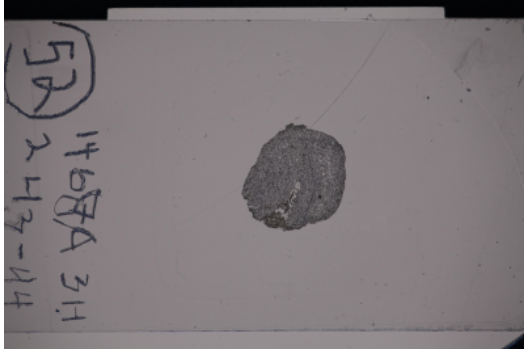
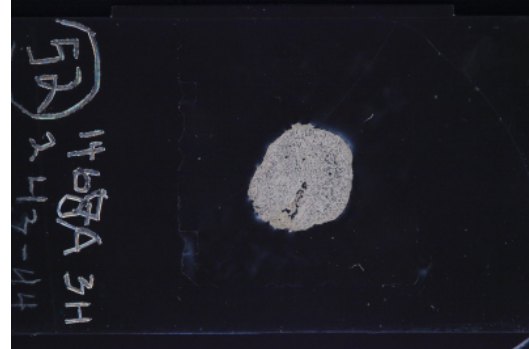


THIN SECTION LABEL ID: **359-U1468A-3H-2-W 43/44-TSB-TS_52** Thin section no.: 52
 Unit/Subunit: Observer:
 Thin section summary: The sample shows an isolated bioclast of large encrusting foraminifera (Acervulina?). The fragment presents several chambers and a top cavity which is infilled by pelagic sediments (planktic foraminifera and micrite).

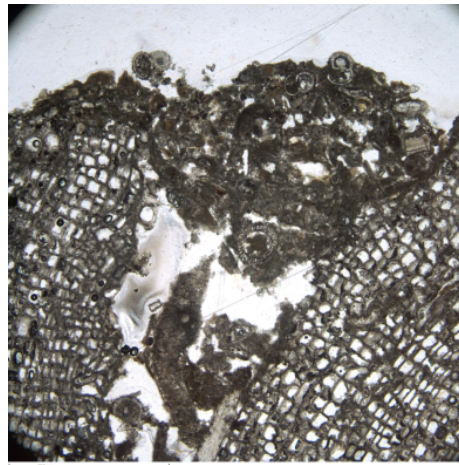
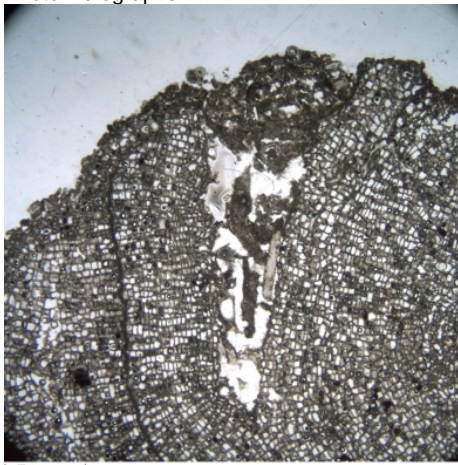
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



Position	Photomicrograph description
Row 1, left	Cavity infilled by pelagic sediments in Acervulina.
Row 1, center	Close up of the cavity infilled by pelagic sediments in Acervulina.

SEDIMENT/SEDIMENTARY ROCK

Lithology:

Skeletal components	major	intermediate	minor
type	foraminifera (large benthic)	foraminifera (planktic)	
comment			

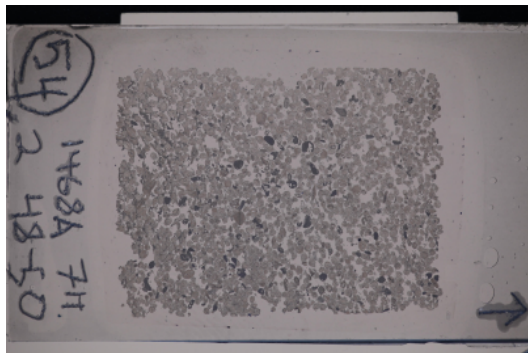
Cement type:

Porosity (major): intraparticle

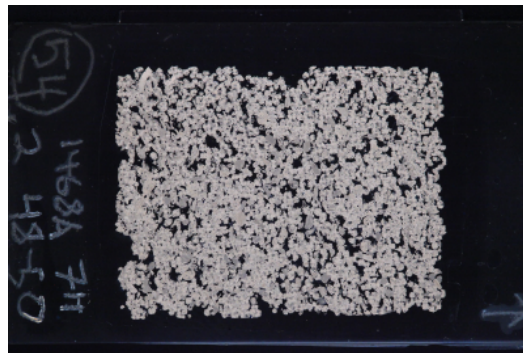
General comments: The entire sample is a large benthic foraminifera with some minor pelagic infills.

THIN SECTION LABEL ID: **359-U1468A-7H-2-W 48/50-TSB-TS_54** Thin section no.: 54
 Unit/Subunit: Observer:
 Thin section summary: The sample consist of large benthic foraminifera-rich grainstone very well sorted with skeletal grains ~1 mm size. Benthic foraminifera (Amphistegina, sp., Lepidocyclina sp., Miogypsinoidea sp., Heterostegina sp.) is the most abundant skeletal grain, also, red algae fragments are commonly present. Few echinoderm fragments are sparse in sample. The major porosity type is intraparticle. Dogtooth calcite cement, syntaxial overgrowth and granular/sucrose calcite are present. No matrix is present. Skeletal grain are mostly preserved few skeletal grain fragmented.

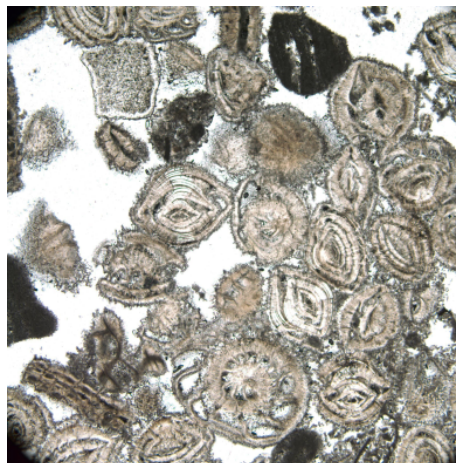
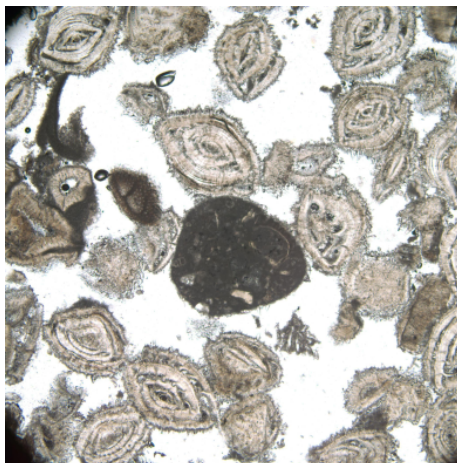
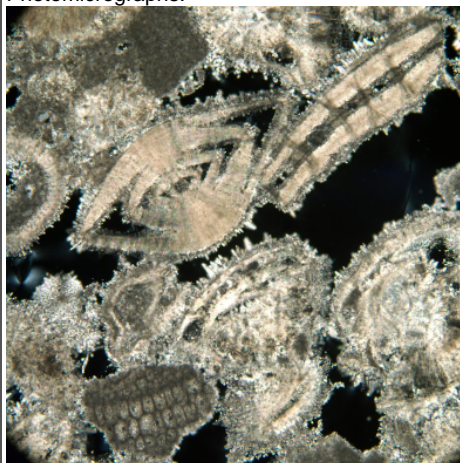
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



