

THIN SECTION LABEL ID: **359-U1465A-10H-CC-W 0/1-TSB-TS\_01a**

Thin section no.: 01-A

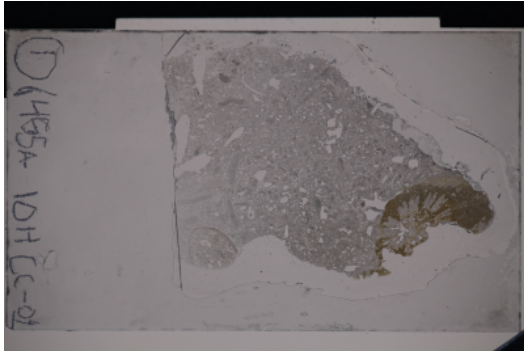
Unit/Subunit:

Observer: JCL/AL

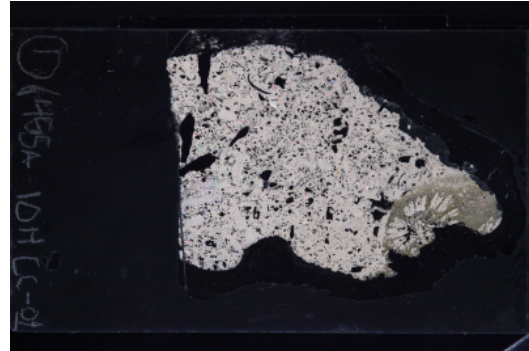
Thin section summary:

Skeletal PACKSTONE/FLOATSTONE Components (skeletal): Red algae (C), benthic forams (nummulites?) (C) - *Lepidocyclina*, *Discocyclina*, *Cirripedia*, *Miogypsinoidea* (P), *Amphistegina* planktic forams (rare) sponge spicules Components (non-skeletal): brown crystals in PPL and black in XPL Cement types: microcrystalline or microspar, HMC and dolomite (?), chert cements, dog-tooth cements, bladed cements, acicular cements cement paragenesis: dissolution, calcite marine cements, dolomitization, silica precipitation Pore types: moldic porosity, vugs porosity: 20%

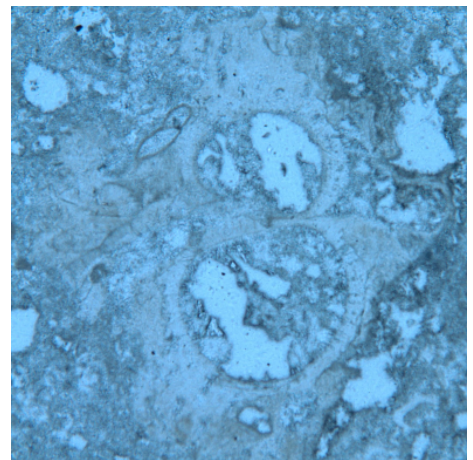
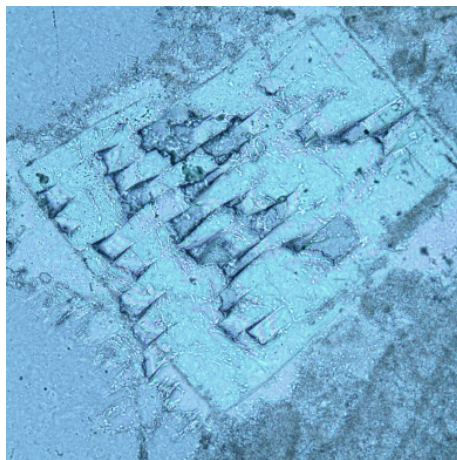
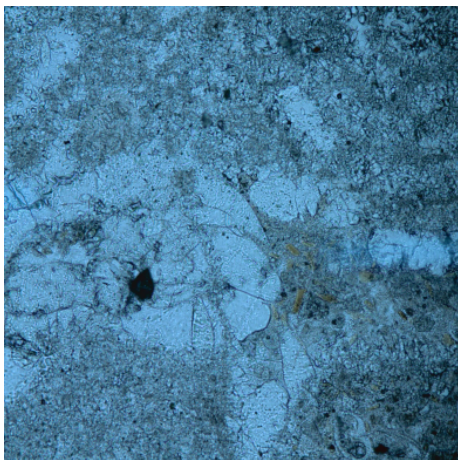
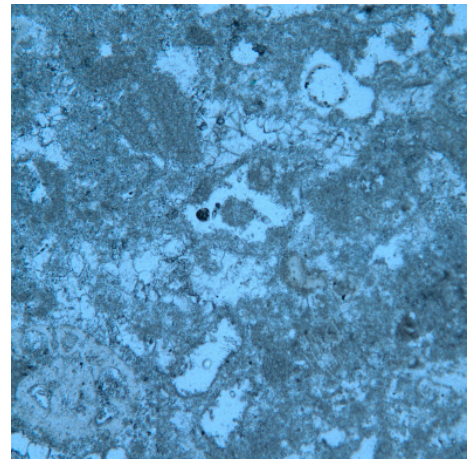
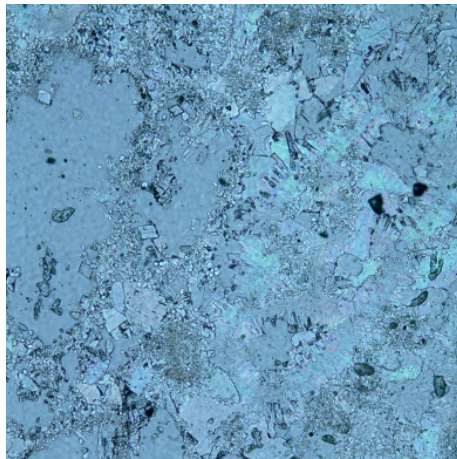
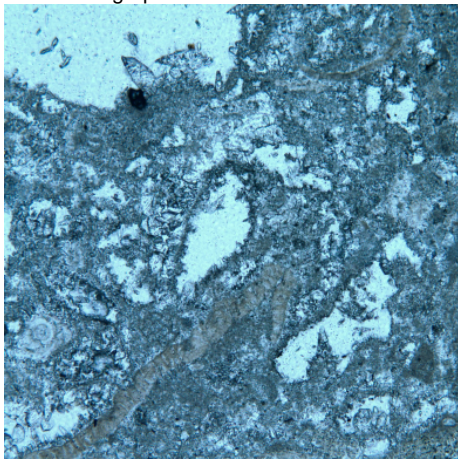
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



**SEDIMENT/SEDIMENTARY ROCK**

Lithology: packstone

| Skeletal components | major     | intermediate                                                                                    | minor            |
|---------------------|-----------|-------------------------------------------------------------------------------------------------|------------------|
| type                | red algae | foraminifera (large benthic)                                                                    | coral (solitary) |
| comment             |           | Lepidocyclina sp, Amphestegina sp.,<br>Cirripedia sp., Dyscocyclina sp.,<br>Miogypsinoides sp., |                  |

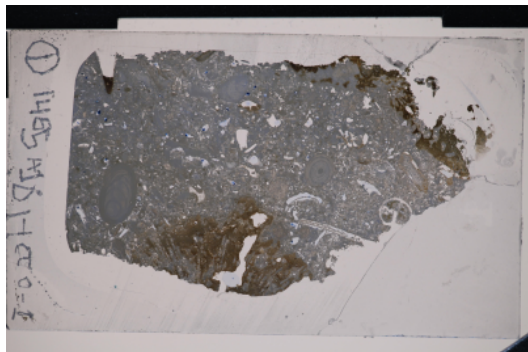
Cement type: acicular

Porosity (major): moldic

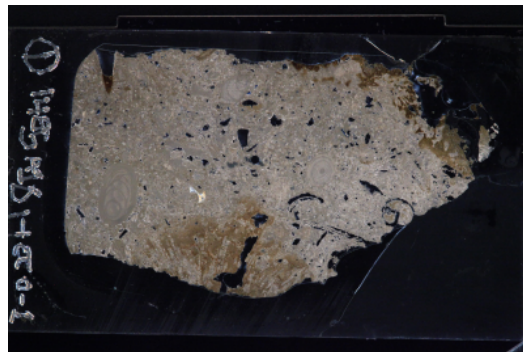
General comments: Extra skeletal grain observed: Planktic foraminifera, spicules sponges. Microcrystalline calcite and dolomite, chert cements, dog tooth calcite cemnt. arrow shape calcite crystals. Paragenesis: 1) Dissolution 2) Calcite marine cements 3) Dolomitization 4) Silica precipitation

THIN SECTION LABEL ID: **359-U1465A-10H-CC-W 0/1-TSB-TS\_01b** Thin section no.: 01-B  
 Unit/Subunit: Observer: JCL  
 Thin section summary: Skeletal PACKSTONE Components (Skeletal): red algae (C), Gastropods (C), benthic forams: Nummulites (C) - Lepidocyclima, Halimeda (F), bryozoan (P) Components (non-skeletal): nodosarid Cement type: silica cementation, dolomite microcrystalline cements (dolomite), fibrous marine cement, micritic cements cement paragenesis: dissolution, marine cements, silicification Pore types: moldic (vugs) porosity: 10%

