section 1, 0–66 cm, is comprised of very pale brown (10YR 8/3) FORAMINIFER PACKSTONE to GRAINSTONE. Components include abundant sulcoperculine, orbitoide, and large pseudorbitoide foraminifera - some to 3 mm in diameter. Miliolids are absent, there are a few other small benthic foraminifera. Thin bivalve molds are few to common (rudist shell fragments are few). Red algal fragments are common to abundant; peloids are locally common to absent. Intraclasts are rare; one is ~1 cm in size. Section 1, 32–37 cm has one 2 mm rhodolith. Grain size is medium to coarse sand. Some mud matrix is closer to the top (in Section 1, 0–27 cm); though this could be very fine cement. There is less matrix (or intergranular cement) in the lower portions of the interval. Porosity (5%) is solution enlarged moldic and vuggy towards the top; cement in pores is PB4C. In a few cm-wide, elongate domains, porosity is higher (10%–15%) and grains are coarser. Most grains throughout this interval appear to be coated with a translucent crust (it does not appear micritic, but crystal boundaries are not visible). Some of these crusts are PB34C and/or PE34C. Crusts are present regardless of matrix/intergranular cement presence or absence.

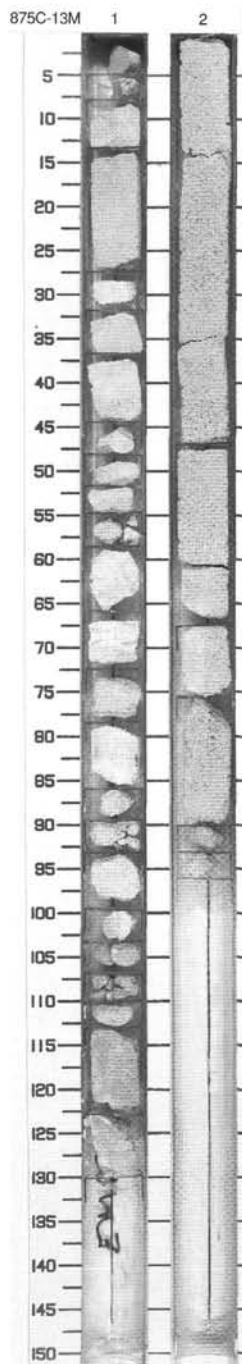
Section 1, 66–72 cm, is described below in two parts. The top 3 cm of this piece (Section 1, 66–69 cm) is a LITHOCLAST RUDSTONE with a wackestone to packstone matrix. Lithoclasts are mostly white (10YR 8/2) to pale brown (10YR 7/3), angular to subangular (0.5–1.5 cm), fine-grained wackestone; some may be mudstone. Some lenticular shapes may be deformed soft lithoclasts, intraclasts, or discolored bands in the matrix. Many of the lithoclasts are laminated. The rudstone itself is laminated; laminae of the matrix are draped around the lithoclasts. The porosity (10%–15%) of the lithoclasts is mostly moldic and microvuggy; bioclasts are not identified. The matrix varies from wackestone to packstone; grains in the matrix are coarser than grains in the lithoclasts, but most are still

not identifiable. There are few benthic foraminifera and few rudist fragments. Matrix porosity is also 5%–10%, moldic and microvuggy. Many bioclasts in the matrix are replaced by amber calcite, the matrix also contains some small (mm-scale) angular lithoclasts. Similar amber cement fills "fenestrae" at some of the clasts-matrix interfaces. The underlying lithology (Section 1, 69–72 cm), is a coarse, large-benthic FORAMINIFER GRAINSTONE. Foraminifera are coated with and cemented by thin bladed? crusts. Porosity (30%–40%) may be intergranular or enlarged moldic (A few cement crusts appear to be lacking original bioclast, i.e. they surround molds). The contact between lithologies is a well-cemented packstone, fine to medium sand. Grains are not identifiable - most are highly recrystallized. There is a pink stain in the contact, throughout the grainstone, and in some of the rudstone. Section 1, 72–78 cm, has the same GRAINSTONE lithology as in Section 1, 66–72 cm; it also contains one 2-mm rhodolith fragment and a 1-cm mollusk. Section 1, 78–86 cm, is comprised of SKELETAL PACKSTONE, with abundant rudist fragments and other bivalves, common large benthic foraminifera and fragmented red algae, and few echinoid spines; milioid foraminifera are rare. Porosity (5%–10%) is intergranular and moldic enlarged. There is some orange staining in a few molds. Section 1, 86–100 cm, is comprised of FORAMINIFER GRAINSTONE, with a similar composition to Section 1, 78–86 cm, but with higher porosity and more large benthic foraminifera. Thin calcite crusts form most of the cement. Porosity (10%–20%) is intergranular and solution-enlarged moldic. Some orange staining in the molds. Section 1, 100–123 cm is comprised of very pale brown (10YR 7/3) GRAINSTONE, with common large benthic foraminifera (including Sulcoperculina, orbitoide, and other benthics), many red algae, few radiolite fragments, and other bivalves (mostly moldic). Porosity (20%) is moldic, intergranular, and vuggy. Some tubular pores (2–4 mm holes) of uncertain origin are observed; some pores have a ridged interior (gastropod mold?). Over half of the grains (<0.25 mm) were not identified. Cement is clear, intergrown crusts; crystal boundaries are not visible. Some bladed crusts are visible in a few molds. Section 1, 123–130 cm, is comprised of FORAMINIFER PACKSTONE, with abundant large benthic foraminifera, common radiolite fragments and other bivalves, common red algae, and trace coral(?); probable peloids are common. Porosity (5%) is from bivalve molds and vugs. Cements are PB45, where visible. There is an uneven contact with a lithology that is "grainier" in appearance. Components are the same, but porosity (10%) is vuggy; instead of a "muddy" looking matrix, there is clear intergranular cement (crystal boundaries are not visible). Although the contact is sharp, some grains do span both lithologies. The "cemented lithology" protrudes into the packstone as 1 cm-tongues in a few places. (Could be diagenetic effect?) Section 2, 0–96 cm, is comprised of very pale brown (10YR 7/3) FORAMINIFER GRAINSTONE. Large benthic foraminifera are abundant; many are fractured into 2 or 3 adjacent pieces. Rudist and other bivalve fragments are common (many may be moldic); there are many red algal fragments, probably

many peloids, and trace corals. Porosity (30%–40%) is interparticle, vuggy, and moldic. The degree of intergranular cementation varies; crystal boundaries are not visible. Bladed crusts are present in places; they vary from fine to coarse. A few unidentified carbonate (dissolve in HCl) grains are stained black and gray.

## General Description:

Cylinders: Section 1, 13–27 cm, 37–44 cm, 58–86 cm, 93–100 cm, and 113–130 cm, Section 2, 0–90 cm; Rollers: Section 1, 5–13 cm, 27–37 cm, 44–55 cm, 86–93 cm, and 110–113 cm; Drilling Pebbles: Section 1, 0–5 cm, 55–58 cm, 86–93 cm, and 100–110 cm, Section 2, 90–96 cm. Thin section samples: Section 1, 24–26 cm, 67–72 cm, and 125–129 cm, Section 2, 61–64 cm.



875C-11M

CORED 94.7 - 104.3 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1		1	Maastrichtian		<i>G. gansseri</i>	Maastrichtian			T	10YR 8/2
2		2							T	
3		3							T	
4				B	F/M	C/M			T	

875C-12M

CORED 104.3 - 113.9 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1		1	Maastrichtian						T	10YR 8/3 to 10YR 7/3
2		2							T	
				B	F/M	C/M			T	

875C-13M




CORED 113.9 - 123.6 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1		1	Maastrichtian		<i>G. gansseri</i>	Maastrichtian			T	10YR 8/3
2		2							T	
				B	F/M	C/M			T	
									T	10YR 7/3



875C-14M



CORED 123.6 – 126.6 mbsf

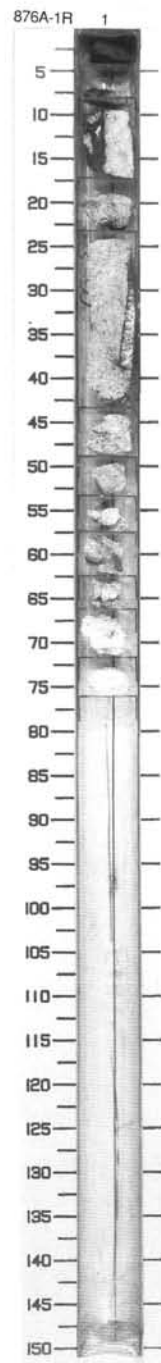
Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
		1	Maastrichtian				 		T	10YR 8/4
				B	R/P	F/P			T	10TR 8/3 TO 10YR 6/6
									T	