Position	Photomicrograph description
Row 1, left	Dogtooth cements in Amphistegina
Row 1, center	Lithoclast and Amphisteginas
Row 1, right	Detail of the Amphistegina grainstone

SEDIMENT/SEDIMENTARY ROCK

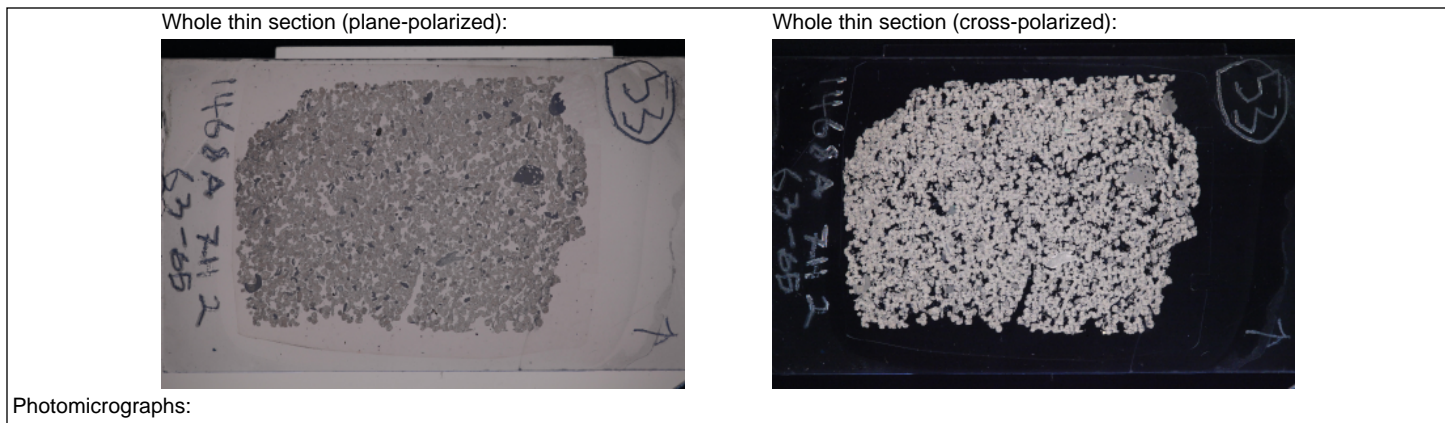
Lithology: grainstone

Skeletal components	major	intermediate	minor
type	foraminifera (large benthic)	red algae	echinoderm
comment	Amphistegina, Heterostegina, Miogypsina, Lepidocyclina.		

Cement type: dog tooth

Porosity (major): interparticle

THIN SECTION LABEL ID: **359-U1468A-7H-2-W 63/65-TSB-TS_53** Thin section no.: 53
 Unit/Subunit: Observer:
 Thin section summary: Thin section consist of grainstone very well sorted with skeletal grains size ~1 mm. Benthic foraminifera (Amphistegina, sp., Orpeculina sp.) is the most abundant skeletal grain, also, red algae fragments are commonly present. Few Halimeda and echinoderm fragments are sparse in sample. The major porosity type is intraparticle. Dogtooth calcite cement, syntaxial overgrowth and granular/sucrose calcite are present. No matrix is present. Skeletal grain are preserved and no compaction or fragmentation can be seen. Sample is classified as large benthic foraminifera grainstone.



SEDIMENT/SEDIMENTARY ROCK

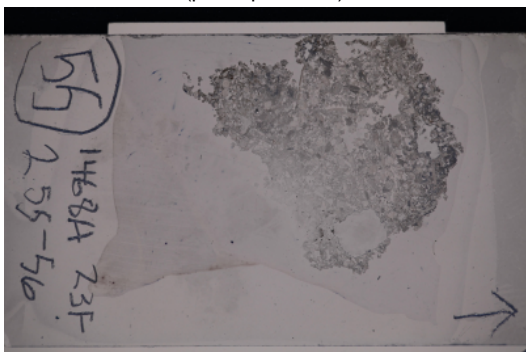
Lithology: grainstone

Skeletal components	major	intermediate	minor
type	foraminifera (large benthic)	red algae	Halimeda
comment	Amphistegina, Operculina, Lepidocyclina.		

Cement type: dog tooth
 Porosity (major): interparticle

THIN SECTION LABEL ID: **359-U1468A-23F-2-W 55/56-TSB-TS_55** Thin section no.: 55
 Unit/Subunit: Observer:
 Thin section summary: Thin section from 192.44 mbsf to 192.47 mbsf consist of large benthic foraminifera-rich packstone. Skeletal components includes Benthic foraminifera (Amphistegina, sp., Lepidocyclus sp., Cycloclypeus Annulatus) and planktic foraminifera. None skeletal grains are organic matter. The components are poorly sorted. Black clotted matrix and micritic matrix connects the grains. Dog tooth calcite cements are found in the pores of the components. Dolomite rhombs forms in the pores adjacent to the dog tooth calcite crystals. Pore spaces are sometimes fully cemented with calcite. Most components do not have original shells or tests. They look like it has been recrystallized. Photos 32396101, 32396191, 32396131, 32400581.

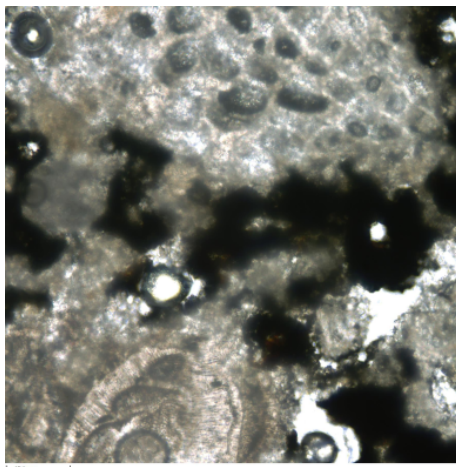
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



