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Planktonic foraminifera mudstone-wackestone, Bioclast planktonic foraminifera wackestone-packstone, Planktonic foraminifera Heterostegina packstone, Bioclast Miogypsinid corallinacea packstone, Coral and corallinacea floatstone, Rotalia wackestone-packstone, Rotalia miliolid wackestone-packstone, Foraminifera (Rotalia, Meandropsina, Borelis, Archaias, Peneroplis) miliolid packstone-grainstone, Bioclast corallinacea miliolid packstone, Miliolid grainstone, Intraclast bioclast packstone, Bioclast wackestone-packstone and quartz mudstone.

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**Depositional Environment of the Upper Part of Asmari Formation (Burdigalian)
Based on Microfacies and Paleoecology of Foraminifera, Southeast of the Laki
Mountain, Southern Lordegan**

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Abstract

The upper Asmari Formation in southeast Laki Mountain comprises of 376 meters of thin, medium and thick beds of limestone interbedding with marly limestone. It is overlies by the Gachsaran formation. Based on field work and laboratory analysis, 13 microfacies related to basin (outer ramp), open marine (middle ramp), bar and lagoon (inner ramp) environments were recognized, as follows: Planktonic foraminifera mudstone-wackestone, Bioclast planktonic foraminifera wackestone-packstone, Planktonic foraminifera Heterostegina packstone, Bioclast Miogypsinid corallinacea packstone, Coral and corallinacea floatstone, Rotalia wackestone-packstone, Rotalia miliolid wackestone-packstone, Foraminifera (Rotalia, Meandropsina, Borelis, Archaias, Peneroplis) miliolid packstone-grainstone, Bioclast corallinacea miliolid packstone, Miliolid grainstone, Intraclast bioclast packstone, Bioclast wackestone-packstone and quartz mudstone. Paleoenvironment reconstruction based on the occurrence of foraminifera, related to microfacies and environmental factors (light, depth and water energy) reflects that deposition of the Upper Asmari Formation (Burdigalian) was in a carbonate ramp platform.

Keywords: Microfacies, Asmari Formation, Burdigalian, Foraminifera, Paleoecology

& Mayo, 1918)

(Richardson, 1924)

(Boech,

Lees & Richardson, 1929)

.()

(Thomas,1948)

(Busk

Meandropsina iranica :

Pseudotaberina malabarica (Henson) (Wynd, 1965)
Dendritina Borelis pygmaea (Hanzawa) (Adams & Bourgeois, 1967)
Peneroplis evolutus rangi (d'Orbigny) .()
Archaias kirkukensis (Henson) (Henson)
Austrotrillina howchini (Schlumberger) ()
Amphistegina sp. Valvulinid sp. () ()
(Adams& Bourgeois, Heterostegina sp. ()
1967; Loeblich & Tappan, 1998)
(Wynd, (Adams& Bourgeois, 1967) . . .
1965) . . .
()
()
(Dunham, 1965) . . .
(Embry & Klovan, 1972) . . .
(Carozzi, (Lasemi, 1972) . . .
1989)
(Wilson,1975)

Borelis melo (Fichtel
& Moll) curdica (Reichel)

Globigerinoides Glogigerina ()

:

Basin) :(Ba)

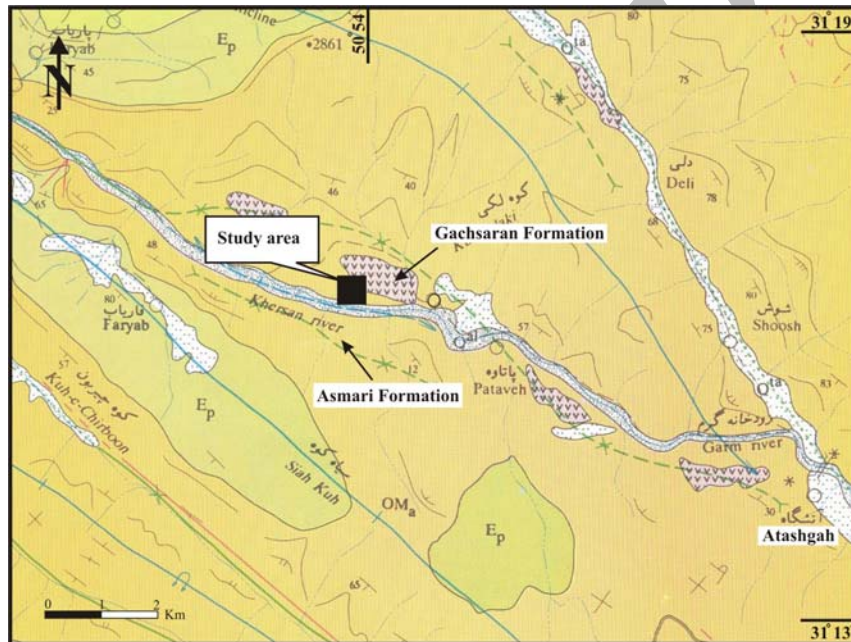
(a)