875C-15M HARD ROCK  
875C-16B NO RECOVERY

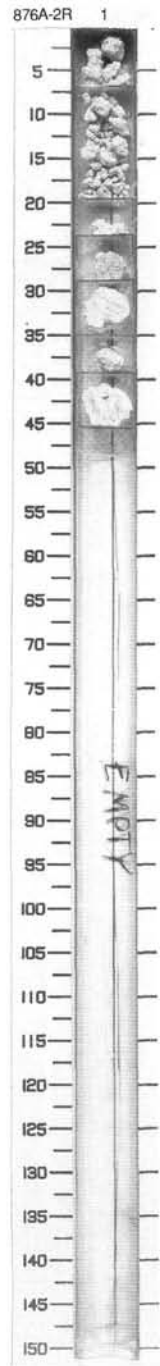
## SITE 876 HOLE A CORE 1R

CORED 0.0 – 14.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	
0-14.2		1	Maastrichtian	(Mn) 			10YR 7/6 To 10YR 8/4	<p>top, where it constitutes about 40% of the packstone, the matrix contains abundant planktonic foraminifers in a lime mud matrix (packstone texture). Both the percentage of matrix and abundance of foraminifers decrease downward. Foraminifer abundance decreases noticeably within Section 1, 8–16 cm, but they persist to Section 1, 72 cm. Foraminifers are both disseminated and clustered in large patches of matrix that may be burrows. Grain packing appears somewhat tighter below about Section 1, 38 cm; the matrix occupies all intergranular pore space to Section 1, 65 cm. Some of the apparent decrease in matrix below 65 cm may be selective dissolution of matrix. Porosity is negligible at the top of the interval. It increases from about 5% at Section 1, 25 cm to 20% at Section 1, 43 cm. Porosity is interparticle (BP) with a few molds; some of the BP at Section 1, 43 cm may be solution enlarged. The general etched appearance and heavy yellow stain suggests a solution cavity between pieces. Porosity lower in the interval varies from very low, to 20% at Section 1, 67–72 cm. Interparticle porosity (15%) is dominant, but may be solution enlarged. Planktonic foraminifers are selectively leached from within a large patch of matrix at Section 1, 46 cm. The yellow color of the matrix is inferred to be phosphate impregnation. It is pervasive in the matrix to Section 1, 48 cm and becomes gradually more patchy below. Few of the benthic bioclasts are replaced. Dendrites and black spots ("micronodules") of manganese are also patchily distributed throughout. A striking contact extends vertically from near the top of the piece at Section 1, 25 cm, to Section 1, 39 cm, where it abruptly becomes horizontal and passes out of the core. The contact is heavily manganese stained. It separates the yellow skeletal packstone ("host") from very pale brown (10YR 7/3) pelagic packstone, comparable to the matrix of the skeletal packstone, but lacking the yellow color (phosphate?). The pelagic packstone consists of closely packed planktonic foraminifers in mud matrix. Gray dendrites extend from the manganese crust at the contact, to one centimeter into the pelagic packstone. The vertical contact is sharp, but no truncated grains, encrustations, or unequivocal borings were noted. Section 1, 72–76 cm, is comprised of white (10YR 8/2), very coarse sand-sized SKELETAL PACKSTONE, with moderate sorting. The matrix content is very low. Grains are many fragments of coralline algae fragments, and very rare corals; most are unidentified. Porosity (20%) is approximately 15% interparticle and 5% moldic. A few patches of gray (manganese?) and yellow (phosphate?) stain occur. This piece appears to complete the gradual decrease in pelagic matrix noted above. No planktonic foraminifers were observed.</p> <p><b>DESCRIPTION</b></p> <p>MANGANESE CRUST, SKELETAL PACKSTONE WITH PELAGIC MATRIX and SKELETAL PACKSTONE</p> <p>Major Lithologies: Section 1, 0–8 cm, is a black (N2), MANGANESE CRUST, that is 3 cm-thick within pieces. (The underlying PACKSTONE is included in Section 1, 4–8 cm). The crust looks structureless, except for hairline cracks; one broken surface shows the alternation of 3 laminated intervals, 1–2 mm-thick, with 2 dense, botryoidal intervals (1.5 and 5 mm-thick). Botryoids or "digitate stromatolites" are submillimeter branches consisting of nested hemispheres. Total is ~ 1/3 of total crust thickness recovered; there may thus be multiple crusts. Section 1, 8–72 cm, is comprised of SKELETAL PACKSTONE WITH PELAGIC MATRIX. The color changes from mottled yellow at top (10YR 7/6; matrix mostly yellow; grains mostly white; dark gray and black dendrites and spots in both), to very pale brown (10YR 8/4) toward the base. Packstone is very coarse-sand size, poorly sorted. Maximum size is about 12 mm. Constituents are: coralline algal fragments (many to common); radiolite rudist fragments (common to few); large benthic foraminifers (many (top) to rare). Corals, bivalves, and rhodoliths are very rare components. At the</p> <p><b>General Description:</b> Cylinders: Section 1, 7–16 cm and 22–43 cm; Rollers: Section 1, 16–22 cm, 43–53 cm, 57–62 cm, and 66–76 cm; Drilling pebbles: Section 1, 0–7 cm, 53–57 cm, and 62–66 cm. Thin section samples: Section 1, 8–17 cm, 17–21 cm, 36–37 cm, 43–48 cm, and 71–76 cm.</p>



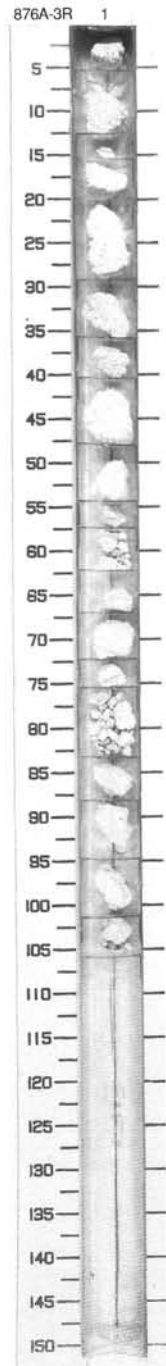
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0.1 0.2 0.3 0.4		1	Maastrichtian			T	10YR 8/2	<p><b>DESCRIPTION</b></p> <p>SKELETAL GRAINSTONE and SKELETAL RUDSTONE</p> <p>Major Lithologies:                      Section 1, 0–38 cm, is comprised of white (10YR 8/2), moderately sorted, friable, SKELETAL GRAINSTONE, very coarse grained; average grain size is 1.2 mm. Constituents include: abundant foraminifers, common red algae debris, few thin-walled mollusk shell molds, few dasycladacean algae, and few rudists (up to 20 mm in height). Porosity (~25%) is interparticle and moldic in variable proportions. Mold outlines are preserved by thick micrite envelopes. Moldic porosity is dominant, perhaps 20%, in Section 1, 0–6 cm and 28–45 cm. Intragranular drusy sparry calcite cement is sparse. In Section 1, 28–34 cm, a leached cavity is occupied by fungi or primitive foraminifers. Section 1, 38–45 cm, is comprised of SKELETAL RUDSTONE, coarse grained. Algae are preferentially stained grayish by Fe/Mn. Some of the algae seem to be in growth position. Dasycladacean algae debris and red algae encrustations are rare. Algae are up to 2.5 cm in length.</p> <p>General Description:                      Rollers: Section 1, 28–34 cm and 38–45 cm; Drilling pebbles: Section 1, 0–28 cm and 34–38 cm. Thin section sample: Section 1, 39–45 cm.</p>



SITE 876 HOLE A CORE 3R

CORED 23.7 – 33.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
	P P P P P	1	Maastrichtian	R	V V V V V	T	10YR 8/2	<p><b>SKELETAL PACKSTONE and GRAINSTONE</b></p> <p>Major Lithologies: Section 1, 0–19 cm, is comprised of white (10YR 8/2), SKELETAL PACKSTONE, coarse-grained (~1 mm in size). Constituents are: abundant unidentified grains, many red algae, few foraminifers, few tubiform microfossils, and few rudist shell debris (up to 8 mm-in-length). The packstone has a micritic matrix, with intraparticle porosity (3%). Section 1, 19–106 cm, is comprised of GRAINSTONE, coarse to very coarse. In Section 1, 40–45 cm, the grain size is &gt;2 mm (floatstone); it is composed of 20% mollusk shell (radiolite) debris. The grainstone is friable, and poorly sorted. Constituents are the same as in the packstone described above. A coral fragment (2 cm in length) occurs in Section 1, 94–101 cm; a radiolitid rudist fragment (~3 cm) is noted in Section 1, 101–106 cm. Algae are rare. There is sparse intergranular, drusy sparry calcite cement. Intergranular porosity is 5%–10%. In Section 1, 95–106 cm, moldic porosity is ~10%, leaving hollow micrite envelopes.</p> <p>General Description: Cylinders: Section 1, 19–29 cm; Rollers: Section 1, 0–12 cm, 15–19 cm, 29–35 cm, 40–54 cm, 67–72 cm, and 83–101 cm; Drilling pebbles: Section 1, 12–15 cm, 35–40 cm, 54–67 cm, 72–83 cm, and 101–106 cm. Thin section sample: Section 1, 29–35 cm.</p>