Position	Photomicrograph description
Row 1, center	Black clotted matrix

SEDIMENT/SEDIMENTARY ROCK

Lithology: grainstone

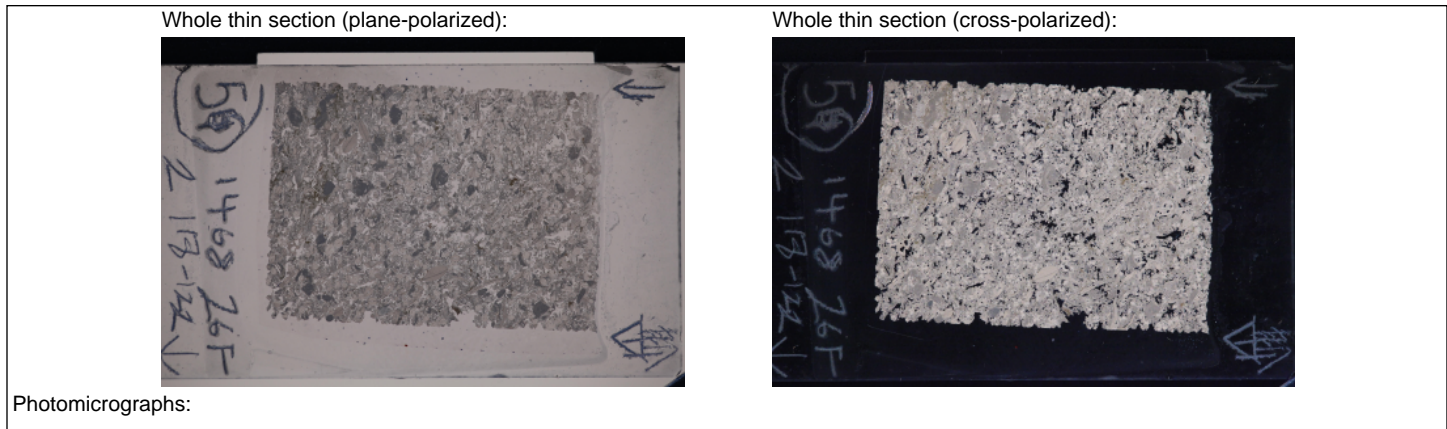
Skeletal components	major	intermediate	minor
type	foraminifera (large benthic)	red algae	Halimeda
comment	Amphistegina, Lepidocyclus.		

Cement type:

Porosity (major): interparticle

General comments: Broken bioclasts

THIN SECTION LABEL ID: **359-U1468A-26F-2-W 118/122-TSB-TS_56** Thin section no.: 56
 Unit/Subunit: Observer:
 Thin section summary: Thin section consist of packstone moderate sorted with skeletal grains size ~1 mm. Benthic foraminifera (Amphistegina, sp., Orpeculina sp., Cycloclypeus Annulatus, Miogypsinoides sp., Heterostegina sp.) is the most abundant skeletal grain, also, red algae fragments are commonly present. Few Halimeda and echinoderm fragments are sparse in sample. The major porosity type is intraparticle. Dogtooth calcite cement, syntaxial overgrowth and granular/sucrose calcite are present. MaSkeletal grain are preserved and no compaction or fragmentation can be seen. Encrusting possible microbialite structure binding different bioclasts.



SEDIMENT/SEDIMENTARY ROCK

Lithology: grainstone

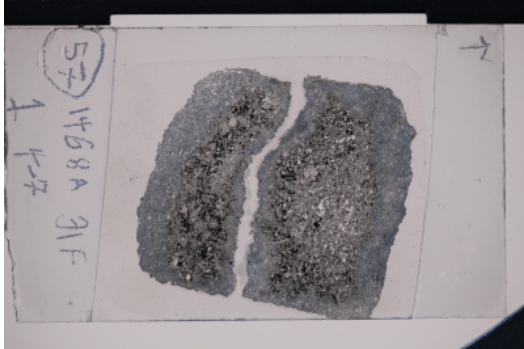
Skeletal components	major	intermediate	minor
type	foraminifera (large benthic)	red algae	Halimeda
comment	Amphistegina, Lepidocyclina, Cycloclypeus Annulatus, Heterostegina, Miogypsinoides		

Cement type: granular
 Porosity (major): interparticle

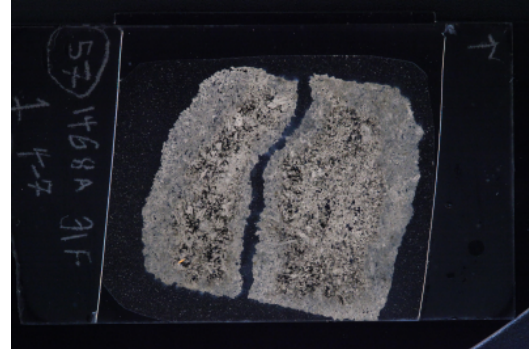
General comments: Encrusting microbialites structures binding different bioclasts.

THIN SECTION LABEL ID: **359-U1468A-31F-1-W 4/7-TSB-TS_57** Thin section no.: 57
 Unit/Subunit: Observer: JCL
 Thin section summary: Thin section consist of large benthic foraminifera-rich packstone. Benthic foraminifera (Amphistegina, sp., Lapidocyclus sp., Cycloclypeus Annulatus) and benthic foraminifera. Poorly sorted.

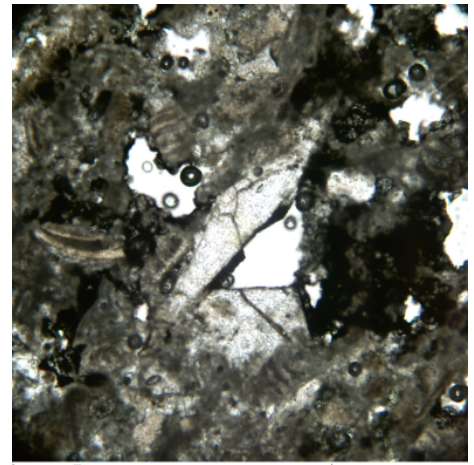
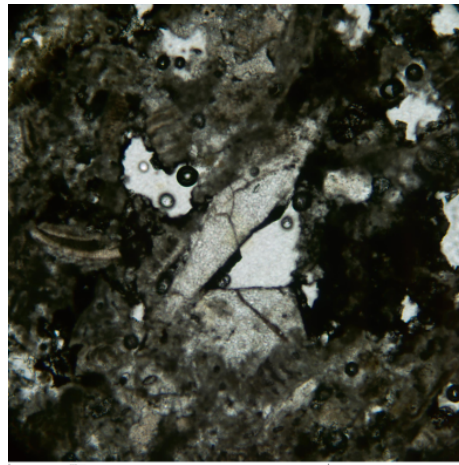
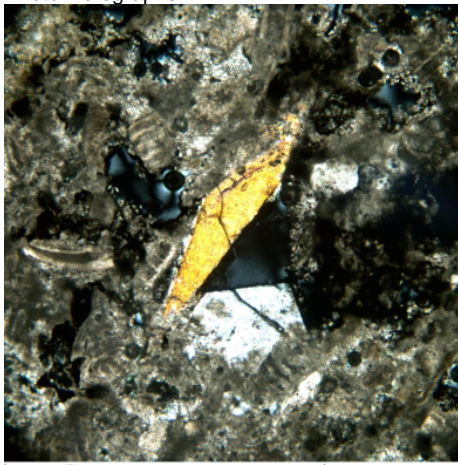
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