:(Microfacies

-

:Ba1

(Planktonic foraminifera mudstone/
wackestone)



()

Open) : (O)
 : (Marine Microfacies
 : O1 ()
 (Planktonic foraminifera Heterostegina (Hallock & :
 packstone) (Beavington-penney & Racey, Glen, 1986)
 Operculina Heterostegina .2004)
 Amphistegina .(Geel, 2000)
 Elphidium Miogypsina Asterigerina (Romero
 Globorotalia Globigerina . et al., 2002)
 Textularia
 : Ba2
 (Bioclast planktonic foraminifera
) (c) wackestone/packstone)
) Globigerina)
 (Heterostegina (Globigerinoides
 Operculina .(Rasser et al., 2005)
 Heterostegina .(b)
 Heterostegina Operculina :
 (Romero et al., .(Romero et al., 2002)
 2002)

(Geel, 2000)

(d)

) Miogypsinid :

(Geel,

(

.2000)

:O2

(Bassi,

(Bioclast Miogypsinid corallinacea
packstone)

.2005)

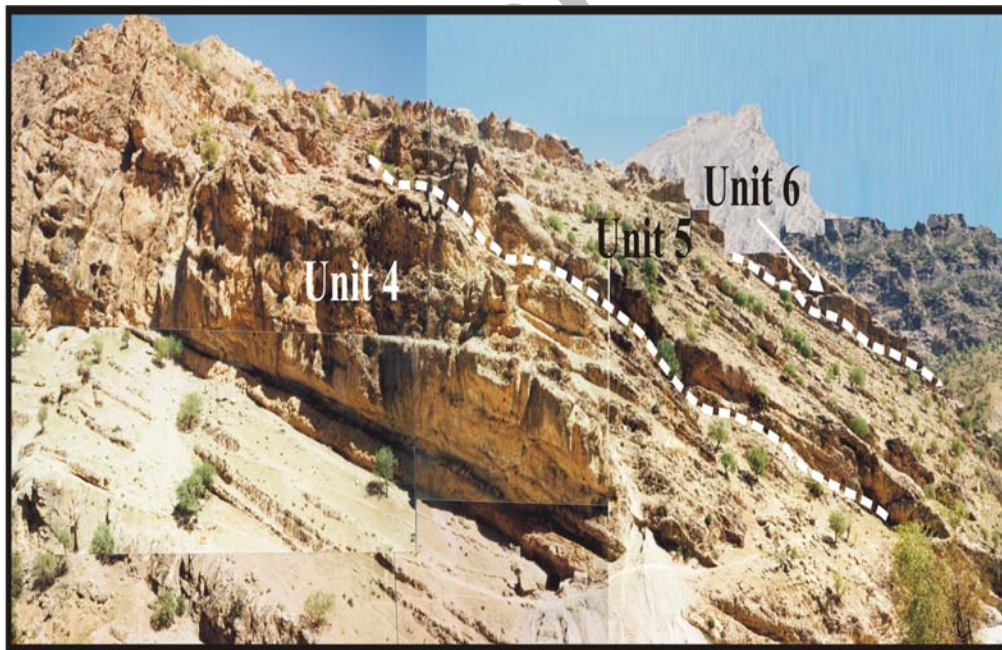
Miogypsina

Amphistegina

Miogypsinoides

(corallinacea)

Textularia





(Rotalia) (Barrier) : (B)
 .(f) : (Microfacies
 Rotalia : (Coral and :B1
 () corallinacea floatstone)
 .(Geel, 2000) ()

Rotalia

(Rotalia - :L2
 miliolid wackestone/packstone)
 Rotalia
 miliolid
 Lagoon) : (L)
 Discorbis : (Microfacies
 .(g) (Rotalia :L1
 miliolid Rotalia : wackestone/packstone)
 Rotalia

(Beavington,penney& Racey,
 miliolid .2004)

Rotalia)

(Romero et al., 2002; Rasser et al., 2005) Rotalia .