876A-1R

CORED 0.0 - 14.2 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno. plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142		1	Maastrichtian	B	R/P	C/P		⑤	10YR 7/6 To 10YR 8/4

876A-2R

CORED 14.2 - 23.7 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno. plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237		1	Maastrichtian						10YR 8/2

876A-3R

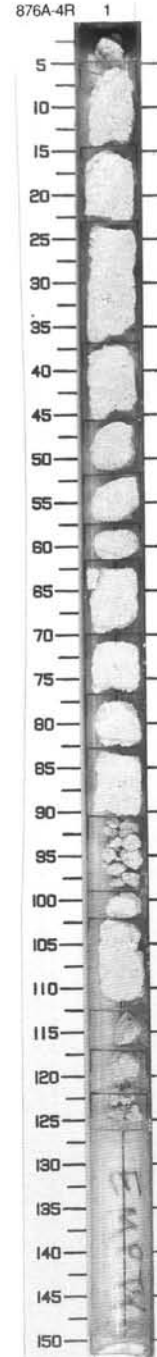
CORED 23.7 - 33.3 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno. plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000		1	Maastrichtian						10YR 8/2

## SITE 876 HOLE A CORE 4R

CORED 33.3 - 43.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0-127		1	Maastrichtian			T	10YR 8/2	<p><b>SKELETAL GRAINSTONE and RUDSTONE</b></p> <p>Major Lithologies: Section 1, 0-127 cm, is comprised of white (10YR 8/2), SKELETAL GRAINSTONE, with fine, medium, and coarse grains and gravels; grains are well rounded, poorly consolidated, and friable. Recrystallized fragments of rudists are common; there are also coral fragments (some are interparticle and vuggy). Gravels are large fragments of rudists; recrystallized fragments are not well defined. The abundance of each group of organisms is difficult to establish. In Section 1, 23-37 cm, red algae form thin encrustations over gravel-sized skeletal fragments. Section 1, 46-52 cm, is less porous and finer grained. In Section 1, 83-90 cm and 102-113 cm, there are large fragments of rudists (caprinids and radiolitids) and corals; RUDSTONE texture. There are red algae crusts over large (gravel-sized) skeletal fragments.</p> <p>General Description: Cylinders: Section 1, 5-46 cm, 52-57 cm, 61-77 cm, 83-90 cm, 102-113 cm, and 77-83 cm; Drilling pebbles: Section 1, 0-5 cm, 90-102 cm, and 113-127 cm. Thin section sample: Section 1, 69-76 cm.</p>



SITE 876 HOLE A CORE 5R

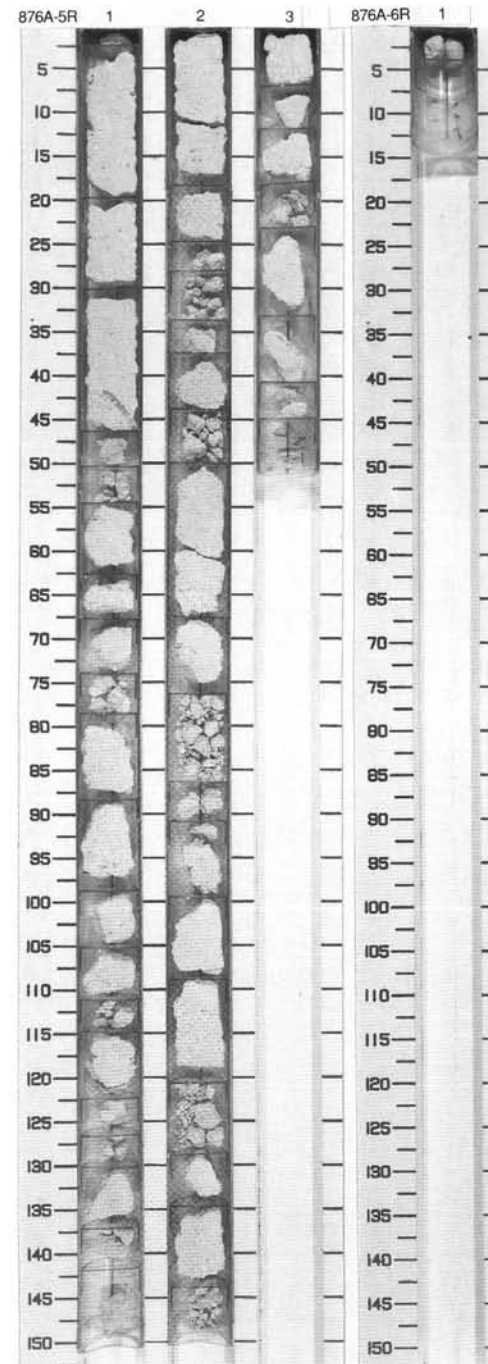
CORED 43.0 – 52.6 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
1		1	Maastrichtian			T	10YR 8/2	<p><b>SKELETAL GRAINSTONE</b></p> <p>Major Lithology: Section 1, 0 cm, to Section 2, 150 cm, is comprised of white (10YR 8/2), friable SKELETAL GRAINSTONE, poorly cemented, with very little intergranular cement. Skeletal components include common bivalve (rudist) fragments; common red algal fragments; rare corals. Porosity (~15%) is mostly interparticle and moldic. Grain size is very coarse sand to granular. Section 1, 30–46 cm, contains a 5 cm-long x 0.8 cm-wide, heavily bored, completely recrystallized bivalve shell fragment that sits at a 50° angle NW-SE from horizontal. Section 3, 0–45 cm, is comprised of white (10YR 8/2), very friable SKELETAL GRAINSTONE, with very little intergranular cement. Components include common red algae, many bivalve fragments, rare large benthic foraminifers, and trace coral fragments. Grain size is very coarse sand, well sorted; coarse sand is found in Section 3, 7–12 cm. Porosity (~10%–15%) is mostly interparticle; there are few molds. There is a 1-cm radiolite fragment at Section 3, 23 cm.</p> <p>General Description: Cylinders: Section 1, 3–47 cm, 54–62 cm, 78–98 cm, Section 2, 0–24 cm, 50–67 cm, 99–120 cm, 134–143 cm, Section 3, 0–7 cm, 23–33 cm; Rollers: Section 1, 62–74 cm, 98–110 cm, 115–122 cm, and 132–137 cm, Section 2, 37–43 cm, 67–76 cm, 91–99 cm, and 128–134 cm, Section 3, 7–18 cm and 33–40 cm; Drilling pebbles: Section 1, 0–3 cm, 47–54 cm, 74–78 cm, 110–115 cm, 122–132 cm, and 137–150 cm, Section 2, 24–37 cm, 43–50 cm, 76–91 cm, 120–128 cm, and 143–150 cm, Section 3, 18–23 cm and 40–45 cm. Thin section samples: Section 1, 17–18 cm, Section 2, 18–24 cm, Section 3, 0–6 cm.</p>
2		2				T		
3		3				T		

SITE 876 HOLE A CORE 6R

CORED 52.6 – 62.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
.03		1	Maastrichtian				10YR 8/2	<p><b>GRAINSTONE</b></p> <p>Major Lithology: Section 1, 0–3 cm, consists of 2 drilling pebbles of white (10YR 8/2), poorly sorted (fine- to coarse-grained) GRAINSTONE. There are fragments of rudists (especially gravel-sized caprinid fragments) and red algae.</p> <p>General Description: Drilling pebbles: Section 1, 0–3 cm. Thin section samples: none.</p>



876A-4R CORED 33.3 - 43.0 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1		1	Maastrichtian						T	10RY 8/2

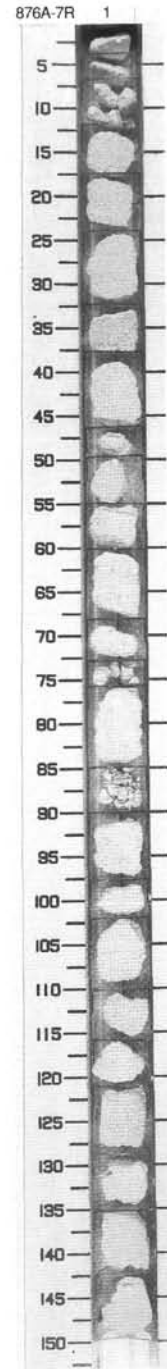
876A-5R CORED 43.0 - 52.6 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1		1	Maastrichtian						T	10YR 8/2
2		2							T	
3		3							T	

876A-6R CORED 52.6 - 62.2 mbsf



Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
.03		1								10YR 8/2
Maastrichtian										