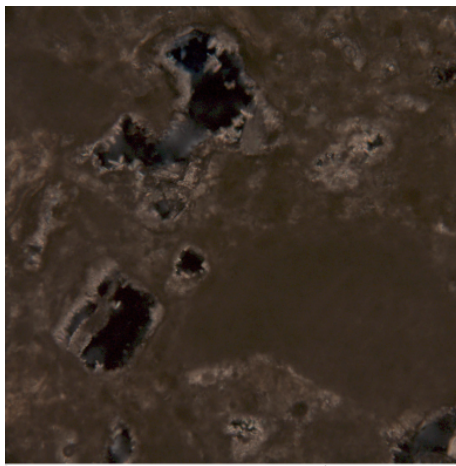
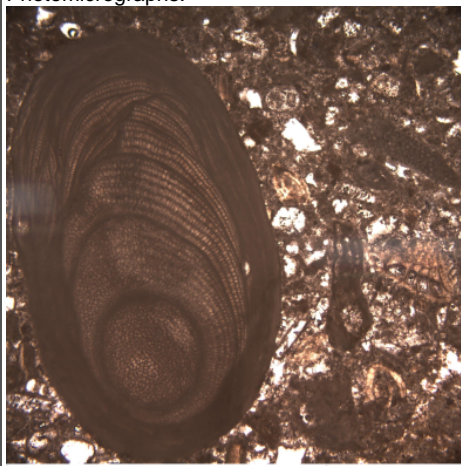
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



**SEDIMENT/SEDIMENTARY ROCK**

Lithology: packstone

| Skeletal components | major     | intermediate | minor                        |
|---------------------|-----------|--------------|------------------------------|
| type                | red algae | gastropod    | foraminifera (large benthic) |
| comment             |           |              | Lepidocyclina sp.            |

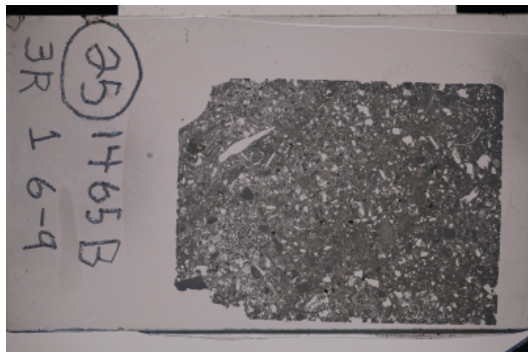
Cement type: dog tooth

Porosity (major): moldic

General comments: Cements: Silica cements, microcrystalline dolomite, auricular cements, dogtooth and bladed. Paragenesis: 1)Dissolution 2)Marine cements (Auriculars) 3) Dolomitization 3) Silicification

THIN SECTION LABEL ID: **359-U1465B-3R-1-W 6/9-TSB-TS\_25** Thin section no.: 25  
 Unit/Subunit: Observer:  
 Thin section summary: The sample has been classified of a packstone with abundant red algae and large benthic foraminifera (*Amphystegina* sp., *Lepidocyclina* sp.) common echinoid spines, pellets and *Halimeda* fragments are present in a micritic matrix. Most of the bioclastic grains are dissolved and filled by dogtooth and drusy cements (see figure xx). Visual porosity is approximately 20% of moldic pores. Dolomite is present as cement with crystals ~ 50ÅÅµm.

Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:

**SEDIMENT/SEDIMENTARY ROCK**

Lithology: packstone

| Skeletal components | major     | intermediate     | minor                        |
|---------------------|-----------|------------------|------------------------------|
| type                | red algae | coral (solitary) | foraminifera (large benthic) |
| comment             |           |                  |                              |

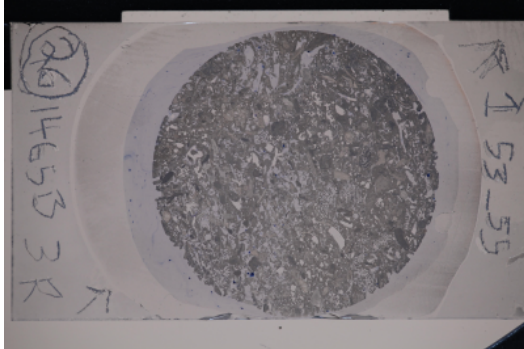
Cement type: dog tooth

Porosity (major): moldic

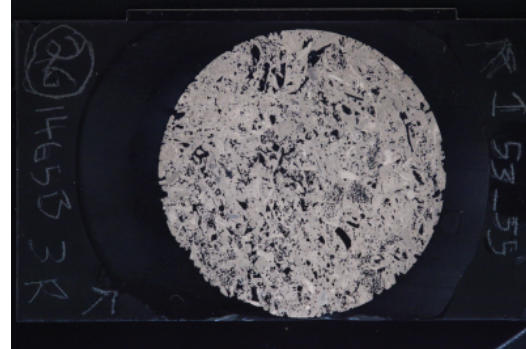
General comments: The sample has been classified as packstone with abundant red algae and large benthic foraminifera (*Amphystegina* sp., *Lepidocyclina* sp.) common echinoid spines, pellets and *Halimeda* fragments are present in a micritic matrix. Most of the bioclastic grains are dissolved and filled by dogtooth and drusy cements (see figure xx). Visual porosity is approximately 20% of moldic pores. Dolomite is present as cement with crystals ~ 50ÅÅµm.

THIN SECTION LABEL ID: **359-U1465B-3R-1-W 53/55-TSB-TS\_26** Thin section no.: 26  
 Unit/Subunit: Observer: OMB  
 Thin section summary: The sample consists of a packstone with abundant coral fragments. Common red algae and shell fragments, few benthic foraminifera and echinoids fragments. Rare bryozoans. Micritic matrix. Peloids are present in cement. Bioclastic grains show intraparticle porosity and dissolution and filled by dog tooth cements present, small amount of silica pore fill. Visual porosity is approximately 50% of moldic and intraparticle pores. Dolomite rhombs is present in pores as cement, temporal relation unclear.

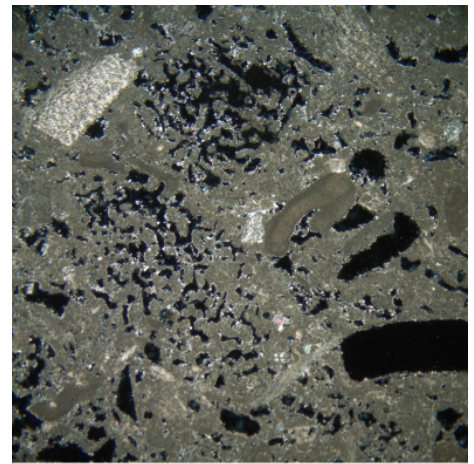
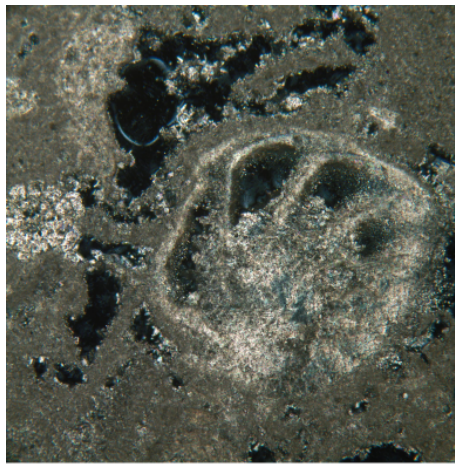
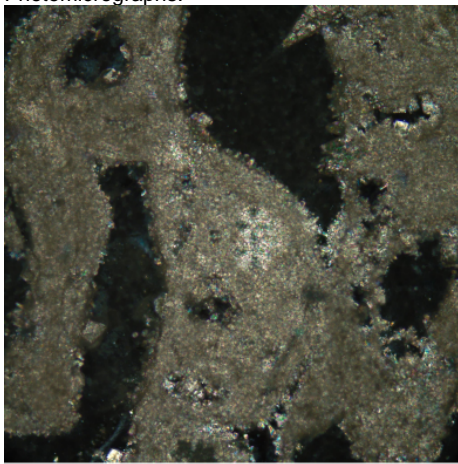
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



| Position      | Photomicrograph description                             |
|---------------|---------------------------------------------------------|
| Row 1, left   | XPL of cement fill                                      |
| Row 1, center | Foraminifera (benthic), cement filled, echinoid spine   |
| Row 1, right  | Overview, shows corals, red algae and echinoid fragment |

**SEDIMENT/SEDIMENTARY ROCK**

Lithology: packstone

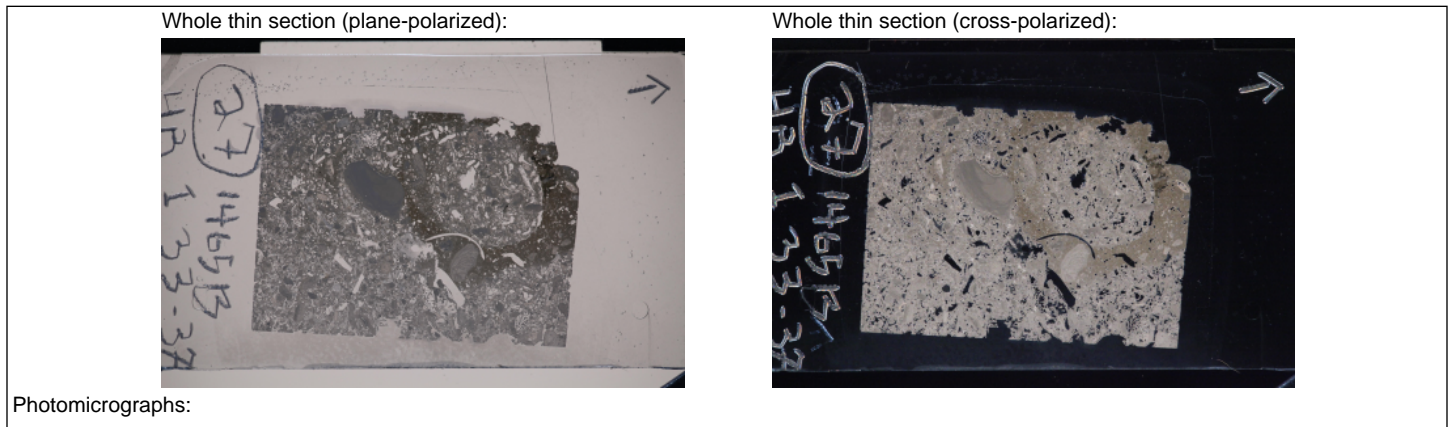
| Skeletal components | major           | intermediate | minor          |
|---------------------|-----------------|--------------|----------------|
| type                | coral (massive) | red algae    | shell fragment |
| comment             | fragments       | branching    | baivalve?      |

Cement type: dog tooth

Porosity (major): intraparticle

General comments: Also present: benthic foraminifera (F), bryozoa (R) and echinoid fragments (F)

THIN SECTION LABEL ID: **359-U1465B-4R-1-W 33/37-TSB-TS\_27** Thin section no.: 27  
 Unit/Subunit: Observer:  
 Thin section summary: The sample consists of a packstone with abundant red algae and large benthic foraminifera (*Amphystegina* sp., *Lepidocyclus* sp.) common shell fragments and *Halimeda* fragments are present in a micritic matrix. Most of the bioclastic grains are dissolved and filled by dogtooth and drusy cements. Visual porosity is approximately 30% of moldic pores. Dolomite is present as cement with crystals ~between ~25 ÅÅµm to 50 ÅÅµm.