(Rasser et al., 2005) .(Geel, 2000)

() :L3

() ()

() () Foraminifera (Rotalia, Meandropsina, Borelis, Archaias, Peneroplis) miliolid packstone/grainstone

:L4 miliolid .

(Bioclast corallinacea miliolid packstone) Meandropsina Archaias Peneroplis Rotalia

Austrotrillina Lepidocyclina .

Elphidium Amphistegina Dendritina

Ditrupe

b) ()

(Cosovic et al., 2004) .(a h)

:(Peneroplids)

.(Rasser et al., 2005) Peneroplid .

.(Romero et al., 2002)

Borelis

(Miliolid grainstone) :L5

miliolid

Dendritina

miliolid

(e)

(c)

miliolid

(Rasser et al.,

.2005)

(Rasser et al., 2005)

(quartz mudstone)

:L8

(Intraclast

:L6

bioclast packstone)

()

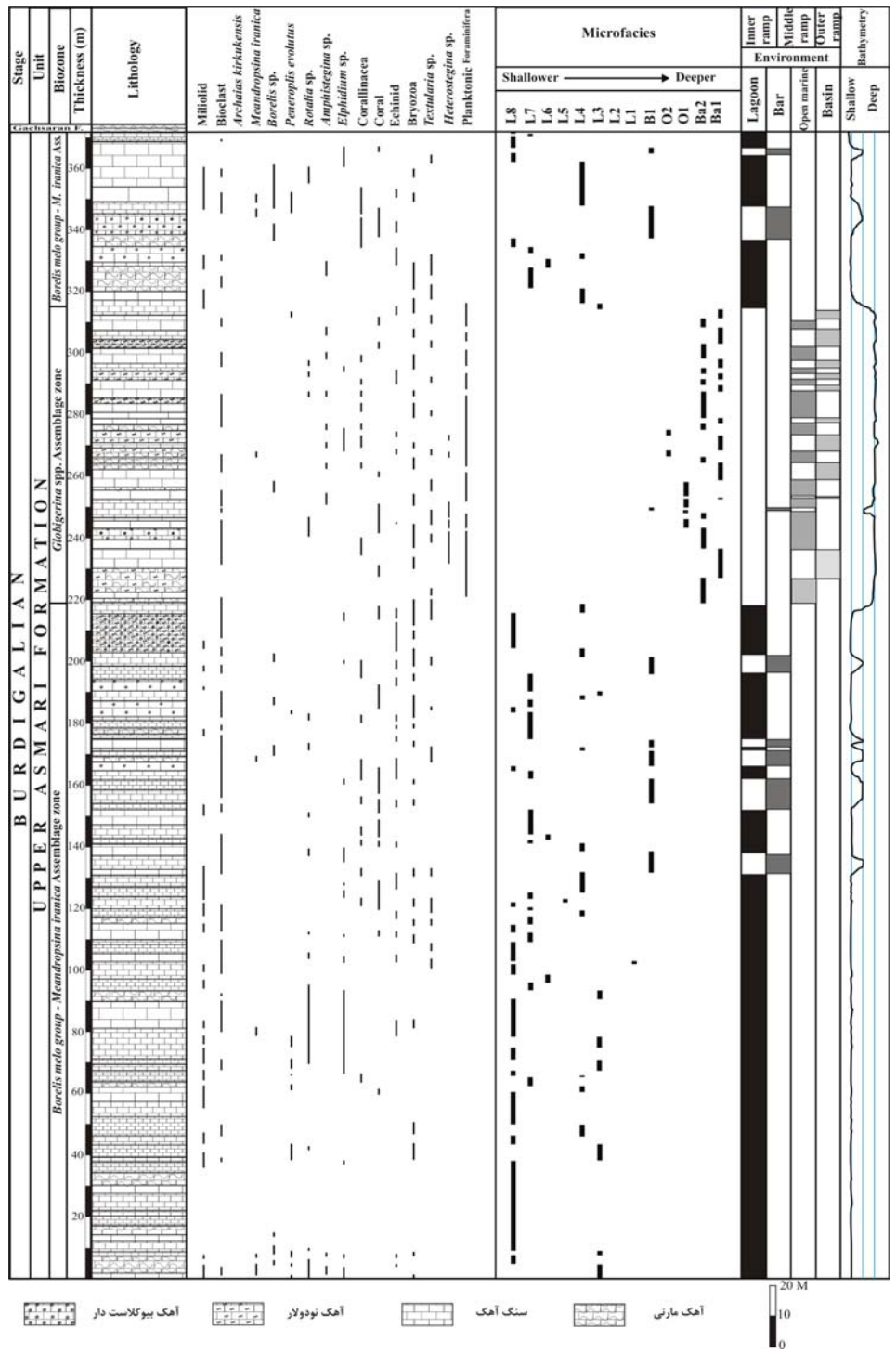
(f)