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0-150		1	Maastrichtian			T	10YR 8/2	<p><b>GRAINSTONE and RUDSTONE</b></p> <p>Major Lithologies:                      Section 1, 0-4 cm, is comprised of white (10YR 8/2) RUDSTONE, with large fragments of coral and radiolite rudists. Section 1, 4-150 cm, is comprised of white (10YR 8/2), poorly sorted RUDIST GRAINSTONE, with fine- to coarse-grained sand and gravel: median size is coarse sand. Grains are well rounded and abraded (including gravel). Components include abundant rudists, common red algae and coral fragments, and few to common benthic foraminifers. The rudists include caprinids and radiolitids. Gravel-sized skeletal fragments are mostly rudists, corals, and some red algae. Many fragments are recrystallized. High interparticle porosity is observed. The grainstone is friable. There is a large, elongate fragment of caprinid(?) in Section 1, 4-7 cm. Echinoid spines are noted in Section 1, 11-17 cm. Caprinid fragments with conspicuous canals, rare worm tubes, and abundant coral fragments are noted in Section 1, 17-24 cm; caprinid fragments dominate below this interval. Red algae are probably fragments of corallinean crusts, not branching red algae. In Section 1, 38-46 cm and 121-129 cm, there are thin encrustations of algae on gravel-sized skeletal fragments. Most radiolite fragments are brownish. Overgrowths of bladed calcite on some neomorphed bivalve fragments (PB40) are observed in Section 1, 68-72 cm. Fragments of red algae and more abundant echinoid spines are found in Section 1, 110-116 cm. There are large fragments of corals in Section 1, 142-150 cm. There is little visible cement.</p> <p>General Description:                      Cylinders: Section 1, 17-46 cm, 60-68 cm, 11-17 cm, 50-60 cm, 68-73 cm, 90-102 cm, 110-121 cm, 129-135 cm, and 142-150 cm; Drilling pebbles: and 85-90 cm. Thin section samples: Section 1, 17-23 cm and 130-136 cm.</p>




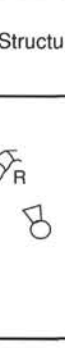
## SITE 876 HOLE A CORE 8R

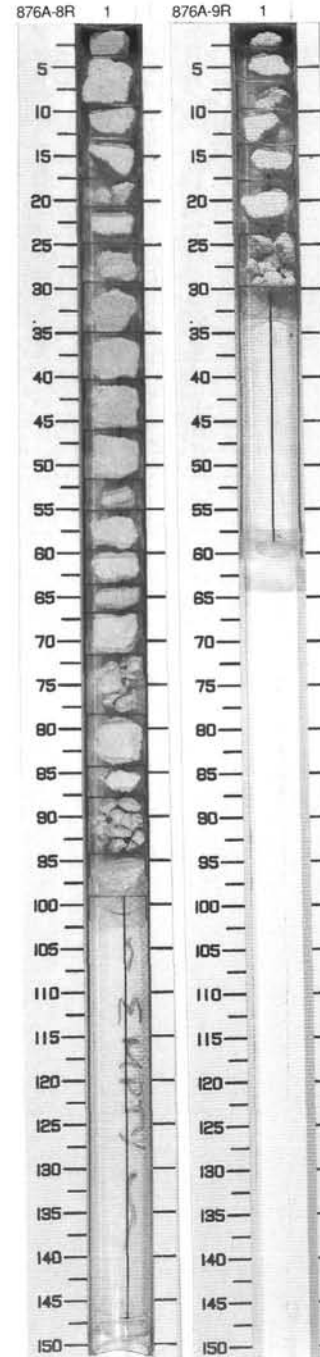
CORED 71.9 – 81.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0 0.5		1	Maastrichtian			T	10YR 8/2	<p><b>SKELETAL GRAINSTONE</b></p> <p>Major Lithology: Section 1, 0–99 cm, is comprised of white (10YR 8/2), very friable SKELETAL GRAINSTONE, with very little intergranular cement. Skeletal components include common red algal fragments and large benthic foraminifers, and many bivalve fragments. Porosity (~15%) is mostly interparticle, with few molds; except in Section 1, 78–99 cm, where moldic porosity is ~30%. Many (rounded) grains are leached out to leave micrite envelopes standing as loosely cemented "egg shells".</p> <p>General Description: Cylinders: Section 1, 3–9 cm and 34–51 cm; Rollers: Section 1, 0–3 cm, 9–17 cm, 20–24 cm, 29–34 cm, 51–71 cm, 78–84 cm, and 94–99 cm; Drilling pebbles: Section 1, 17–20 cm, 24–29 cm, 71–78 cm, and 84–94 cm. Thin section sample: Section 1, 56–60 cm.</p>

## SITE 876 HOLE A CORE 9R

CORED 81.5 – 91.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0 0.1 0.2		1	Maastrichtian			T	10YR 8/2	<p><b>SKELETAL GRAINSTONE</b></p> <p>Major Lithology: Section 1, 0–30 cm, is comprised of white (10YR 8/2), friable SKELETAL GRAINSTONE. Components include common red algal fragments, many bivalve fragments, and very rare coral fragments. Porosity (~15%) is mostly interparticle, with some intraparticle porosity. There is very little intergranular cement. Grain size is coarse sand, well sorted.</p> <p>General Description: Rollers: Section 1, 18–23 cm; Drilling pebbles: Section 1, 0–18 cm and 23–30 cm. Thin section sample: Section 1, 10–14 cm.</p>



876A-7R

CORED 62.2 - 71.9 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100		1	Maastrichtian						T	10YR 8/2
				B	R/M	C/M				

876A-8R

CORED 71.9 - 81.5 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100		1	Maastrichtian						T	10YR 8/2
				B	R/P	R/P				

876A-9R

CORED 81.5 - 91.2 mbsf

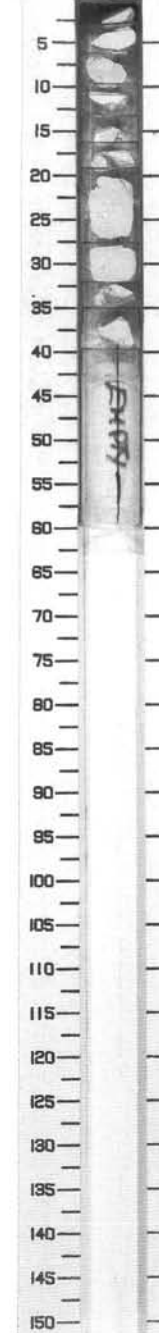
Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100		1	Maastrichtian						T	10YR 8/2
				B	VR/M	F/M				

## SITE 876 HOLE A CORE 10R

CORED 91.2 - 100.8 mbsf

876A-10R 1

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION	
.1		1	Maastrichtian				10YR 8/1	<p><b>SKELETAL WACKESTONE AND PACKSTONE</b></p> <p>Major Lithology: Section 1, 0-40 cm, is comprised of white (10YR 8/1), very well-cemented SKELETAL WACKESTONE (MINOR LENSES) and PACKSTONE. Skeletal components include common red algae, many bivalve fragments (including many caprinids), and few corals. Encrusting algae (coralline and squamariaceans; some rudimentary rhodoliths) and corals occur in Section 1, 6-10 cm, 16-19 cm, and 19-27 cm. Borings are rare. In 10-13 cm, an unidentified, 2 cm diameter, hemispheric, dome-shaped skeleton with numerous very well organized tubes which are perpendicular to the external shell wall, is observed. Rare, black, lustrous grains, &lt;0.10 mm in diameter, are noted in Section 1, 10-13 cm. In Section 1, 32-34 cm, there is an internal mold (of the butt-end) of a bivalve (2 cm-wide x 1 cm-long). At Section 1, 4 cm, a contact between muddy packstone and packstone has a "step" of 1 cm relief. The surface is scalloped, apparently by removal (dissolution?) of grains from the packstone (up orientation is unknown). At Section 1, 30 cm, there is a wavy contact between packstones. No grain truncation is visible in thin section. A denser, muddier layer, a few mm-thick, overlies this wavy contact (orientation from geopetals in thin section). There is possible encrustation of this contact by coral (<i>Porites</i>), as observed in the slab.</p> <p>General Description: Cylinders: Section 1, 19-32 cm; Rollers: Section 1, 2-13 cm and 32-35 cm; Drilling pebbles: Section 1, 0-2 cm, 13-19 cm, and 35-40 cm. Thin section samples: Section 1, 27-32 cm.</p>	
.2		1							
.3		1							T
.4		1							





Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	
1	J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P	1	Maastrichtian	IR	~~~~~	T T	10YR 8/2	
2	J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P J J P P P P	2			~~~~~	T T		

**DESCRIPTION**

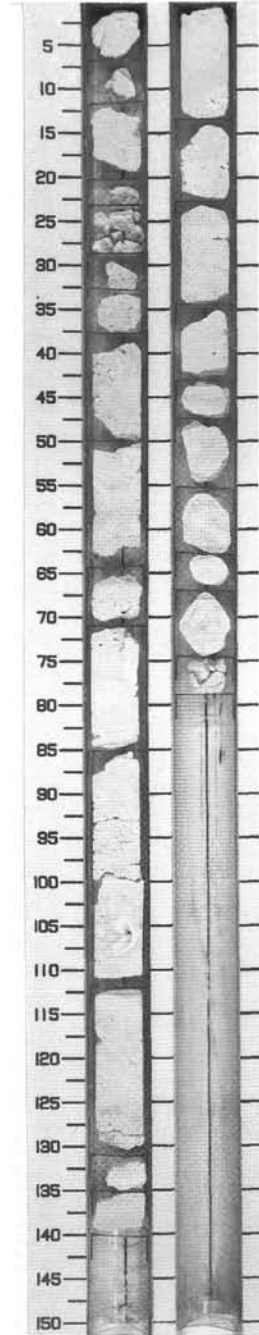
SKELETAL WACKESTONE-PACKSTONE and SKELETAL PACKSTONE