**SEDIMENT/SEDIMENTARY ROCK**

Lithology: packstone

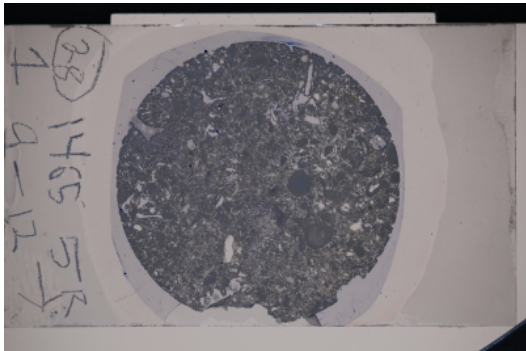
| Skeletal components | major     | intermediate                 | minor           |
|---------------------|-----------|------------------------------|-----------------|
| type                | red algae | foraminifera (large benthic) | <i>Halimeda</i> |
| comment             |           |                              |                 |

Cement type: dog tooth  
 Porosity (major): moldic

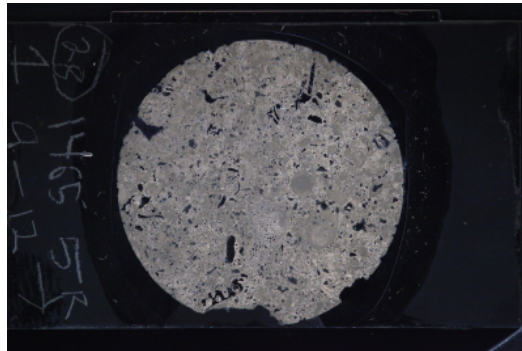
General comments: The sample consists in packstone with abundant red algae and large benthic foraminifera (*Amphystegina* sp., *Lepidocyclus* sp.) common shell fragments and *Halimeda* fragments are present in a micritic matrix. Most of the bioclastic grains are dissolved and filled by dogtooth and drusy cements. Visual porosity is approximately 30% of moldic pores. Dolomite is present as cement with crystals ~between ~25 ÅÅµm to 50 ÅÅµm.

THIN SECTION LABEL ID: **359-U1465B-5R-1-W 9/12-TSB-TS\_28** Thin section no.: 28  
 Unit/Subunit: Observer: OMB  
 Thin section summary: The sample consists of a grainstone with bioclastic grains (micritized and moldic porosity at times) and peloids. Benthic foraminifera are common, few Halimeda. Rare shell fragments and red algae. Coral fragment and large benthic foraminifera (Operculina, Miogypsonid?) are present; possible cortoids relicts. Bioclastic grains show moldic porosity and dissolution and filled by dog tooth cements, small intraparticle vugs. Visual porosity is approximately 20% of moldic and intraparticle pores. Dolomite rhombs is present in pores as cement.

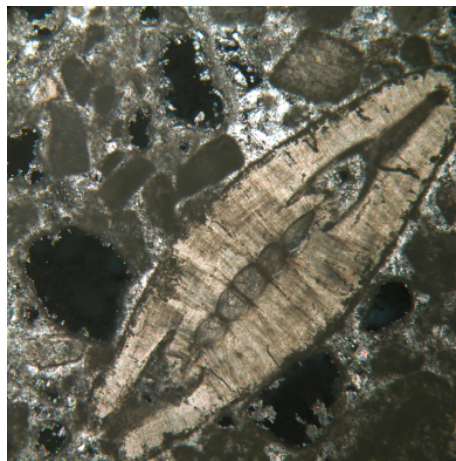
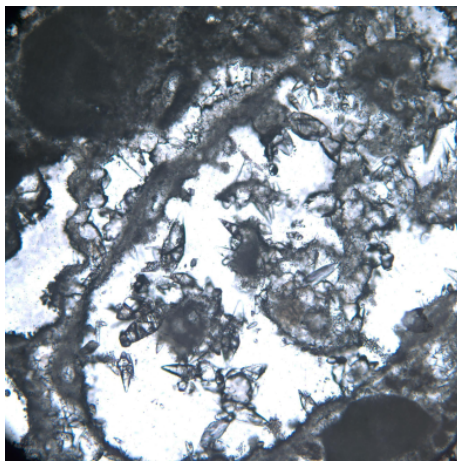
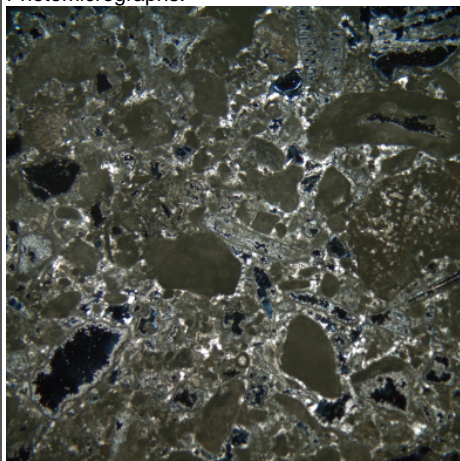
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



| Position      | Photomicrograph description              |
|---------------|------------------------------------------|
| Row 1, left   | Overview image showing common components |
| Row 1, center | Large benthic foraminifera               |
| Row 1, right  | Large benthic foraminifera               |

SEDIMENT/SEDIMENTARY ROCK

Lithology: grainstone

| Skeletal components | major                                  | intermediate           | minor    |
|---------------------|----------------------------------------|------------------------|----------|
| type                | calcareous bioclast                    | foraminifera (benthic) | halimeda |
| comment             | also as moldic porosity and micritized |                        |          |

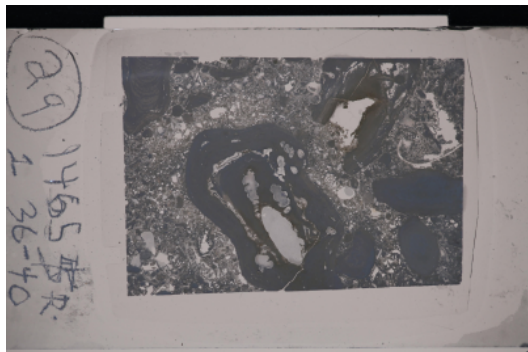
Cement type: dog tooth

Porosity (major): moldic

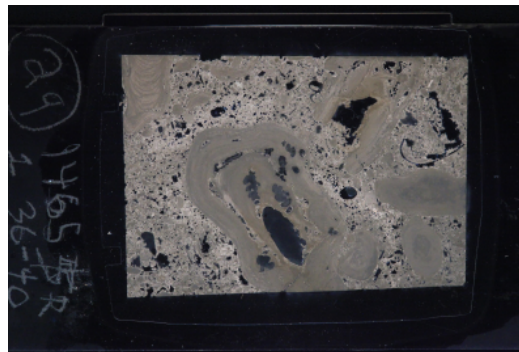
General comments: Also present: Large benthic foraminifera (Operculina, Miogypsina?), Coral fragment, shell fragments and red algae.

THIN SECTION LABEL ID: **359-U1465B-5R-1-W 36/40-TSB-TS\_29** Thin section no.: 29  
 Unit/Subunit: Observer:  
 Thin section summary: The sample consists of a floatstone/rudstone with abundant red algae and large benthic foraminifera (*Amphystegina* sp.) common *Halimeda* and corals fragments are present with not matrix. Most of the bioclastic grains are dissolved and filled by dogtooth and drusy and poikilotopic cements. Visual porosity is approximately 40% of moldic and intercrystalline pores. Dolomite is present as cement with crystals ~between ~25 ÅÅµm to 50 ÅÅµm.

Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:

**SEDIMENT/SEDIMENTARY ROCK**

Lithology: floatstone

| Skeletal components | major     | intermediate     | minor                        |
|---------------------|-----------|------------------|------------------------------|
| type                | red algae | coral (solitary) | foraminifera (large benthic) |
| comment             |           |                  |                              |

Cement type: dog tooth

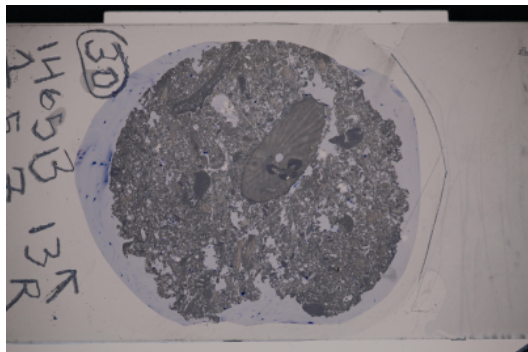
Porosity (major): moldic

General comments: The sample consists in grainstone with abundant red algae and large benthic foraminifera (*Amphystegina* sp.) common *Halimeda* and corals fragments are present with not matrix. Most of the bioclastic grains are dissolved and filled by dogtooth and drusy and poikilotopic cements. Visual porosity is approximately 40% of moldic and intercrystalline pores. Dolomite is present as cement with crystals ~between ~25 ÅÅµm to 50 ÅÅµm.