SEDIMENT/SEDIMENTARY ROCK

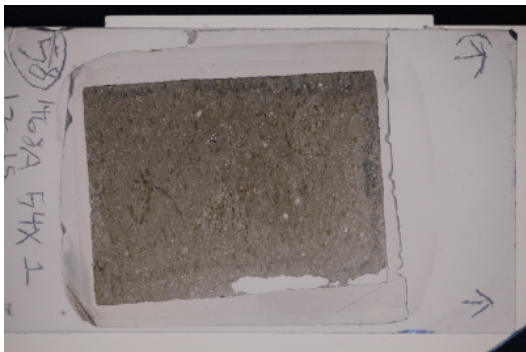
Lithology: packstone

Skeletal components	major	intermediate	minor
type	foraminifera (large benthic)	foraminifera (planktic)	
comment	Amphistegina, Cycloclypea, Lapidocyclus		

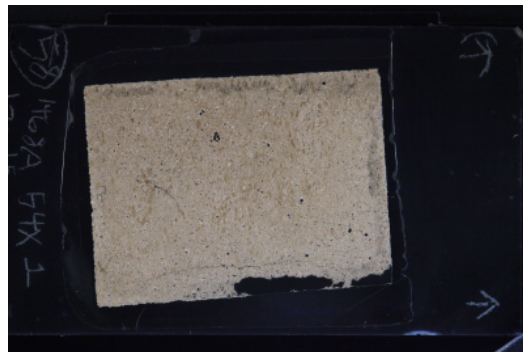
General comments: Poorly sorted

THIN SECTION LABEL ID: **359-U1468A-54X-1-W 12/15-TSB-TS_58** Thin section no.: 58
 Unit/Subunit: Observer: AL
 Thin section summary: Planktic foraminifera WACKESTONE from 330.72 mbsf to 330.75 mbsf. Other skeletal components are benthic foraminifera and bioclast fragments. Non-skeletal components are pellets and organic matters. Cement types present are dog tooth cements and microcrystalline sparite. Dog tooth cements are formed in the pores of the components. Dolomite rhombs are also found forming in the same pore space. The matrix is micritic. The major pore type is intraparticle porosity. The rock is slightly compacted with wispy seams (see photo 32402441 and 32402381). Bioturbation is also visible and are also slightly compacted.

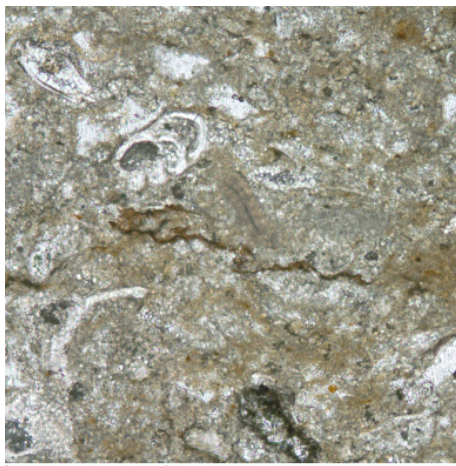
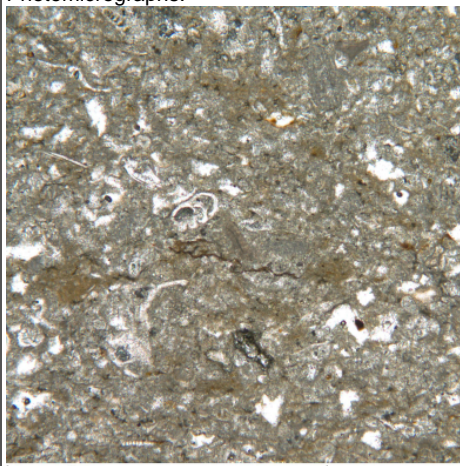
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



Position	Photomicrograph description
Row 1, left	wispy seams
Row 1, center	wispy seams

SEDIMENT/SEDIMENTARY ROCK

Lithology: wackestone

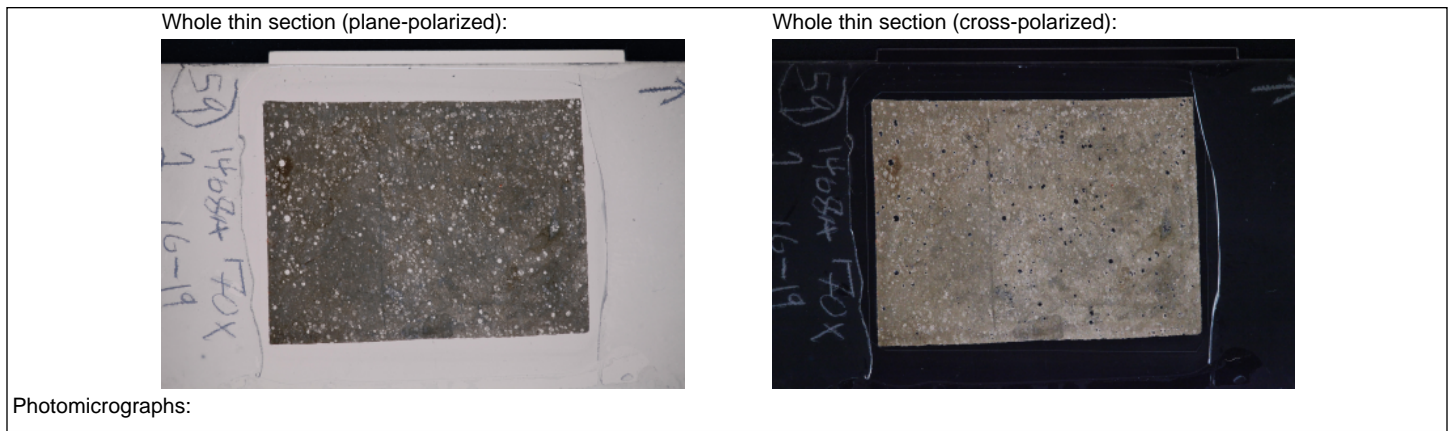
Skeletal components	major	intermediate	minor
type	foraminifera (planktic)		
comment		very small and fragmented bioclasts	

Cement type: micrite cement

Porosity (major): intraparticle

General comments: dog tooth cements and microcrystalline sparite present.

THIN SECTION LABEL ID: **359-U1468A-70X-1-W 16/19-TSB-TS_59** Thin section no.: 59
 Unit/Subunit: Observer: AL
 Thin section summary: Planktic foraminifera-rich WACKESTONE from 466.76 mbsf to 466.79 mbsf Planktic foraminifera are abundant, benthic foraminifera and echinoid fragments are present. Apatite is also present. Planktic foraminifera are flattened due to compaction. Foraminifera tests are infilled with black organics/pyrite?, besides having microcrystalline spar. The micritic matrix holds the components together and has dark clotted organics. Rim of the burrows are observed. Minor dissolution seams are observed. Intraparticle pore type is observed and the porosity is not more than 5% based on visual estimation.