Major Lithologies:  
Section 1, 0–40 cm: SKELETAL WACKESTONE-PACKSTONE, white (10YR 8/2), moderately sorted, moderately cemented with rare "chalky" allochems (e.g. caprinid rudist fragment, 0–7 cm). Skeletal components include red algal fragments (ab); bivalve fragments (c); coral fragments (r). Some of the algae are encrusters, roughly 2 cm across. Porosity 5%, mostly interparticle (c); intraparticle (f); moldic (r). Contact with underlying lithology is a highly leached (chalky) zone, 1 cm thick. Contact is undulatory, but distinct (sharp). Subjacent to contact is 4 mm mold (?) filled with overlying packstone.  
Section 1, 40–150 cm: SKELETAL PACKSTONE white (10YR 8/2), very well cemented, poorly sorted. Components include red algae (ab), generally ~0.5–0.7 mm; rare rhodoliths 3–4 cm in diameter; bivalve fragments, especially caprinids, many with well-preserved wall structure (45–64 cm). Matrix has been recrystallized and is very fine grained. Porosity is variable, 3%–15%, mostly moldic and intraparticle, interparticle near zero. Section 1, 50–64 cm: Complicated interval where upper half is skeletal packstone with (c) calcite cement (PB4C) with rare black grains. The middle-quarter of the sample has abundant large ("jumbo") benthic foraminifers (most

exceed 1 cm diameter) and caprinid fragments. The lower-quarter has faint laminations, most inclined at 10° NE-SW from the horizontal. Some of these laminae have been leached. Faint near-perpendicular laminae suggest that this feature is a bioclast; most probably a stromatoporoid or a calcisponge. It is 5 cm wide x 3.5 cm high. Section 1, 64–70 cm, contains abundant caprinid fragments. Section 1, 70–85 cm, contains irregularly-shaped "chalky" intervals, with caprinid fragments at the top, pellets(?) otherwise. Also observed are leached burrow fill(?) and orange-brown stained calcite cement (PB5C). Porosity (~5%) is mostly intraparticle, with common large benthic foraminifers (>1 cm in diameter). Section 1, 85–112 cm, contains recrystallized caprinid fragments (~2 cm in diameter), and abundant bivalve fragments with encrusting red algae. A 3 cm-long caprinid fragment is completely encrusted by red algae. The algal rind is 3–7 cm thick. An internal cavity within the caprinid is filled with PE5C cement and round, black grains (~0.12 mm diameter). Three different forms of caprinids are observed: (1) bifurcating plates, (2) elongate canals, and (3) ovoid shaped (tear-drop) canals. Calcite cement (PE4C and PB4C) is common in intraparticle pores. In Section 1, 112–131 cm, there is a gradational contact (at 120–125 cm) that is inclined at 45° NW-SE from the horizontal between the overlying SKELETAL GRAINSTONE, and the underlying very dense, finely crystalline LIMESTONE. The latter has faint laminations, suggesting that it may be a recrystallized stromatoporoid or a calcisponge. The structure is best seen around a boring at Section 1, 128 cm. Chataetid (?) fragments are noted in Section 1, 121 cm and 128 cm; a lamellar stromatoporoid is noted in Section 1, 129–131 cm. Section 1, 131–135 cm, contains a dense, finely crystalline, faintly laminated (primarily horizontal, very faint vertical laminations) probable stromatoporoid or calcisponge. Recrystallized lime mud (algae?) accentuates the horizontal layering. Section 1, 135–140 cm, is comprised of a cross-bedded, well-sorted ALGAL-PELOID GRAINSTONE; grain size is medium sand (~0.5 mm). Millimeter laminae with small erosional scallops are inclined 8°. Section 2, 0–77 cm, is comprised of white (10YR 8/1 to 8/2) SKELETAL PACKSTONE, with a very dense aspect, perhaps the result of neomorphism without much increase in grain size. It appears muddy, rather than crystalline. Some particularly dense zones, where few grains can be distinguished, may be wackestone. An admixture of coarser grains produces a

floatstone texture in Section 1, 9–34 cm and 43–63 cm. Recognizable constituents are: coralline algae, both encrustations and fragments; lamellar calcisponges (stromatoporoids?); rare large benthic foraminifers (except common in a few layers or lenses, e.g. Section 1, 55 cm); corals (as large as 55 mm in diameter; core diameter); chaetetids, small fragments; very rare mollusks; very rare caprinid rudists (to 50 mm diameter); rare unknown encrusters; and rare to many peloids. In Section 1, 42–46 cm, a 4-cm interval of laminated peloidal packstone and mudstone rests on? (orientation uncertain) a highly corroded surface of a stromatoporoid, which appears to also arch over the laminites; as inferred from isolated patches of stromatoporoid that appear to be part of the underlying organism. This is interpreted as internal sediment within an eroded skeleton. Erosion may be biologic or dissolution. Faint color mottles, circular and horizontal (7–10 mm in diameter, at Section 1, 0–14 cm and 67–74 cm) are probably burrows. Porosity (~2%) is uniformly very low, and exclusively as molds, some fairly large (s&lms MO). Visible cement is thin crusts of equant calcite (PE4C) in molds. Section 2, 77–79 cm, is comprised of white (10YR 8/1) SKELETAL PACKSTONE, with little mud. A single pebble is arbitrarily placed at the base of Section 1, 74–79 cm, as it resembles Core 12R. The packstone is medium sand size (1/2–1 mm), with a lithoclast of skeletal grainstone; there are no other recognizable grains. Porosity (20%) is about 5% moldic, 15% interparticle.

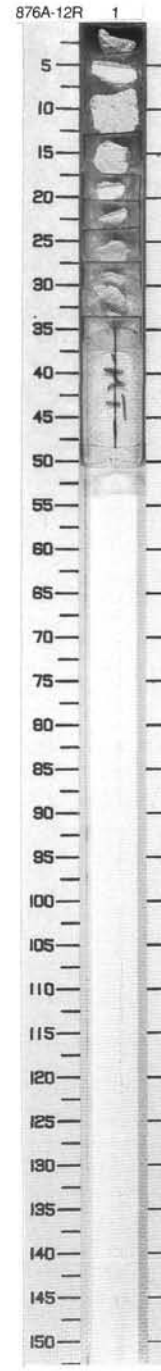
General Description:  
Cylinders: Section 1, 11–20 cm, 37–64 cm, 70–131 cm, and 135–140 cm, Section 2, 0–43 cm, 47–62 cm, and 67–74 cm; Rollers: Section 1, 0–6 cm, 32–37 cm, 64–70 cm, and 131–135 cm, Section 2, 43–47 cm and 62–67 cm; Drilling pebbles: Section 1, 6–11 cm, and 20–32 cm, Section 2, 74–79 cm. Thin section samples: Section 1, 55–58 cm, 58–59 cm, 115–117 cm, and 131–135 cm, Section 2, 43–46 cm and 71–73 cm.



SITE 876 HOLE A CORE 12R

CORED 110.5 - 120.1 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
.1	P P P P P P P P P P	1	Maastrichtian			T	10YR 8/1	<b>SKELETAL PACKSTONE</b>
.2	P P P P P P P P P P							Major Lithology: Section 1, 0-33 cm, is comprised of white (10YR 8/1), friable SKELETAL PACKSTONE, that is recrystallized and chalky. The original grain composition is completely obliterated by recrystallization. Clast outlines of a few coral fragments, rudist debris, and red algal crust can be recognized. The intensity of chalkification is lower in Section 1, 27-33 cm. Moldic and vuggy porosity is 3%. Unfilled interparticle porosity is ~15%. A few infilled pores result from bioturbation (BU).
.3	P P P P P P P P P P							General Description: Rollers: 3-12 cm; Drilling pebbles: 0-3 cm, 12-33 cm. Thin section 21-24 cm.