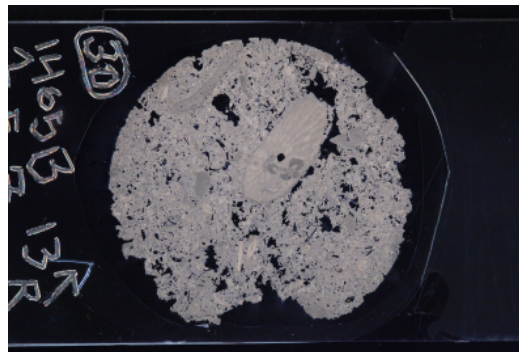


THIN SECTION LABEL ID: **359-U1465B-13R-1-W 5/7-TSB-TS\_30** Thin section no.: 30  
 Unit/Subunit: Observer:  
 Thin section summary: The sample consists of a grainstone with abundant red algae and large benthic foraminifera (*Amphystegina* sp.) common *Halimeda* and corals fragments are present with not matrix. Bioclastic grains show dissolution and filled by dogtooth, fibrous and rare poikilotopic cements present. Visual porosity is approximately 40% of moldic, intercrystalline and intergranular pores. Dolomite is present as cement with crystals ~between ~25 ÅÅµm to 50 ÅÅµm.

Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:

**SEDIMENT/SEDIMENTARY ROCK**

Lithology: grainstone

| Skeletal components | major     | intermediate                 | minor            |
|---------------------|-----------|------------------------------|------------------|
| type                | red algae | foraminifera (large benthic) | coral (solitary) |
| comment             |           |                              |                  |

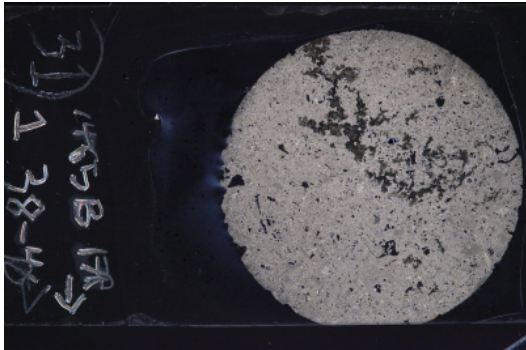
Cement type: dog tooth

Porosity (major): moldic

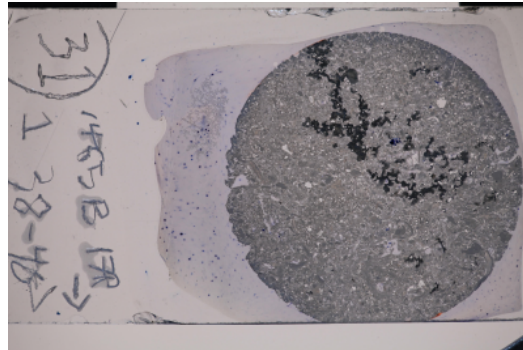
General comments: The sample consists in grainstone with abundant red algae and large benthic foraminifera (*Amphystegina* sp.) common *Halimeda* and corals fragments are present with not matrix. Bioclastic grains show dissolution and filled by dogtooth, fibrous and rare poikilotopic cements present. Visual porosity is approximately 40% of moldic, intercrystalline and intergranular pores. Dolomite is present as cement with crystals ~between ~25 ÅÅµm to 50 ÅÅµm.

|                                                                  |                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THIN SECTION LABEL ID: <b>359-U1465B-17R-1-W 38/40-TSB-TS_31</b> | Thin section no.: 31                                                                                                                                                                                                                                                                                    |
| Unit/Subunit:                                                    | Observer:                                                                                                                                                                                                                                                                                               |
| Thin section summary:                                            | The sample consists of a packstone with abundant Halimeda, benthic foraminifera (Amphystegina sp. Heterostegina sp., Miogypsinooides sp., Borelis sp., and milioloids) and common red algae. Oyster fragment is present. The pores are mostly intraparticle and partially infilled by dogtooth cements. |

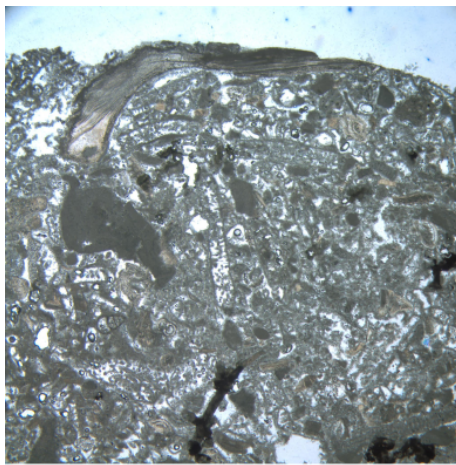
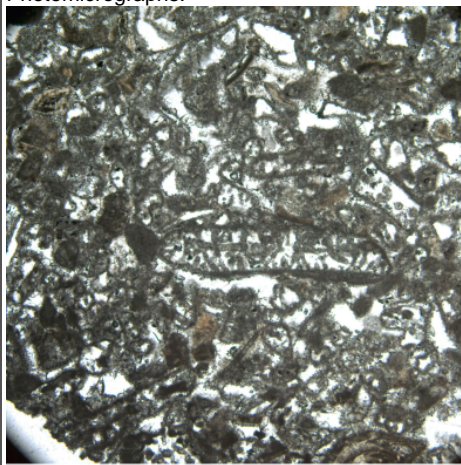
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



| Position    | Photomicrograph description |
|-------------|-----------------------------|
| Row 1, left | Oyster and Halimeda.        |

**SEDIMENT/SEDIMENTARY ROCK**

Lithology: packstone

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

Cement type: fibrous

Porosity (major): interparticle

General comments: PACKSTONE with abundant large benthic foraminifera and green algae Halimeda. Also, common red algae and rare planktic foraminifera, occasionally shell fragments

General comments: The sample consists of a packstone with abundant Halimeda, benthic foraminifera (Amphystegina sp. Heterostegina sp., Miogypsinooides sp., Borelis sp., and milioloids) and common red algae. Oyster fragment is present. The pores are mostly intraparticle and partially infilled by dogtooth cements.

**SEDIMENT/SEDIMENTARY ROCK**

Lithology: packstone

| Skeletal components | major    | intermediate                 | minor     |
|---------------------|----------|------------------------------|-----------|
| type                | Halimeda | foraminifera (large benthic) | red algae |
| comment             |          |                              |           |

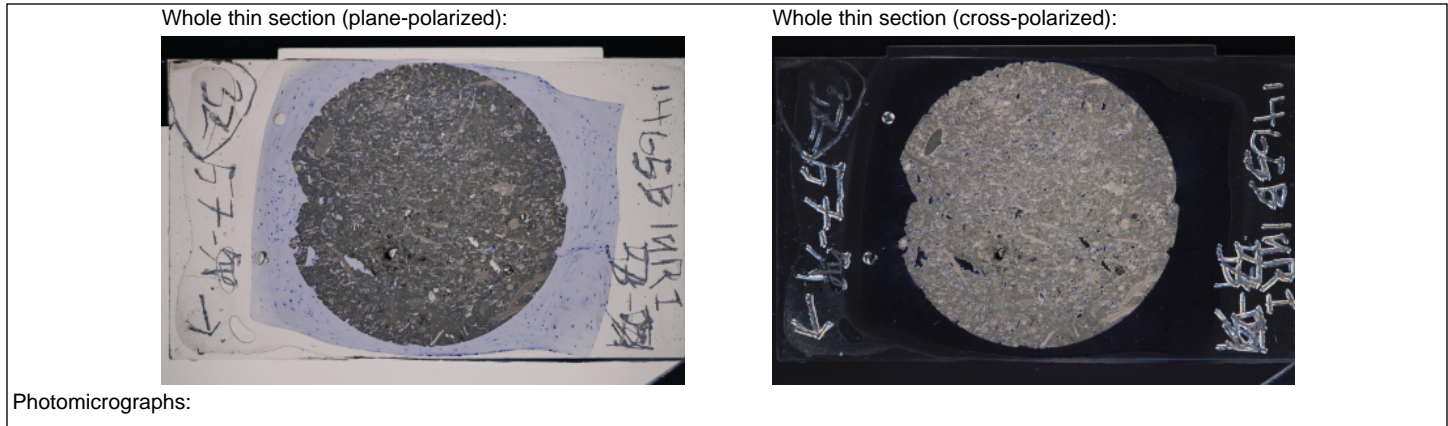
Cement type: dog tooth

Porosity (major): intraparticle

General comments: PACKSTONE with abundant large benthic foraminifera and green algae Halimeda. Also, common red algae and rare planktic foraminifera, occasionally shell fragments

General comments: The sample consists of a packstone with abundant Halimeda, benthic foraminifera (*Amphystegina* sp. *Heterostegina* sp., *Miogypsinoidea* sp., *Borelis* sp., and miliolids) and common red algae. Oyster fragment is present. The pores are mostly intraparticle and partially infilled by dogtooth cements.

|                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THIN SECTION LABEL ID: <b>359-U1465B-18R-1-W 57/59-TSB-TS_32</b><br>Unit/Subunit:<br>Thin section summary: | Thin section no.: 32<br>Observer:<br>The sample consists of a packstone with benthic foraminifera ( <i>Amphystegina</i> sp., <i>Heterostegina</i> sp., <i>Asterigerina</i> sp., <i>Lepidocyclina</i> sp., <i>Borelis</i> sp.), abundant peloidal grains and present <i>Halimeda</i> and echinoid remains. The porosity is mostly interparticle, but intraparticle is also present. Granular cements are present in some pores |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