SEDIMENT/SEDIMENTARY ROCK

Lithology: wackestone

Skeletal components	major	intermediate	minor
type	foraminifera (planktic)	foraminifera (benthic)	echinoderm
comment	slightly flattened	fragments	fragments

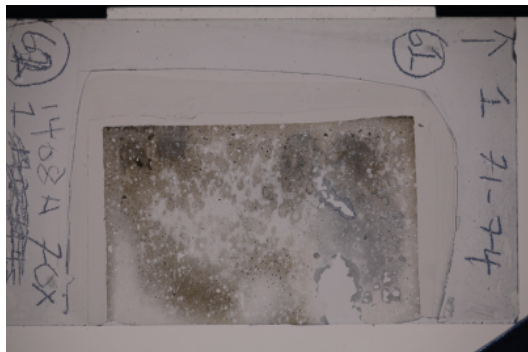
Cement type: micrite cement

Porosity (major): intraparticle

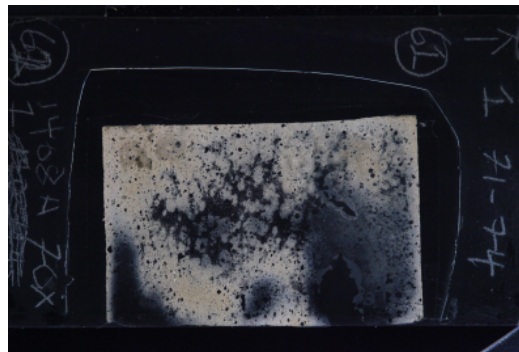
General comments: microcrystalline spar inside foram tests, compaction

THIN SECTION LABEL ID: **359-U1468A-70X-1-W 71/74-TSB-TS_61** Thin section no.: 62
 Unit/Subunit: Observer: OMB
 Thin section summary: Planktic foraminifera-rich WACKESTONE from 467.34 mbsf to 467.34 mbsf, overpolished. Many little bubbles from thin section processing. Planktic foraminifera and organic matter present. Most of the foraminifera are overpolished where the structures are almost gone. The shells and tests of components have been recrystallized and are welded into part of the microspar. Intraparticle porosity present. The matrix consists of microcrystalline spar.

Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:

SEDIMENT/SEDIMENTARY ROCK

Lithology: wackestone

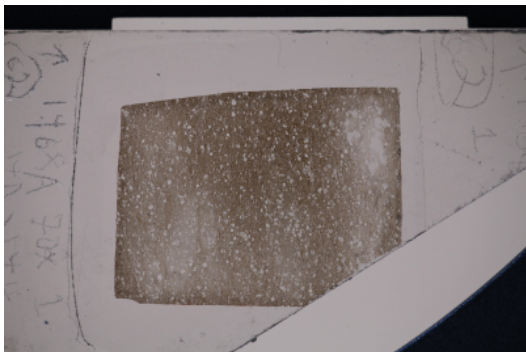
Skeletal components	major	intermediate	minor
type	foraminifera (planktic)		
comment			

Cement type: micrite cement

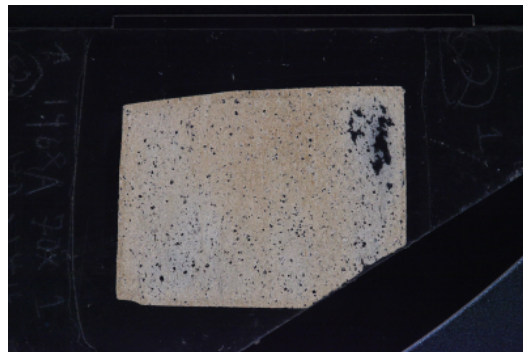
Porosity (major): intraparticle

THIN SECTION LABEL ID: **359-U1468A-70X-1-W 140/144-TSB-TS_62** Thin section no.: 62
 Unit/Subunit: Observer: AL
 Thin section summary: Planktic foraminifera-rich WACKESTONE from 468 mbsf to 468.04 mbsf. Planktic foraminifera are abundant and some are flattened. There are no cements inside the foraminifera. There are few benthic foraminifera. Apatite and OM are rare. OM are also flattened due to compaction. The flattened foraminifera and OM shows microlamination within the thin section. The main porosity is intraparticle porosity. Microcrystalline spar forms within the matrix.

Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:

SEDIMENT/SEDIMENTARY ROCK

Lithology: wackestone

Skeletal components	major	intermediate	minor
type	foraminifera (planktic)	foraminifera (benthic)	
comment	slightly flattened	few	

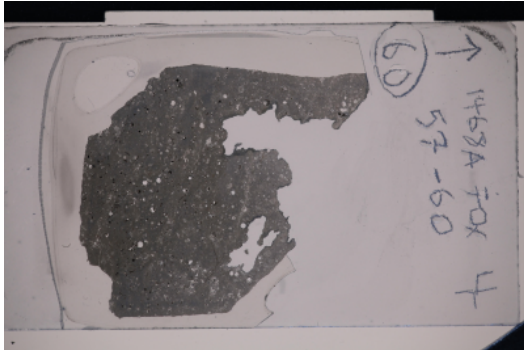
Cement type: micrite cement

Porosity (major): intraparticle

General comments: microcrystalline spar within matrix.

THIN SECTION LABEL ID: **359-U1468A-70X-4-W 57/60-TSB-TS_60** Thin section no.: 60
 Unit/Subunit: Observer: AL
 Thin section summary: MUDSTONE from 467.34 mbsf to 467.34 mbsf. Skeletal components are abundant planktic foraminifera and few benthic foraminifera. The chambers of the foraminifera have black organic infill and dog tooth calcite crystals. Non-skeletal components are few organic matter and few light brown translucent apatite crystals. Intraparticle porosity observed. Micritic matrix. Bioturbation is visible.

Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:

SEDIMENT/SEDIMENTARY ROCK

Lithology: mudstone

Skeletal components	major	intermediate	minor
type	foraminifera (planktic)	foraminifera (benthic)	
comment	abundant	few	

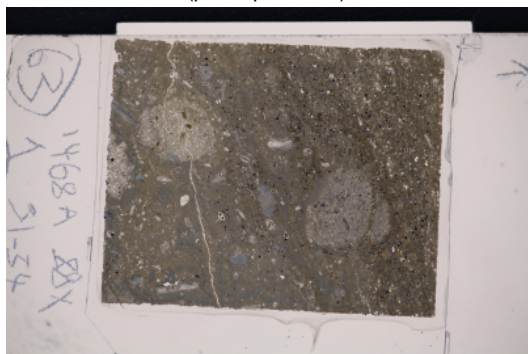
Cement type: micrite cement

Porosity (major): intraparticle

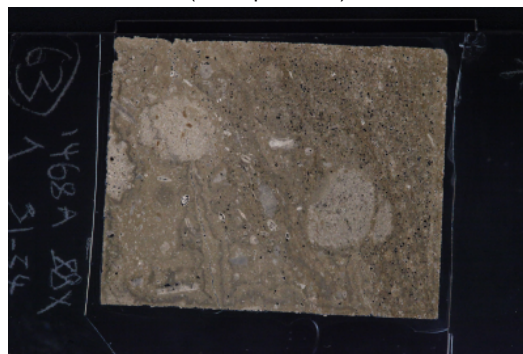
General comments: visible bioturbation. the chambers have black organic infill and dog tooth crystals