876A-10R

CORED 91.2 - 100.8 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
.1		1	Maastrichtian							
.2										
.3										
.4										
				B	VR/P	F/P			-	10YR 8/1

876A-11R

CORED 100.8 - 110.5 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
.1		1	Maastrichtian						T	
.2										
.3		2		B	VR/P	F/P			T	
.4										
									T	10YR 8/2

876A-12R

CORED 110.5 - 120.1 mbsf

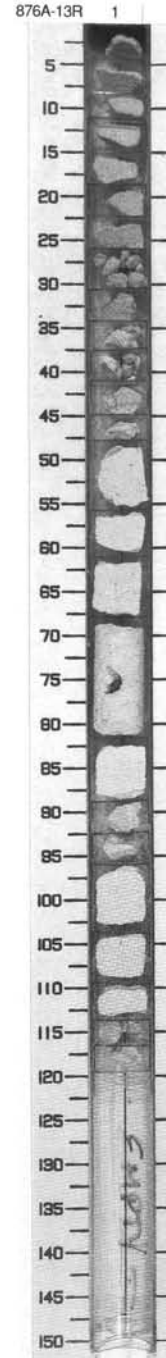
Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
.1		1	Maastrichtian							
.2										
.3										
.4				B	R/M	C/M			-	10YR 8/1

SITE 876 HOLE A CORE 13R

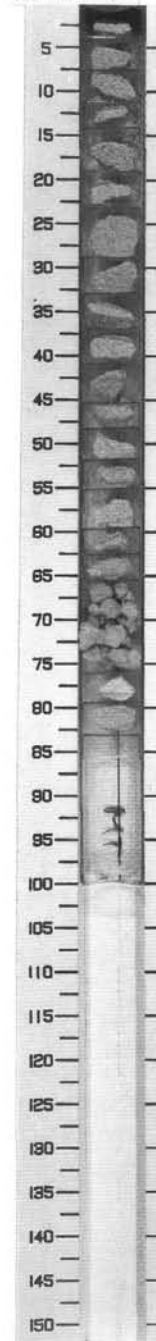
CORED 120.1 – 129.8 mbsf

876A-13R 1

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
1		1	Maastrichtian			T	10YR 8/3 10YR 8/2	<p><b>FORAMINIFER SKELETAL GRAINSTONE and PACKSTONE</b></p> <p>Major Lithologies: Section 1, 0–33 cm, is comprised of very pale brown (10YR 8/3), slightly friable FORAMINIFER-SKELETAL GRAINSTONE, coarse grained; distinctly different from the underlying facies. Constituents are many foraminifers (<i>Asterorbis</i> common), and many sand-size shell fragments and red algal debris. Grains are well sorted; there is very little drusy spar cement. Interparticle porosity is high, up to 25%. Section 1, 33–40 cm, is comprised of white (10YR 8/2) PACKSTONE. A pebbly bed or a packstone is composed of shell fragments up to 4 cm in length; a radiolitic rudist (2 cm in size) is observed. Some of the shells are encrusted by red algae. Interparticle voids are filled by coarse-grained skeletal packstone; there are a few dasyclad algae. Section 1, 40–119 cm, is comprised of white (10YR 8/2) PACKSTONE, medium grained. A few coral fragments (several mm in size), rudist shells (radiolites are very rare; few caprinids), and red algae float in the packstone. The packstone is otherwise comprised of unidentifiable skeletal grains (highly altered), larger benthic foraminifers, and by lime mud. A mold of a leached caprinid rudist shell in Section 1, 72–76 cm, has inside casts of borings of clionid sponges(?). The casts are spheres (1.5 mm diameter) to spheroids (2.5 mm diameter). Threads (150 microns diameter) join and interwine the spheres. These may be sponge traces or fungal bores enlarged by cement crusts (PB4C). They are notably better cemented than the adjacent units.</p> <p>General Description: Cylinders: Section 1, 47–55 cm, 60–81 cm, and 95–109 cm; Rollers: Section 1, 0–25 cm, 55–60 cm, 81–88 cm, and 109–113 cm; Drilling pebbles: Section 1, 25–47 cm, 88–95 cm, and 113–119 cm. Thin section sample: Section 1, 88–92.</p>

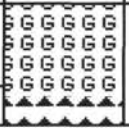


Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
0-100		1	Maastrichtian			T	10YR 7/3	<p><b>RUDIST FORAMINIFER GRAINSTONE</b></p> <p>Major Lithology:                      Section 1, 0–76 cm and 79–83 cm, is comprised of very pale brown (10YR 7/3) RUDIST-FRAGMENT FORAMINIFER GRAINSTONE, poorly sorted, with coarse sand texture. Large benthic foraminifers and radiolitic rudist fragments are abundant (up to 1 cm), other bivalve fragments are common. There are few red algal fragments and other foraminifers (planktonic?), and few mm-scale fragments of some encruster (algal?, foraminifer?); many small (&lt;0.25 mm) grains are not identified. Porosity (40%) is intergranular, vuggy; some porosity is moldic. There are some thin, bladed, finely crystalline cement (PB3C) crusts in a few molds/vugs. One or two vugs have medium to coarsely crystalline bladed crusts (PB45C). Otherwise, there is just enough intergranular cement to hold the rock together (i.e., very little). This core appears identical to interval 144-876A-13R-1, 0–33 cm. Section 1, 76–79 cm, contains a small (2.5 cm diameter) piece of FORAMINIFER ALGAL PACKSTONE or well-cemented GRAINSTONE, with abundant coralline algae and large benthic foraminifers. Bivalve fragments (including radiolitic rudist fragments) are common. Porosity varies from less than 5% to 10%, moldic and vuggy. Intergranular fill is either cement or neomorphosed mud.</p> <p>General Description:                      Rollers: Section 1, 0–66 cm and 76–83 cm; Drilling pebbles: Section 1, 66–76 cm. Thin section sample: Section 1, 48–52 cm.</p>



SITE 876 HOLE A CORE 15R

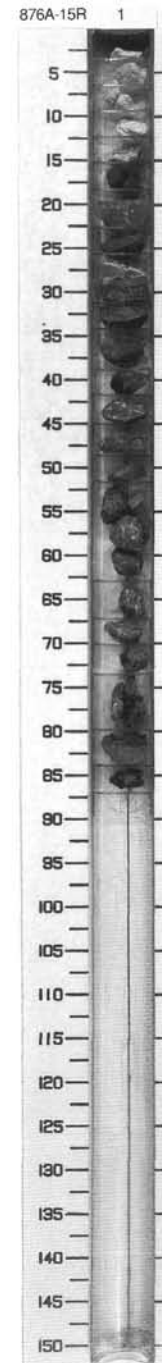
CORED 139.4 – 147.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	DESCRIPTION
.1		1					10YR 8/2	<p><b>GRAINSTONE and BASALT</b></p> <p>Major Lithologies:            Section 1, 0–12 cm, is comprised of white (10YR 8/2) GRAINSTONE (to packstone in patches), with medium sand texture. Most grains are unidentified; some foraminifers with very little internal structure are visible. Some probable mollusk debris is observed, with vague structure that is similar to radiolitid rudists. Some common white grains may be red algae; however, when they are touched lightly with a needle, they disintegrate into white mud. Porosity (20%–30%) is vuggy. Finely crystalline blades of calcite are present in many vugs. Section 1, 12–15 cm, is a fragment of a calcite vein from the underlying BASALT.</p> <p>General Description:            Rollers: Section 1, 0–6 cm and 9–15 cm: Drilling pebbles: Section 1, 6–9 cm.</p>
Campanian?-Maastrichtian								

876A 16R HARD ROCK

876A 17R HARD ROCK

876A 18B NO RECOVERY



876A-13R

CORED 120.1 - 129.8 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1		1	Maastrichtian	B	R/M/C/M	C/M			T	10YR 8/2 10YR 8/3

876A-14R

CORED 129.8 - 139.4 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
1		1	middle Maastrichtian	B	F/P	C/P			T	10YR 7/3

876A- 15R

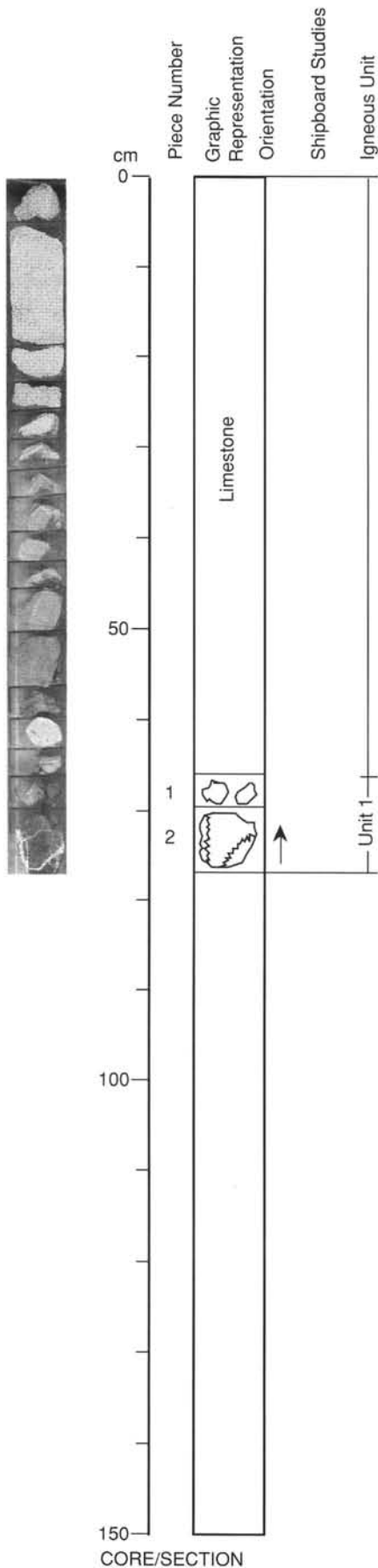
CORED 139.4 - 147.8 mbsf

Meter	Graphic Lith.	Section	Age	Calc. nanno.	Plank. foram.	Larger foram.	Structure	Disturb.	Sample	Color
.1		1		B	B	F/P				10YR 8/2
Campanian?-Maastrichtian Campanian?-Maastrichtian										

876A-16R HARD ROCK

876A-17R HARD ROCK

876A-18B NO RECOVERY



**UNIT 1: BASALT**

**Pieces 1 and 2**

**CONTACTS:** Continues into 15M-1.

**PHENOCRYSTS:**

Plagioclase - 5%–10%; 1 mm; Laths altered to dusky green (5G 3/2) clay.  
 Clinopyroxene - <5%; 1–4 mm; Altered to dusky green (5G 3/2) clay.