**SEDIMENT/SEDIMENTARY ROCK**

Lithology: packstone

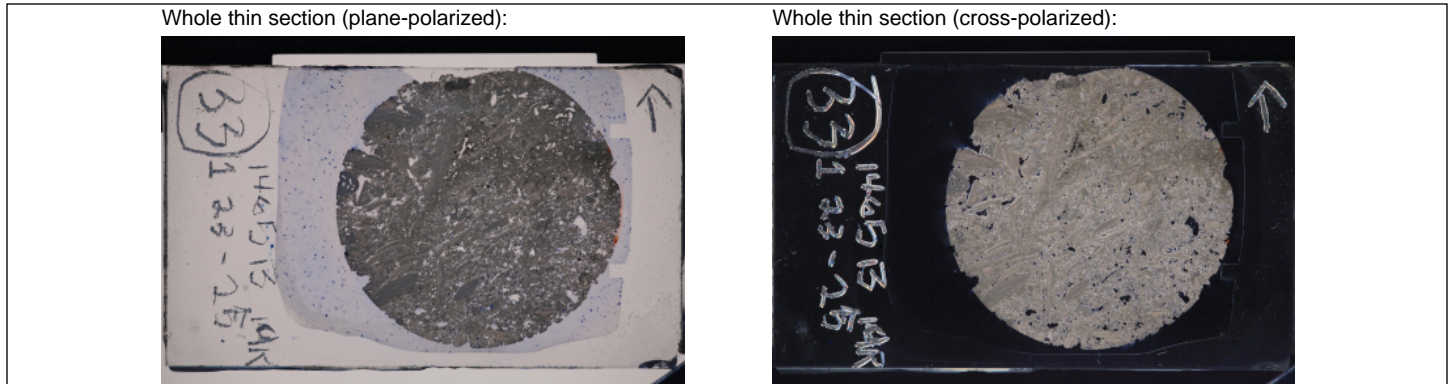
| Skeletal components | major                        | intermediate | minor           |
|---------------------|------------------------------|--------------|-----------------|
| type                | foraminifera (large benthic) |              | <i>Halimeda</i> |
| comment             |                              |              |                 |

Cement type: granular

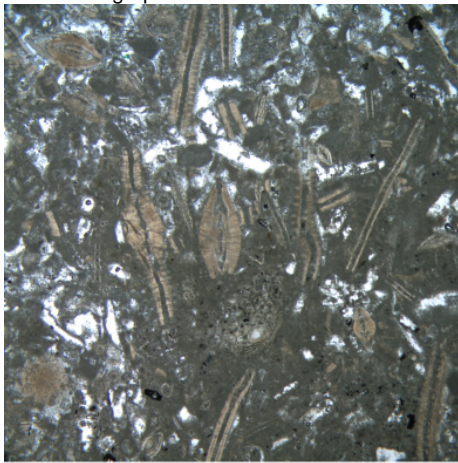
Porosity (major): interparticle

General comments: The sample consists of a packstone with benthic foraminifera (*Amphystegina* sp., *Heterostegina* sp., *Asterigerina* sp., *Lepidocyclina* sp., *Borelis* sp.), abundant peloidal grains and present *Halimeda* and echinoid remains. The porosity is mostly interparticle, but intraparticle is also present. Granular cements are present in some pores

|                                                                                                            |                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THIN SECTION LABEL ID: <b>359-U1465B-19R-1-W 23/25-TSB-TS_33</b><br>Unit/Subunit:<br>Thin section summary: | Thin section no.: 33<br>Observer:<br>The sample consists of a grainstone to packstone with benthic foraminifera (Amphystegina sp. Heterostegina sp., Miogypsina sp., Lepidocyclina sp.), common red algae and echinoid remains. The pores are inter and intraparticle and partially infilled by dogtooth cements. |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



Photomicrographs:



| Position    | Photomicrograph description |
|-------------|-----------------------------|
| Row 1, left | facies overview             |

**SEDIMENT/SEDIMENTARY ROCK**

Lithology: packstone

| Skeletal components | major                        | intermediate | minor |
|---------------------|------------------------------|--------------|-------|
| type                | foraminifera (large benthic) | red algae    |       |
| comment             |                              |              |       |

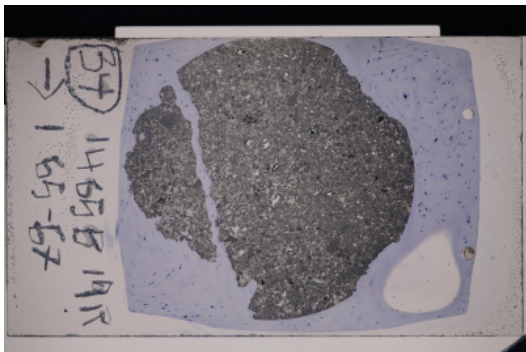
Cement type: dog tooth

Porosity (major): interparticle

General comments: The sample consists of a grainstone to packstone with benthic foraminifera (Amphystegina sp. Heterostegina sp., Miogypsina sp., Lepidocyclina sp.), common red algae and echinoid remains. The pores are inter and intraparticle and partially infilled by dogtooth cements.

THIN SECTION LABEL ID: **359-U1465B-19R-1-W 65/67-TSB-TS\_34** Thin section no.: 34  
 Unit/Subunit: Observer:  
 Thin section summary: The sample consists of a packstone with benthic foraminifera (*Amphystegina* sp. *Heterostegina* sp, and miliolids.), abundant peloidal grains and common to present red algae, bivalve fragments, *Halimeda*, coral fragments and echinoid remains. Peloids are abundant. The porosity is mostly interparticle and moldic, but intraparticle is also present. Granular and dog tooth cements are present in some pores. Echinoid spines present syntaxial calcite overgrowths.

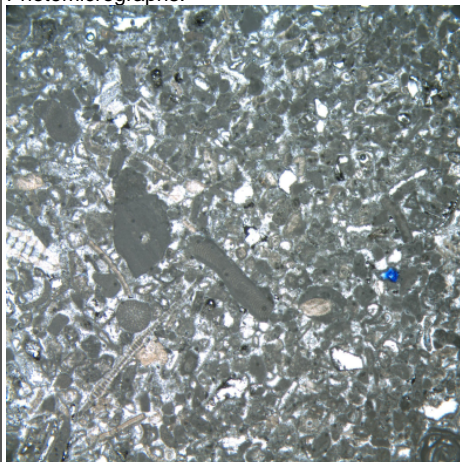
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



| Position    | Photomicrograph description |
|-------------|-----------------------------|
| Row 1, left | Facies overview             |

**SEDIMENT/SEDIMENTARY ROCK**

Lithology: packstone

| Skeletal components | major                                                   | intermediate | minor     |
|---------------------|---------------------------------------------------------|--------------|-----------|
| type                | foraminifera (large benthic)                            | bivalve      | red algae |
| comment             | <i>Amphistegina</i> , <i>Heterostegina</i> , miliolids. |              |           |

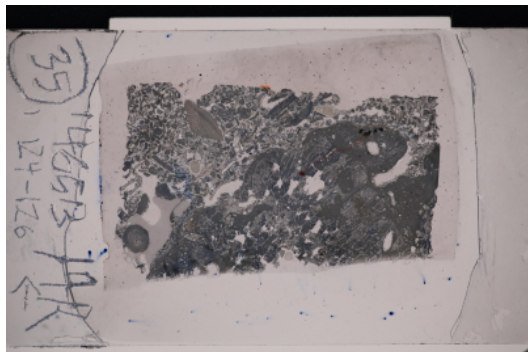
Cement type: granular

Porosity (major): interparticle

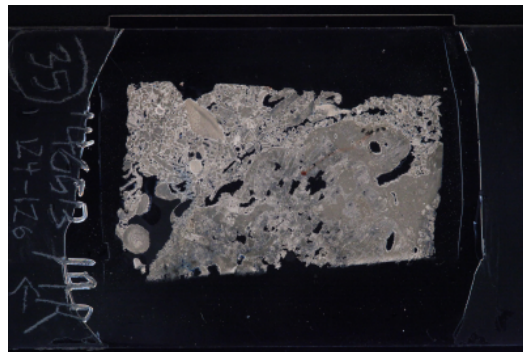
General comments: The sample consists of a packstone with benthic foraminifera (*Amphystegina* sp. *Heterostegina* sp, and miliolids.), abundant peloidal grains and common to present red algae, bivalve fragments, *Halimeda*, coral fragments and echinoid remains. Peloids are abundant. The porosity is mostly interparticle and moldic, but intraparticle is also present. Granular and dog tooth cements are present in some pores. Echinoid spines present syntaxial calcite overgrowths.

THIN SECTION LABEL ID: **359-U1465B-19R-1-W 124/126-TSB-TS\_35** Thin section no.: 35  
 Unit/Subunit: Observer:  
 Thin section summary: The sample consists of a grainstone to packstone with benthic foraminifera (Amphystegina sp. Lepidocyclus and milioloids), common red algae and a large coral fragment.. Some bioclasts are preserved as molds partially infilled by granular, fibrous, bladed and dogtooth calcite. The main porosity is interparticle. The coral fragment presents voids infilled by pelagic sediment.