THIN SECTION LABEL ID: **359-U1468A-88X-1-W 31/34-TSB-TS_63** Thin section no.: 63
 Unit/Subunit: Observer: OMB
 Thin section summary: Planktic foraminifera-rich WACKESTONE from 641.61 mbsf to 641.64 mbsf, abundant planktic foraminifera, few large benthic foraminifera (Miogypsina, Amphistegina, Lepidocyclina, Heterostegina), rare shell fragments, echinoderm spines and benthic foraminifera. Non-skeletal components are organic matter and pellets. Burrows (~5mm) filled with peloidal planktic foraminifera-rich PACKSTONE. Pyrite, dogtooth and microcrystalline cements fill intraparticle porosity, some micritization at the outer edge of some of the tests. Dogtooth cements are growing in relatively empty pores and microcrystalline cements are growing inside smaller and partially filled pores.

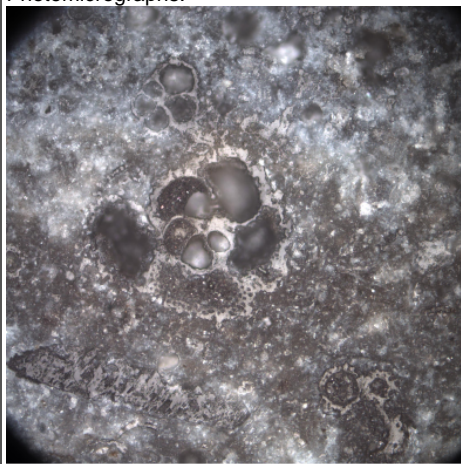
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



Position	Photomicrograph description
Row 1, left	Reflected light, pyrite filling intraparticle porosity (foraminifera)

SEDIMENT/SEDIMENTARY ROCK

Lithology: wackestone

Skeletal components	major	intermediate	minor
type	foraminifera (planktic)	foraminifera (large benthic)	shell fragment
comment		Miogypsina, Amphistegina, Lapidocyclina, heterostegina	

Cement type:

Porosity (major): intraparticle

General comments: Burrows, ~5mm in diameter, filled with finer grained packstone rich in planktic foraminifera and peloids.

THIN SECTION LABEL ID: **359-U1468A-107X-1-W 86/89-TSB-TS_64**

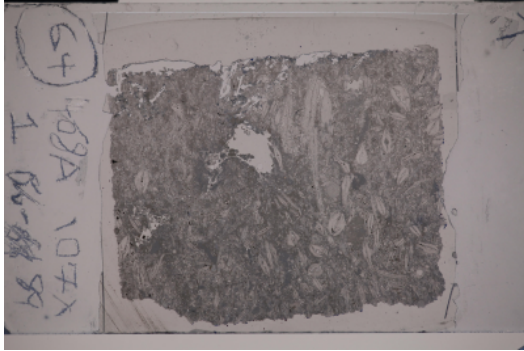
Thin section no.: 64

Unit/Subunit:

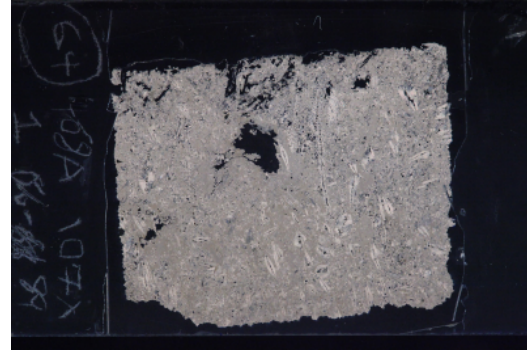
Observer: AL

Thin section summary: RUDSTONE from 824.46 to 826.49 mbsf consisting mainly of large benthic foraminifera (Nummulites, Heterostegina, Cycloclypeus, Lepidocyclina). Other skeletal components are planktic foraminifera and red algae. There are no none skeletal grains. The cement types found are dog tooth cements and microcrystalline cements. Dog tooth cements are found forming inside intraparticle pore spaces. Microcrystalline cements are found as bridging cements between the skeletal components at areas without micritic cements.

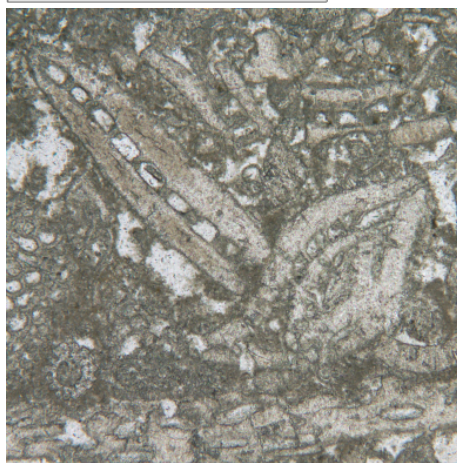
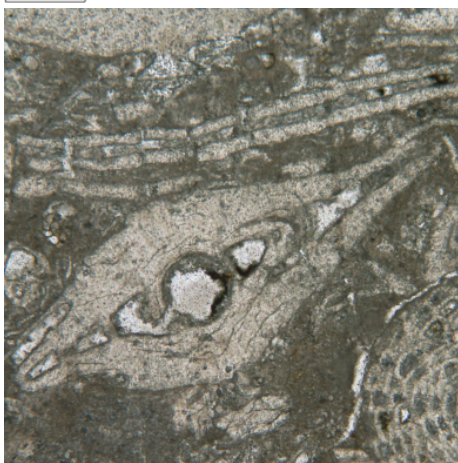
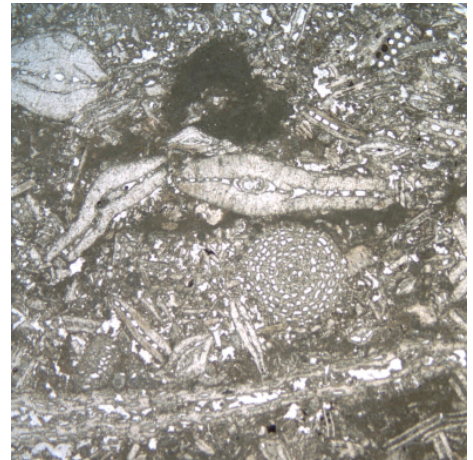
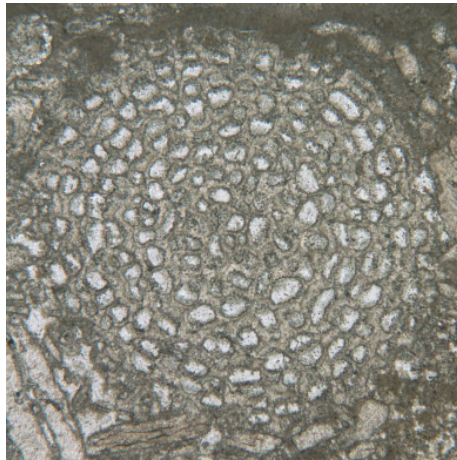
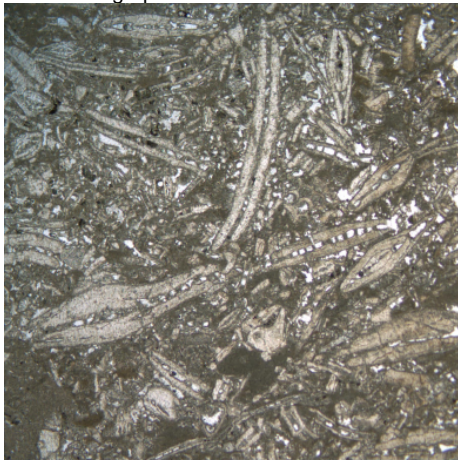
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