**GROUNDMASS:** Microcrystalline.

**VESICLES:** 60%; 1 mm; Irregular; Lined with dusky green (5G 3/2) clay; Filled with white (N9) and light blue green (5BG 6/6) zeolite.

**COLOR:** Grayish olive green (5GY 3/2) to dusky yellow green (5GY 5/2).

**STRUCTURE:** None.

**ALTERATION:** Matrix colors and phenocryst replacement by clay indicates very extensive alteration.

There is 1%–2% secondary pyrite in fine cracks (<<1 mm) and vesicle margins.

**VEINS/FRACTURES:** 5%; 3 mm; Calcite-filled.

**ADDITIONAL COMMENTS:** None.



144-875C-15M-1

UNIT 1: BASALT

Pieces 1-11

**CONTACTS:** Continues into 14M-1.

**PHENOCRYSTS:**

Plagioclase - 5%-10%; 1-2 mm; Laths altered to dusky green (5G 3/2) clay.

Olivine - 15%; 1-4 mm; Some are altered to dusky green (5G 3/2) clay. Many, visible only in thin section, are fresh or altered to brown clay.

**GROUNDMASS:** Microcrystalline.

**VESICLES:** 60%; 1 mm; Irregular; Lined with dusky green (5G 3/2) clay; Filled with white (N9) clay and pale blue green zeolite. White (N9) clay is more abundant below 48 cm.

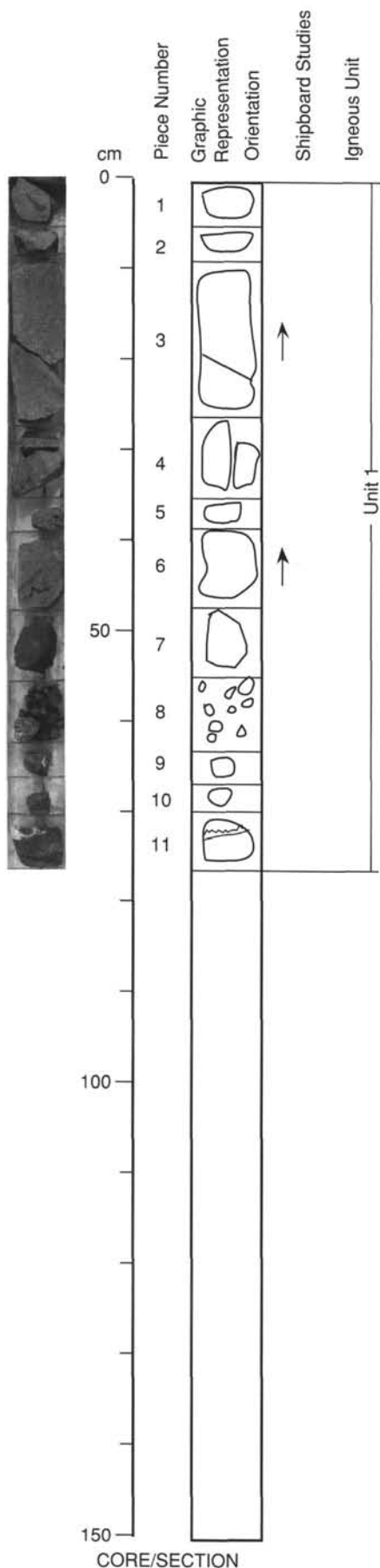
**COLOR:** 0-48 cm, greenish black (5GY 2/1); 48-77 cm, brownish black (5YR 2/1).

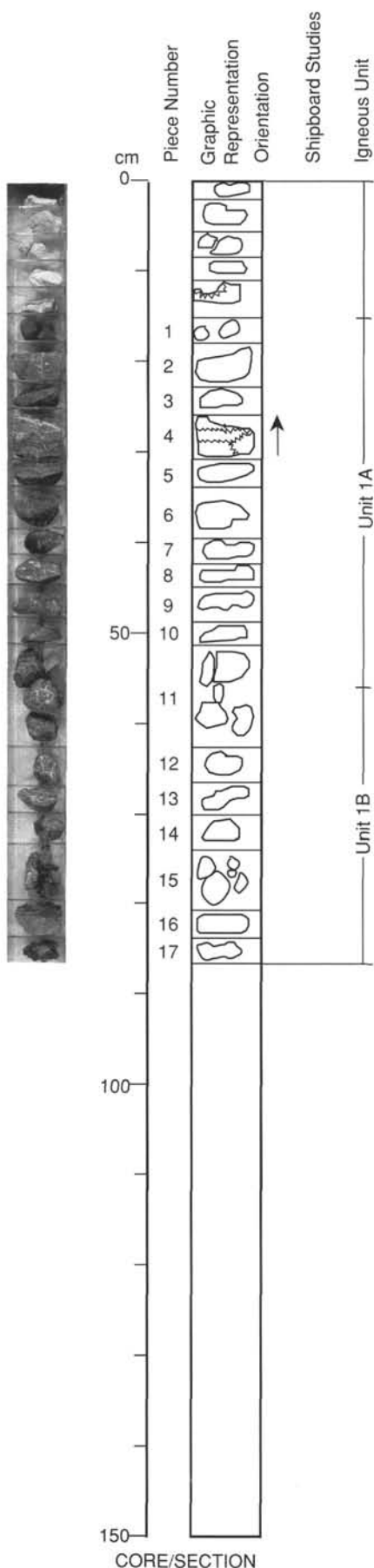
**STRUCTURE:** None.

**ALTERATION:** Matrix colors and phenocryst replacement by clay evidences very extensive alteration. A very distinct change in the style of alteration occurs at 48 cm. Below 48 cm the phenocrysts become more visible and there is more hematite staining.

**VEINS/FRACTURES:** One 5 mm vein in Piece 11. In Piece 3 there are red (5R 3/8) hematite stains following thin fractures oriented 60 degrees from horizontal and vesicle margins, presumably replacing pyrite. Hematite spreads into matrix, forming irregular, 2 mm patches.

**ADDITIONAL COMMENTS:** None.





**UNIT 1A: CLINOPYROXENE BASALT**

**Pieces 1–10, Part of 11**

**CONTACTS:** Grades into Subunit 1B. Continues into 16R-1.  
**PHENOCRYSTS:** Clinopyroxene - <1%; 2–3 mm; Subhedral, mottled greenish gray (5GY 6/1) and greenish black (5GY 2/1). Parts may be fresh.  
**GROUNDMASS:** Microcrystalline.  
**VESICLES:** 3%–15%; 1–8 mm; Subround; Filled with grayish orange pink (5YR 7/2) zeolites (chabazite?).  
**COLOR:** Brownish gray (5YR 4/1).  
**STRUCTURE:** None.  
**ALTERATION:** Matrix color suggests oxidation and some groundmass replacement by clays.  
**VEINS/FRACTURES:** 5%; 0.5–3 mm; Filled with sparry calcite.  
**ADDITIONAL COMMENTS:** More oxidized portion of the whole unit.

**UNIT 1B: CLINOPYROXENE BASALT**

**Pieces Part of 11, 12–17**

**CONTACTS:** Grades into Subunit 1A. Continues into 16R-1.  
**PHENOCRYSTS:** Clinopyroxene - <1%; 2–3 mm; Subhedral, mottled greenish gray (5GY 6/1) and greenish black (5GY 2/1). Parts may be fresh.  
**GROUNDMASS:** Microcrystalline. 3%, 1–2 mm moderate reddish brown (10R 4/6) prisms and patches, presumably where a mafic phase was altered to hematite and clay.  
**VESICLES:** 3%; 1–2 mm; Irregular; Filled with a light blue green (5BG 6/6) clay.  
**COLOR:** Grades downsection from medium gray (N5) to medium bluish gray (5B 5/1).  
**STRUCTURE:** None.  
**ALTERATION:** Color suggests groundmass replacement by green clays. Oxidation and alteration of a mafic phase.  
**VEINS/FRACTURES:** 5%; 0.5–3 mm; Filled with sparry calcite.  
**ADDITIONAL COMMENTS:** Less oxidized portion of the whole unit.