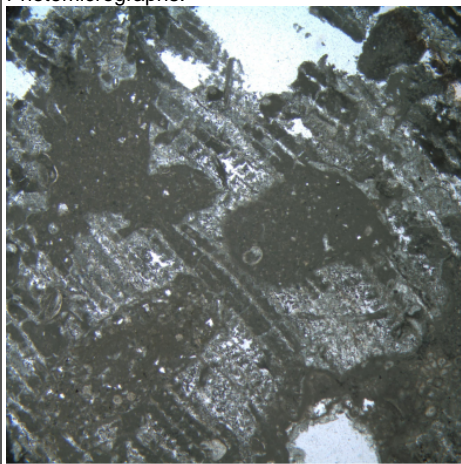
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



| Position    | Photomicrograph description |
|-------------|-----------------------------|
| Row 1, left | pelagic sediment infill     |

**SEDIMENT/SEDIMENTARY ROCK**

Lithology: grainstone

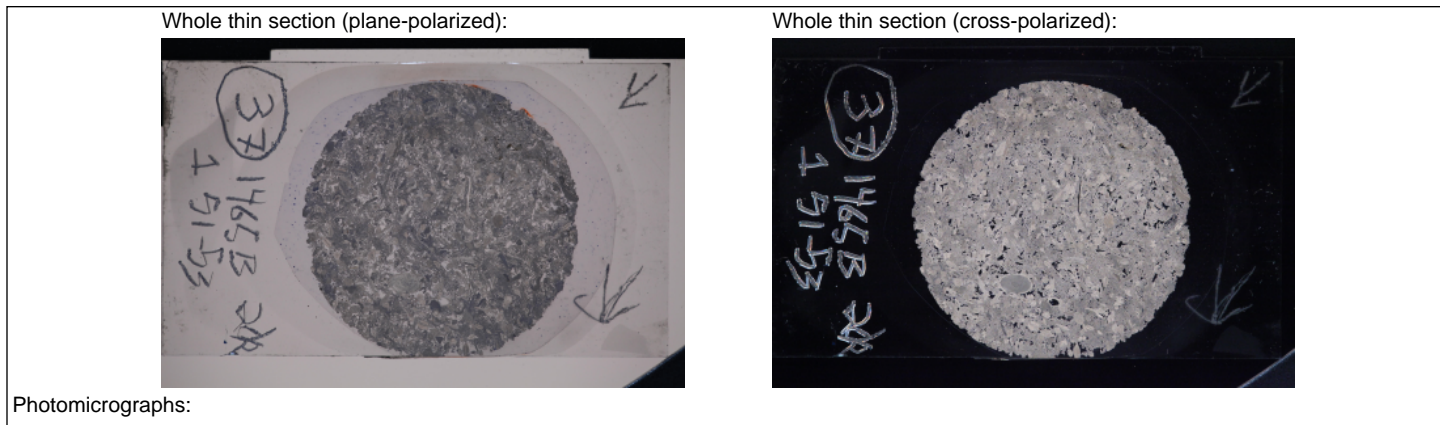
| Skeletal components | major           | intermediate                 | minor     |
|---------------------|-----------------|------------------------------|-----------|
| type                | coral (massive) | foraminifera (large benthic) | red algae |
| comment             |                 |                              |           |

Cement type: granular

Porosity (major): interparticle

General comments: The sample consists of a grainstone to packstone with benthic foraminifera (Amphystegina sp. Lepidocyclus and milioloids), common red algae and large coral fragment. The pores are mostly intraparticle and partially infilled by dogtooth cements. Some bioclasts are preserved as molds partially infilled by granular, fibrous, bladed and dogtooth calcite. The main porosity is interparticle. The coral fragment presents voids infilled by pelagic sediment.

|                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THIN SECTION LABEL ID: <b>359-U1465B-20R-1-W 51/53-TSB-TS_37</b><br>Unit/Subunit:<br>Thin section summary: | Thin section no.: 37<br>Observer:<br>The sample consists of a grainstone with benthic foraminifera (Borelis sp. Operculina sp. Miogypsina sp, and milioloids.), abundant peloidal grains and common to present red algae, bivalve fragments, Halimeda, and echinoid remains. The porosity is mostly interparticle and moldic, but intraparticle is also present. Siliceous and dog tooth cements are present in some pores. |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



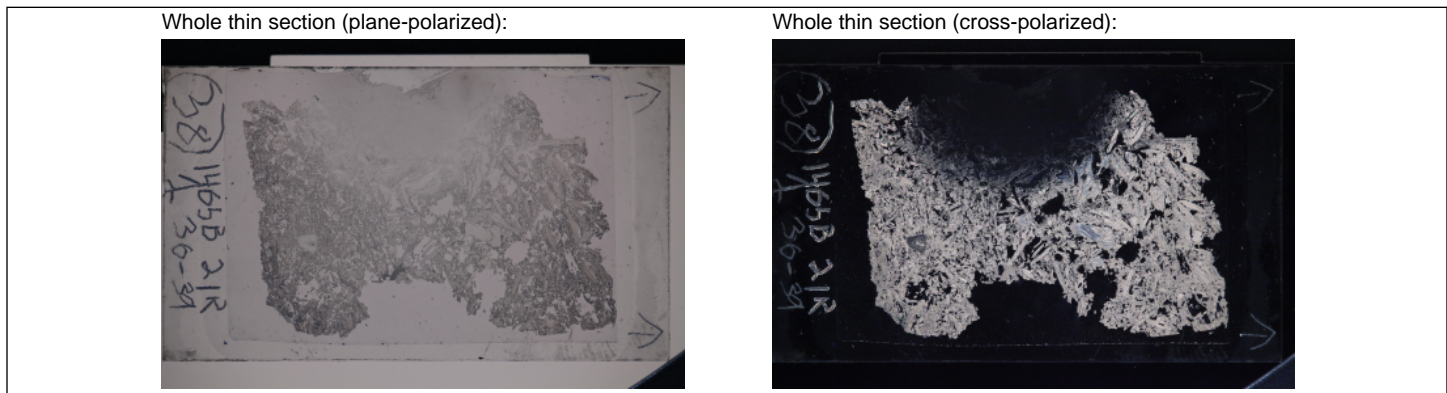
|                                  |                                                                                                                                                                                                                                                                                                                                                                                        |                     |              |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------|
| <b>SEDIMENT/SEDIMENTARY ROCK</b> |                                                                                                                                                                                                                                                                                                                                                                                        |                     |              |
| Lithology: grainstone            |                                                                                                                                                                                                                                                                                                                                                                                        |                     |              |
| <b>Skeletal components</b>       | <b>major</b>                                                                                                                                                                                                                                                                                                                                                                           | <b>intermediate</b> | <b>minor</b> |
| type                             | foraminifera (large benthic)                                                                                                                                                                                                                                                                                                                                                           | halimeda            | red algae    |
| comment                          | Operculina, Miogypsina, Nummlid, Amphistegina                                                                                                                                                                                                                                                                                                                                          |                     |              |
| Cement type: granular            |                                                                                                                                                                                                                                                                                                                                                                                        |                     |              |
| Porosity (major): interparticle  |                                                                                                                                                                                                                                                                                                                                                                                        |                     |              |
| General comments:                | GRAINSTONE. Large benthic foraminifera (A), Halimeda (C), echnoid (F), red algae (C). Overgrowth, granular and dog tooth cement filling inter and intra particle porosity.                                                                                                                                                                                                             |                     |              |
| General comments:                | The sample consists of a grainstone with benthic foraminifera (Borelis sp. Operculina sp. Miogypsina sp, and milioloids.), abundant peloidal grains and common to present red algae, bivalve fragments, Halimeda, and echinoid remains. The porosity is mostly interparticle and moldic, but intraparticle is also present. Siliceous and dog tooth cements are present in some pores. |                     |              |

|                                  |                                                                                                                                                                            |                     |              |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------|
| <b>SEDIMENT/SEDIMENTARY ROCK</b> |                                                                                                                                                                            |                     |              |
| Lithology: grainstone            |                                                                                                                                                                            |                     |              |
| <b>Skeletal components</b>       | <b>major</b>                                                                                                                                                               | <b>intermediate</b> | <b>minor</b> |
| type                             | foraminifera (large benthic)                                                                                                                                               | red algae           | Halimeda     |
| comment                          | Miogypsina, Operculina, Borelis and abundant miliolids.                                                                                                                    |                     |              |
| Cement type: dog tooth           |                                                                                                                                                                            |                     |              |
| Porosity (major): interparticle  |                                                                                                                                                                            |                     |              |
| General comments:                | GRAINSTONE. Large benthic foraminifera (A), Halimeda (C), echnoid (F), red algae (C). Overgrowth, granular and dog tooth cement filling inter and intra particle porosity. |                     |              |

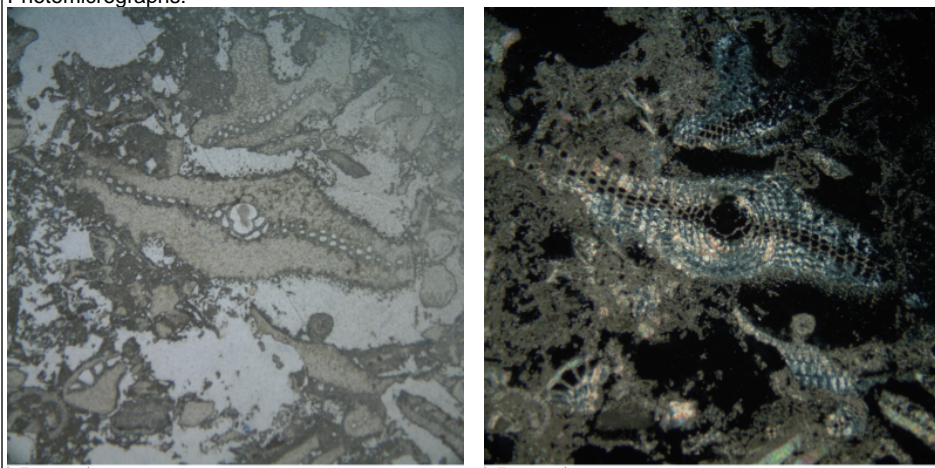


|                   |                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General comments: | The sample consists of a grainstone with benthic foraminifera ( <i>Borelis</i> sp. <i>Operculina</i> sp. <i>Miogypsina</i> sp, and milioloids.), abundant peloidal grains and common to present red algae, bivalve fragments, <i>Halimeda</i> , and echinoid remains. The porosity is mostly interparticle and moldic, but intraparticle is also present. Siliceous and dog tooth cements are present in some pores. |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                            |                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THIN SECTION LABEL ID: <b>359-U1465B-21R-1-W 36/39-TSB-TS_38</b><br>Unit/Subunit:<br>Thin section summary: | Thin section no.: 38<br>Observer: OMB/JLC<br>RUDSTONE. Large benthic foraminifera (A), Halimeda (C), planktic foraminifera (P).<br>Silicification of large benthic foraminifera, dog tooth cement. Moldic and vuggy porosity<br>(possibly artifact of over grinding). |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