Position	Photomicrograph description
Row 1, left	Large BF
Row 1, center	Large BF
Row 1, right	Large BF
Row 2, left	Large BF
Row 2, center	Large BF

SEDIMENT/SEDIMENTARY ROCK

Lithology: rudstone

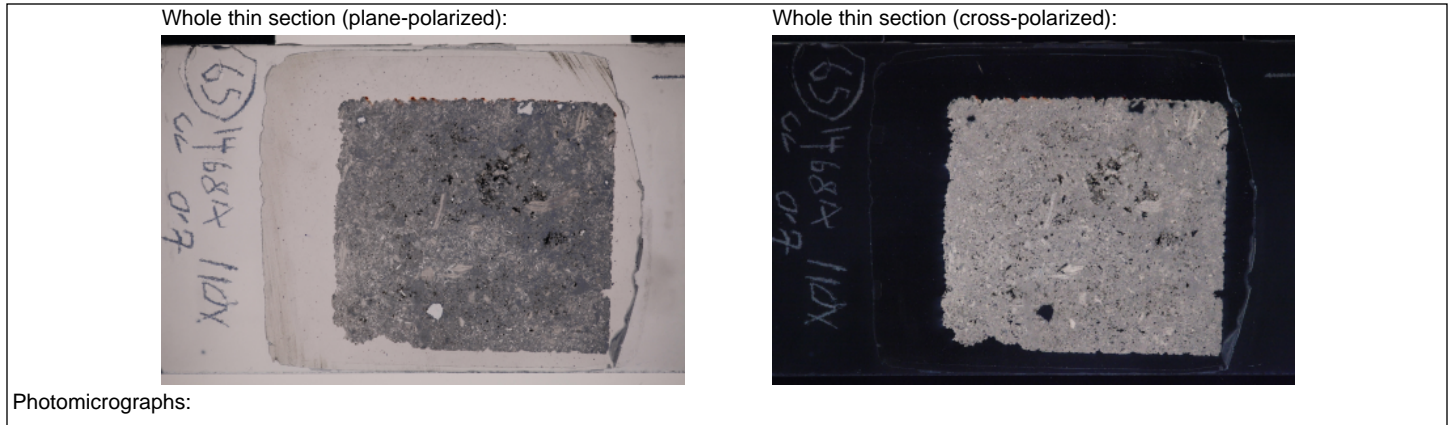
Skeletal components	major	intermediate	minor
type	foraminifera (large benthic)	foraminifera (planktic)	red algae
comment	Nummulites, Heterostegina, Cycloclypeus, Lepidocyclina		

Cement type: micrite cement

Porosity (major): intraparticle

General comments: dog tooth cements, microcrystalline cements

THIN SECTION LABEL ID: **359-U1468A-110X-CC-PAL-TSB-TS_65** Thin section no.: 65
 Unit/Subunit: Observer: AL
 Thin section summary: WACKESTONE from 854.7 to 854.77 mbsf consisting mainly of large benthic foraminifera (Heterostegina, Amphistegina, Lepidocyclus) within a micritic matrix. Other skeletal components are red algae, echinoid fragments, echinoid spines and Halimeda. Most skeletal components are fragmented and have no sorting. Non skeletal components includes pyrite and glauconite. Both pyrite and glauconite are found within the chambers of the foraminifera. Dog tooth calcite cements are found inside the intraparticle porosity. No dolomites have been observed.



SEDIMENT/SEDIMENTARY ROCK

Lithology: wackestone

Skeletal components	major	intermediate	minor
type	foraminifera (large benthic)	red algae	echinoderm
comment	Heterostegina, Amphistegina, Lepidocyclus		Halimeda

Cement type: micrite cement

Porosity (major): intraparticle

General comments: dog tooth cements

THIN SECTION LABEL ID: **359-U1468A-111X-CC-W 0/2-TSB-TS_66**

Thin section no.: 66

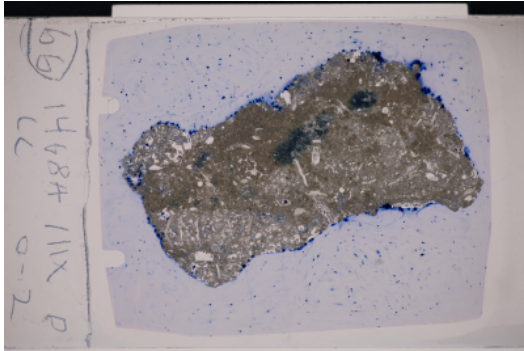
Unit/Subunit:

Observer: AL

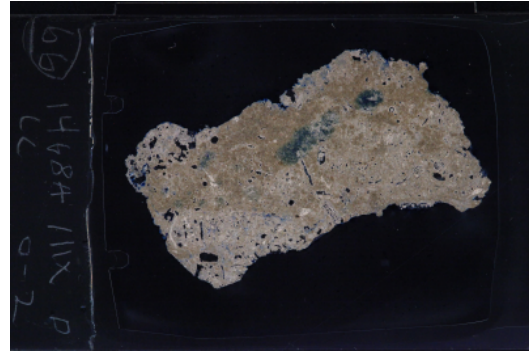
Thin section summary:

WACKESTONE from the pale gray rock. Skeletal components consists of large benthic foraminifera (Operculina, Amphistegina, Heterostegina, Alveolina) and small benthic foraminifera (Miliolids). Most of the original skeletal frame of the components have been micritized. Sometimes, the skeletal frames are left as moldic pores. The matrix is composed of micrite. There are peloids within the burrows. Around the peloids are dog tooth calcite crystals. The cement connecting the peloids are drusy cements. No dolomites have been observed.