## 144-876A-16R-1

## UNIT 1B: CLINOPYROXENE BASALT (continued)

## Pieces 1–2, Part of 3

**CONTACTS:** Continues from 15R-1.

**PHENOCRYSTS:**

Clinopyroxene - <1%; 2–3 mm; Subhedral, mottled greenish gray (5GY 6/1) and greenish black (5GY 2/1). Parts may be fresh.

**GROUNDMASS:** Microcrystalline. 3%, 1–2 mm moderate reddish brown (10R 4/6) prisms and patches, presumably where a mafic phase was altered to hematite and clay.

**VESICLES:** 3%; 1–2 mm; Irregular; Filled with a light blue green (5BG 6/6) clay.

**COLOR:** Medium bluish gray (5B 5/1).

**STRUCTURE:** None.

**ALTERATION:** Color suggests groundmass replacement by green clays. Oxidation and alteration of a mafic phase.

**VEINS/FRACTURES:** 5%; 0.5–3 mm; Filled with sparry calcite.

**ADDITIONAL COMMENTS:** Less oxidized portion of the whole unit.

## UNIT 2: VOLCANICLASTIC BRECCIA

## Pieces Part of 3, 4–11

**CONTACTS:** Continues into 17R-1.

**PHENOCRYSTS:** None.

**GROUNDMASS:** Aphanitic.

**VESICLES:** 10%; <2 mm; Round; Half are filled with calcite and chabazite, half are empty.

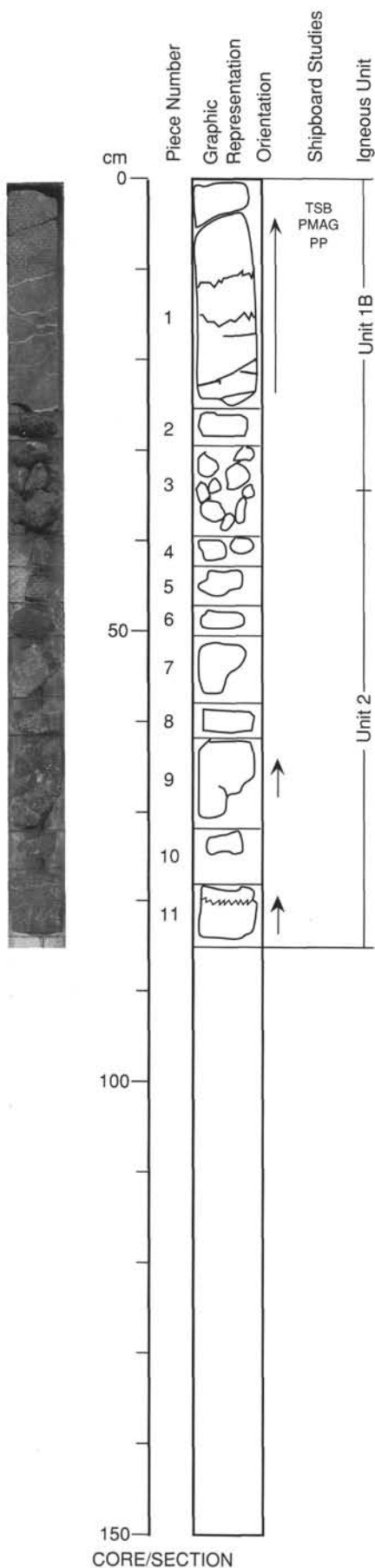
**COLOR:** Clasts are grayish red (10R 4/2) to grayish black (N2).

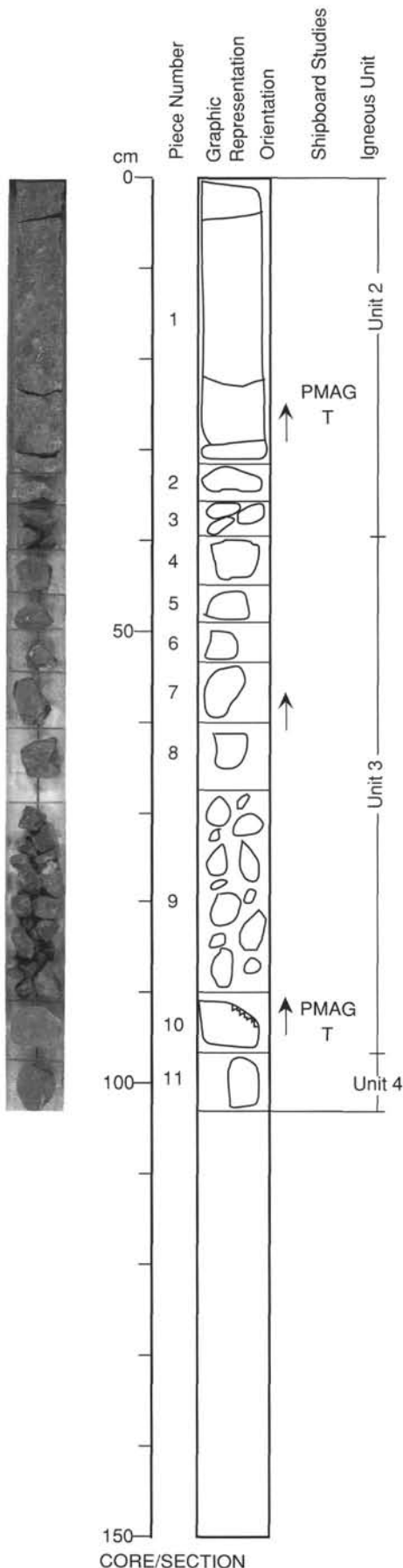
**STRUCTURE:** Breccia unit. Not clear if it might represent a flow-top.

**ALTERATION:** Extensive oxidation and clay replacement, as evidenced by colors and softness of the unit.

**VEINS/FRACTURES:** None.

**ADDITIONAL COMMENTS:** Matrix is made of sand and granule-sized volcanogenic fragments. The unit is cemented and partially replaced by calcite, chabazite, and a light green (5G 7/4) clay. Clasts are subangular to subround and 0.5–3 cm in diameter.





**UNIT 2: VOLCANICLASTIC BRECCIA**

**Pieces 1-3**

**CONTACTS:** Continues from 16R-1.  
**PHENOCRYSTS:** None.  
**GROUNDMASS:** Aphanitic.  
**VESICLES:** 10%; <2 mm; Round; Half are filled with calcite and chabazite, half are empty.  
**COLOR:** Clasts are weak red (5R 5/2 to 5/4) and dark reddish gray (5R 4/1).  
**STRUCTURE:** Breccia unit. Not clear if it represents a flow-top.  
**ALTERATION:** Extensive oxidation and clay replacement, as evidenced by color and softness of the unit.  
**VEINS/FRACTURES:** None.  
**ADDITIONAL COMMENTS:** Matrix is made of sand and granule-sized volcanogenic fragments. The unit is cemented and partially replaced by calcite, chabazite, and a light green (5G 7/4) clay. Clasts are subangular to subround and 0.5-3 cm in diameter.

**UNIT 3: OLIVINE-CLINOPYROXENE BASALT**

**Pieces 4-10**

**CONTACTS:** None.  
**PHENOCRYSTS:**  
 Olivine - 1%-2%; 1 mm; Anhedral. Completely altered with rims of iddingsite and dusky green (5G 3/2) centers.  
 Clinopyroxene - 1%-2%; 1 mm; Subhedral prisms, partially altered to dusky green (5G 3/2) clay.  
**GROUNDMASS:** Microcrystalline.  
**VESICLES:** 0-5%; <2 mm; Irregular; Filled with very pale green (10G 8/2) clay and occasionally with calcite.  
**COLOR:** Medium gray (N5).  
**STRUCTURE:** None.  
**ALTERATION:** Despite the fresh matrix color the unit is quite soft, suggesting clay alteration.  
**VEINS/FRACTURES:** None.  
**ADDITIONAL COMMENTS:** This unit is probably the massive portion of a flow whose flow-top breccia is Unit 2.

**UNIT 4: PLAGIOCLASE-OLIVINE BASALT**

**Piece 11, Some chips in 9**

**CONTACTS:** None.  
**PHENOCRYSTS:**  
 Olivine - 5%; 1 mm; Anhedral. Completely altered with rims of iddingsite and grayish green (5G 5/2) centers.  
 Plagioclase - 20%; 1-2 mm; Glomerocrysts, prisms and laths altered to white (N9) clay or zeolite.  
**GROUNDMASS:** Microcrystalline.  
**VESICLES:** None.  
**COLOR:** Medium dark gray (N4).  
**STRUCTURE:** None.  
**ALTERATION:** Appears to be fairly fresh except for clay pseudomorphing of the phenocrysts.  
**VEINS/FRACTURES:** None.  
**ADDITIONAL COMMENTS:** Appears to be a relatively coarse-grained hawaiite.