Photomicrographs:



| Position      | Photomicrograph description                                  |
|---------------|--------------------------------------------------------------|
| Row 1, left   | PPL of Lapidocyclina (Nephrolepidina)                        |
| Row 1, center | XPL of Lapidocyclina (Nephrolepidina) showing silicification |

**SEDIMENT/SEDIMENTARY ROCK**

Lithology: rudstone

| Skeletal components | major                                                                            | intermediate | minor                   |
|---------------------|----------------------------------------------------------------------------------|--------------|-------------------------|
| type                | foraminifera (large benthic)                                                     | echinoderm   | foraminifera (planktic) |
| comment             | Hetrostegina, Lapidocyclina (Nephrolepidina), Nummulid, Operculina, Amphistegina |              |                         |

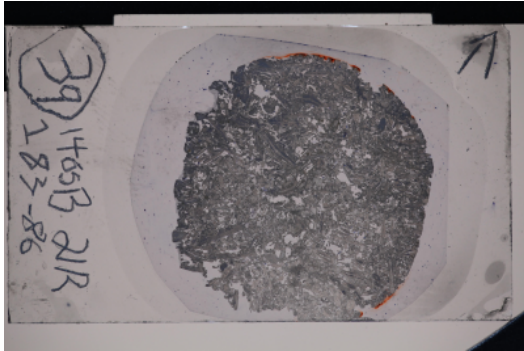
Cement type: dog tooth

Porosity (major): vuggy

General comments: RUDSTONE. Large benthic foraminifera (A), Halimeda (C), planktic foraminifera (P). Silicification of large benthic foraminifera, dog tooth cement. Moldic and vuggy porosity (possibly artifact of over grinding).

THIN SECTION LABEL ID: **359-U1465B-21R-1-W 83/86-TSB-TS\_39** Thin section no.: 39  
 Unit/Subunit: Observer:  
 Thin section summary: The sample consists of a packstone with abundant large benthic foraminifera (Amphystegina sp. Heterostegina sp., Miogypsina sp, Operculina sp., Lepidocyclina sp., ) common bryozoan, gastropods and shell fragments are present in micrite matrix. Bioclastic grains show dissolution and the intraparticle porosity is filled by dogtooth, fibrous cement, syntaxial calcite and sucrosic dolomite cements present. Visual porosity is approximately 40% of moldic, interparticulate and intraparticulate pores. Dolomite is present as cement with crystals ~between ~25ÅÅµm to 50ÅÅµm.

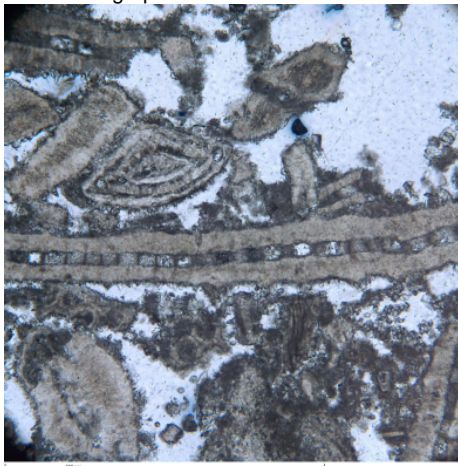
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



| Position    | Photomicrograph description              |
|-------------|------------------------------------------|
| Row 1, left | Heterostegina and amphistegina. Cements. |

**SEDIMENT/SEDIMENTARY ROCK**

Lithology: packstone

| Skeletal components | major                               | intermediate        | minor |
|---------------------|-------------------------------------|---------------------|-------|
| type                | foraminifera (large benthic)        | calcareous bioclast |       |
| comment             | Heterostegina sp., Amphistegina sp. |                     |       |

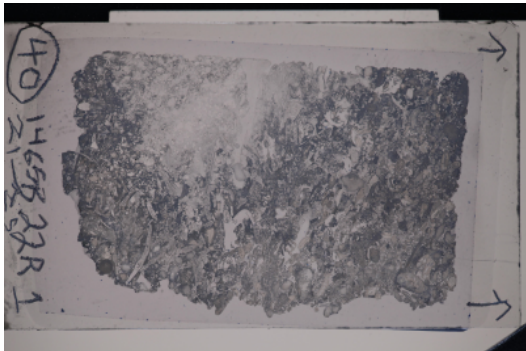
Cement type: fibrous

Porosity (major): interparticulate

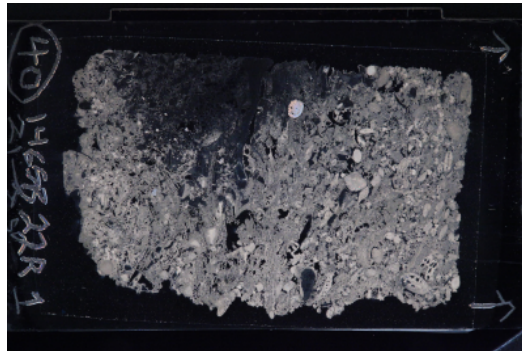
General comments: The sample consists of a grainstone with abundant large benthic foraminifera (Amphystegina sp. Heterostegina sp.) common bioclast fragments are present with not matrix. Bioclastic grains show dissolution and the intraparticle porosity is filled by dogtooth, fibrous cement, syntaxial calcite and sucrosic dolomite cements present. Visual porosity is approximately 40% of moldic, interparticulate and intraparticulate pores. Dolomite is present as cement with crystals ~between 25ÅÅµm to 50ÅÅµm.

THIN SECTION LABEL ID: **359-U1465B-22R-1-W 21/25-TSB-TS\_40** Thin section no.: 40  
 Unit/Subunit: Observer:  
 Thin section summary: The sample consists of a grainstone with abundant green algae Halimeda also common large benthic foraminifera (Amphystegina sp. Miogypsina sp., Miogynoides sp. Operculina sp) rare bioclast fragments are present in micrite matrix. porosity is filled by dogtooth, fibrous cement and sucrosic dolomite cements present.. Visual porosity is difficult to estimate due to quality of the thin section. Common interparticule and intraparticule pores. Dolomite is present as cement with crystals ~between 25Åµm to 50Åµm.

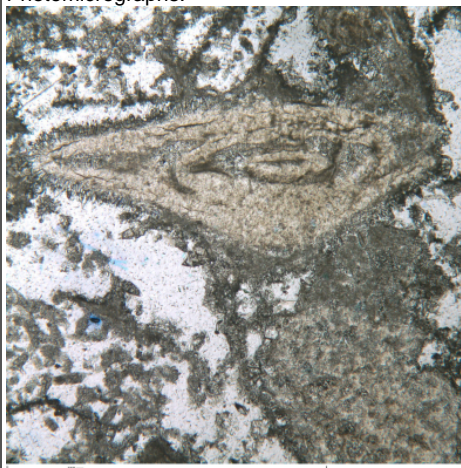
Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



| Position    | Photomicrograph description |
|-------------|-----------------------------|
| Row 1, left | Operculina. Dogtooth cement |

SEDIMENT/SEDIMENTARY ROCK

Lithology: grainstone

| Skeletal components | major    | intermediate                    | minor      |
|---------------------|----------|---------------------------------|------------|
| type                | Halimeda | foraminifera (large benthic)    | echinoderm |
| comment             |          | Miogypsina sp., Miogynoides sp. | spine      |

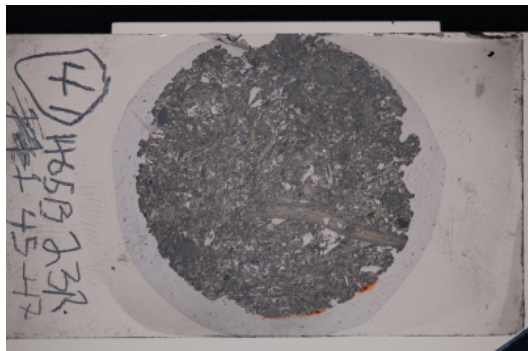
Cement type: fibrous

Porosity (major): interparticle

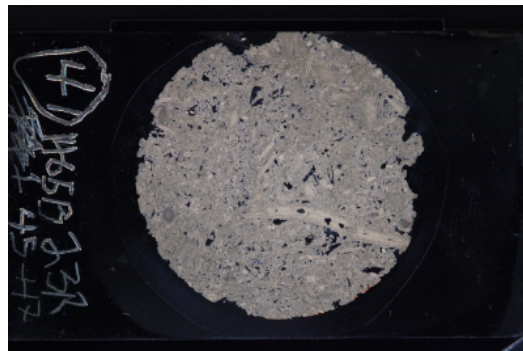
General comments: The sample consists of a grainstone with abundant green algae Halimeda also common large benthic foraminifera (Amphystegina sp. Miogypsina sp., Miogynoides sp. Operculina sp) rare bioclast fragments are present in micrite matrix. porosity is filled by dogtooth, fibrous cement and sucrosic dolomite cements present.. Visual porosity is difficult to estimate due to quality of the thin section. Common interparticule and intraparticule pores. Dolomite is present as cement with crystals ~between 25Åµm to 50Åµm

THIN SECTION LABEL ID: **359-U1465B-23R-1-W 45/47-TSB-TS\_41** Thin section no.: 41  
 Unit/Subunit: Observer:  
 Thin section summary: The sample consists of a grainstone with abundant large benthic foraminifera (Amphistegina sp. Heterostegina sp., Miogypsina sp., Operculina sp.) common bioclast fragments are present in micrite matrix. The intraparticle porosity is filled by dogtooth, fibrous cement and sucrosic dolomite cements present. Visual porosity is difficult to estimate due to quality of the thin section. Common moldic, interparticle and intraparticle pores. Dolomite is present as cement with crystals ~between 25ÅÅµm to 50ÅÅµm.