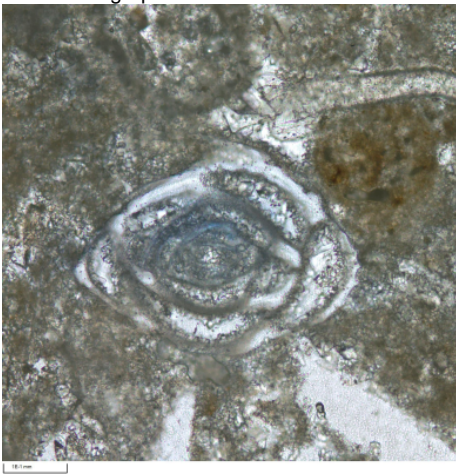
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



THIN SECTION LABEL ID: **359-U1468A-111X-CC-W 0/2-TSB-TS_67**

Thin section no.: 67

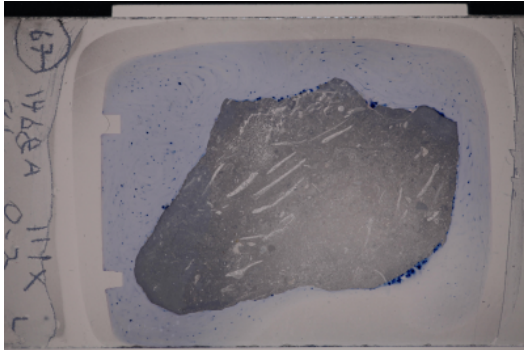
Unit/Subunit:

Observer: AL

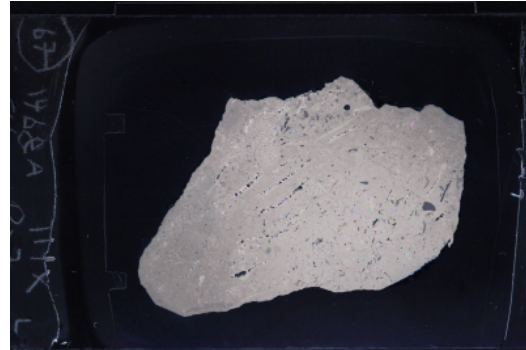
Thin section summary:

WACKESTONE from the pale yellow rock at 865 to 865.02 mbsf. Skeletal components includes echinoid fragments and spines; planktic and benthic foraminifera (Heterostegina, Amphistegina); bryozoan, Halimeda, bivalves, ostracods, corals and red algae. The red algae preserved with its original hook feature. Most components are dissolved and features micrite or blocky calcite cements. Non-skeletal components includes peloids. All the components are within a micritic matrix. Geopetal structures are observed throughout indicating the orientation at time of deposition. Photos of dissolved Halimeda with blocky calcite cement (32432151, 32432171, 32432191), coral (32431591), geopetal (32432431, 32432451, 32432411), hooked red algae (32431581, 32409131)

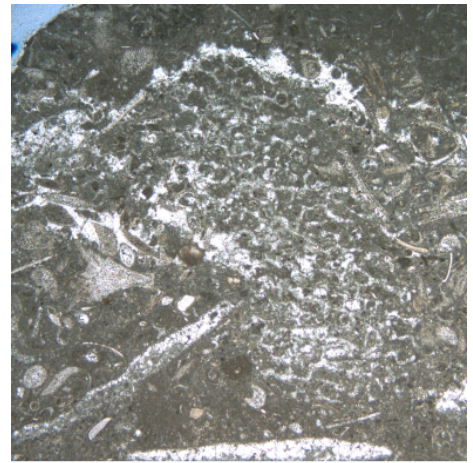
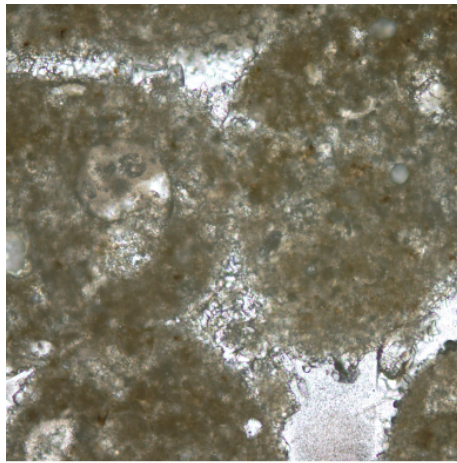
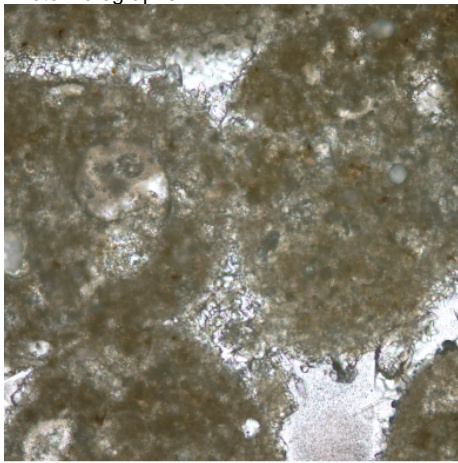
Whole thin section (plane-polarized):

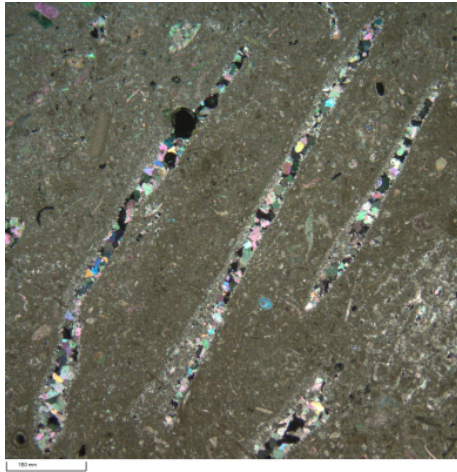
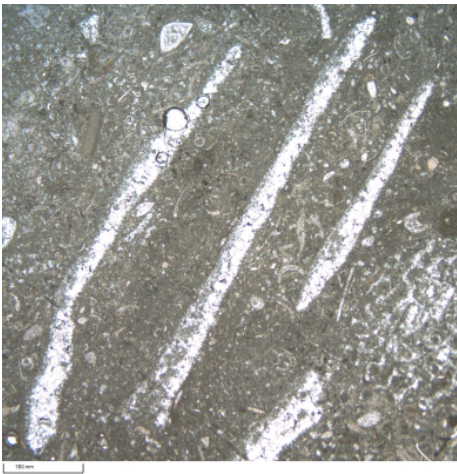


Whole thin section (cross-polarized):



Photomicrographs:





Position	Photomicrograph description
Row 1, left	hooked red algae
Row 1, center	geopetal
Row 1, right	coral
Row 2, left	Halimeda with blocky calcite
Row 2, center	Halimeda with blocky calcite

SEDIMENT/SEDIMENTARY ROCK

Lithology: wackestone

Skeletal components	major	intermediate	minor
type	echinoderm	red algae	Halimeda
comment	fragments and spines	hooked RA	modic

Cement type: micrite cement

Porosity (major): intraparticle

General comments: dissolved bryozoa, large BF, planktic foram, bivalves, ostracods