Whole thin section (plane-polarized):



Whole thin section (cross-polarized):



Photomicrographs:



| Position    | Photomicrograph description |
|-------------|-----------------------------|
| Row 1, left | Amphistegina                |

SEDIMENT/SEDIMENTARY ROCK

Lithology: packstone

| Skeletal components | major                                            | intermediate | minor                   |
|---------------------|--------------------------------------------------|--------------|-------------------------|
| type                | foraminifera (large benthic)                     | Halimeda     | foraminifera (planktic) |
| comment             | Amphistegina sp. , Miogypsina sp, Operculina sp. |              |                         |

Cement type: acicular

Porosity (major): interparticle

General comments: The sample consists of a grainstone with abundant large benthic foraminifera (Amphistegina sp. Heterostegina sp., Miogypsina sp., Operculina sp.) common bioclast fragments are present with not matrix. Bioclastic grains show dissolution and the intraparticle porosity is filled by dogtooth, fibrous cement, syntaxial calcite and sucrosic dolomite cements present. Visual porosity is approximately 40% interparticle and intraparticle pores. Dolomite is present as cement with crystals ~between 25ÅÅµm to 50ÅÅµm.

General comments: The sample consists of a grainstone with abundant large benthic foraminifera (Amphystegina sp. Heterostegina sp., Miogypsina sp., Operculina sp.) common bioclast fragments are present in micrite matrix. The intraparticle porosity is filled by dogtooth, fibrous cement and sucrosic dolomite cements present. Visual porosity is difficult to estimate due to quality of the thin section. Common interparticulate and intraparticulate pores. Dolomite is present as cement with crystals between 25µm to 50µm.

**SEDIMENT/SEDIMENTARY ROCK**

Lithology: packstone

| Skeletal components | major                                                           | intermediate | minor |
|---------------------|-----------------------------------------------------------------|--------------|-------|
| type                |                                                                 |              |       |
| comment             | Lepidocyclina sp., Amphistegina, Miogypsina sp, Operculina sp., |              |       |

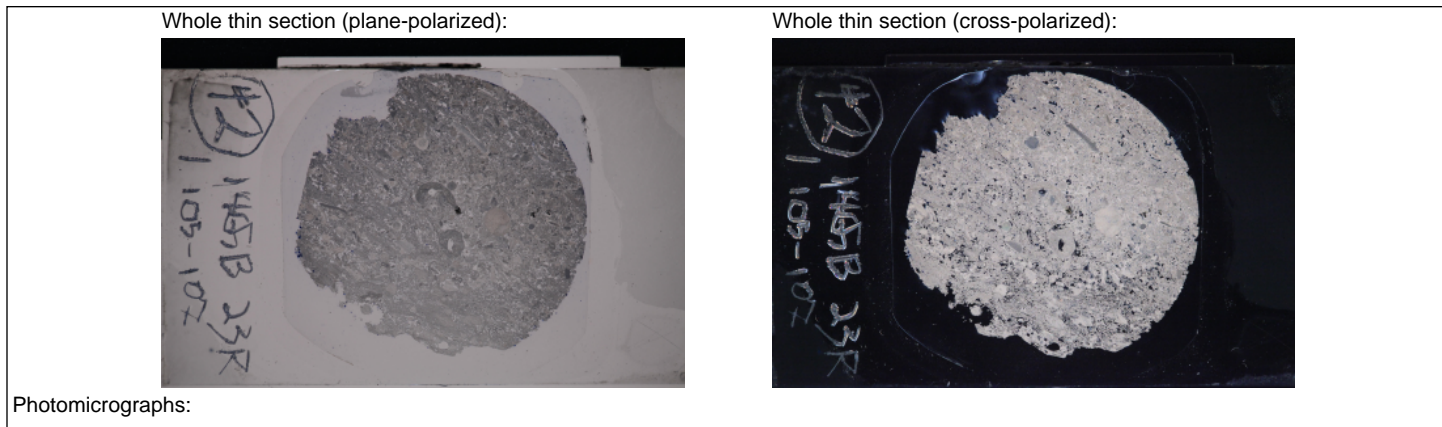
Cement type: granular

Porosity (major): interparticulate

General comments: The sample consists of a grainstone with abundant large benthic foraminifera (Amphystegina sp. Heterostegina sp., Miogypsina sp., Operculina sp.) common bioclast fragments are present with not matrix. Bioclastic grains show dissolution and the intraparticle porosity is filled by dogtooth, fibrous cement, syntaxial calcite and sucrosic dolomite cements present. Visual porosity is approximately 40% interparticulate and intraparticulate pores. Dolomite is present as cement with crystals ~between 25µm to 50µm.

General comments: The sample consists of a grainstone with abundant large benthic foraminifera (Amphystegina sp. Heterostegina sp., Miogypsina sp., Operculina sp.) common bioclast fragments are present in micrite matrix. The intraparticle porosity is filled by dogtooth, fibrous cement and sucrosic dolomite cements present. Visual porosity is difficult to estimate due to quality of the thin section. Common interparticulate and intraparticulate pores. Dolomite is present as cement with crystals between 25µm to 50µm.

|                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THIN SECTION LABEL ID: <b>359-U1465B-23R-1-W 105/107-TSB-TS_42</b><br>Unit/Subunit:<br>Thin section summary: | Thin section no.: 42<br>Observer:<br>The sample consists of a grainstone with abundant Halimeda and benthic foraminifera (Borelis sp. Operculina sp. Amphistegina sp, and miliolids.), and common to present red algae, bivalve fragments, and echinoid remains. The porosity is interparticle and less than 5%. Dog tooth partially infilling pores and syntaxial overgrowth of the equinoid spines are the main cements. |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



**SEDIMENT/SEDIMENTARY ROCK**

Lithology: grainstone

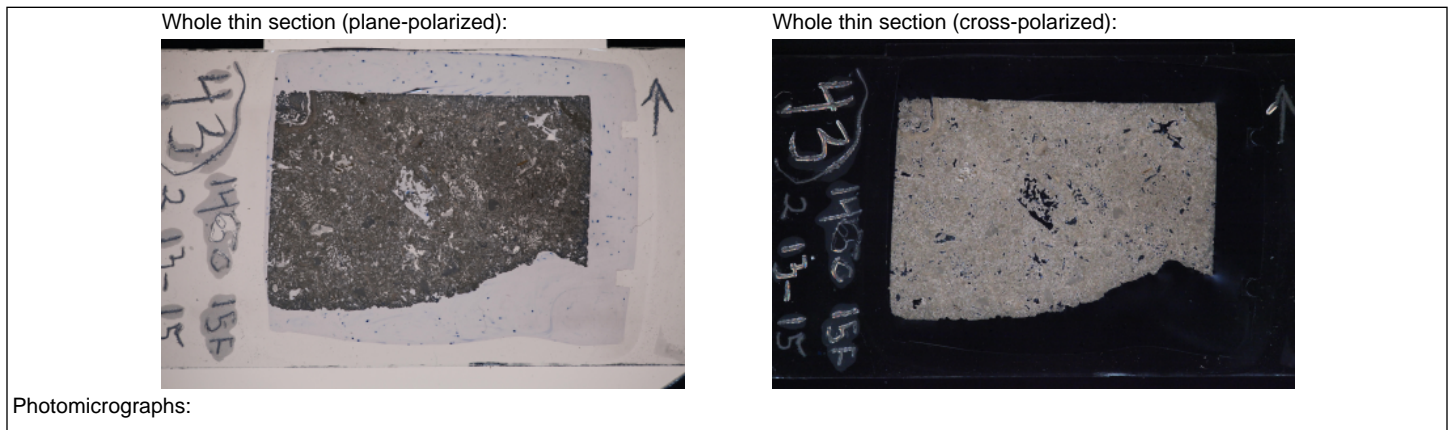
| Skeletal components | major    | intermediate                                 | minor     |
|---------------------|----------|----------------------------------------------|-----------|
| type                | Halimeda | foraminifera (large benthic)                 | red algae |
| comment             |          | Amphistegina, Operculina, Borelis, miliolids |           |

Cement type: dog tooth

Porosity (major): interparticle

General comments: The sample consists of a grainstone with abundant Halimeda and benthic foraminifera (Borelis sp. Operculina sp. Amphistegina sp, and miliolids.), and common to present red algae, bivalve fragments, and echinoid remains. The porosity is interparticle and less than 5%. Dog tooth partially infilling pores and syntaxial overgrowth of the equinoid spines are the main cements.

THIN SECTION LABEL ID: **359-U1465C-15F-2-W 13/15-TSB-TS\_43** Thin section no.: 43  
 Unit/Subunit: Observer:  
 Thin section summary: The sample consists of a packstone to floatstone with abundant coral fragments (dissolved) and large benthic foraminifera. Present red algae, Halimeda, and gastropods. Micritic matrix. Doogtooth cement partially infilling some molds.



**SEDIMENT/SEDIMENTARY ROCK**

Lithology:

| Skeletal components | major                                                          | intermediate | minor    |
|---------------------|----------------------------------------------------------------|--------------|----------|
| type                | coral (massive)                                                | red algae    | Halimeda |
| comment             | Benthic foraminifera (Lepidocyclina, Amphistegina, Operculina) |              |          |

Cement type: dog tooth

Porosity (major):

General comments: The sample consists of a packstone to floatstone with abundant coral fragments (dissolved) and large benthic foraminifera. Present red algae, Halimeda, and gastropods. Micritic matrix. Doogtooth cement partially infilling some molds.