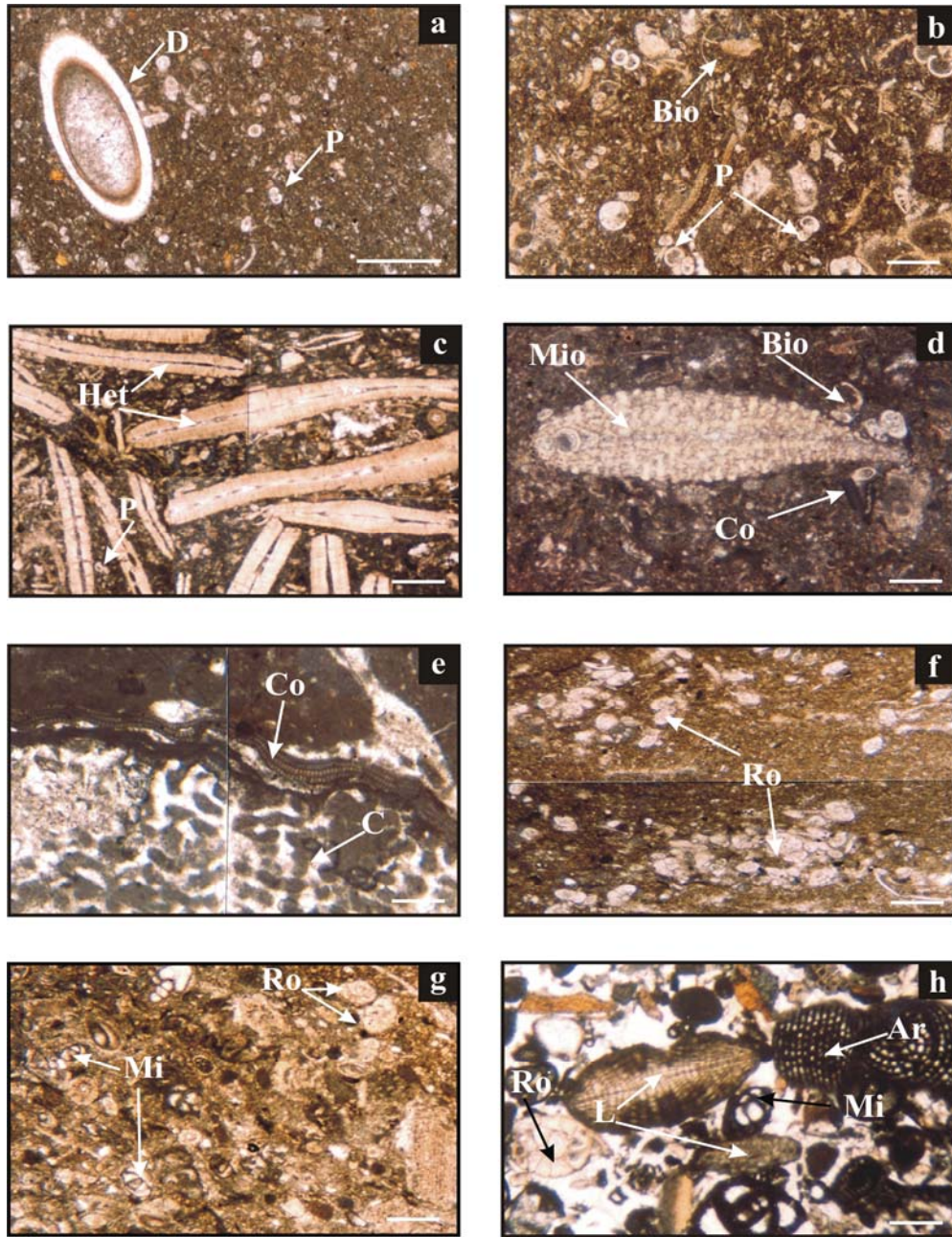
(d)

(Bioclast

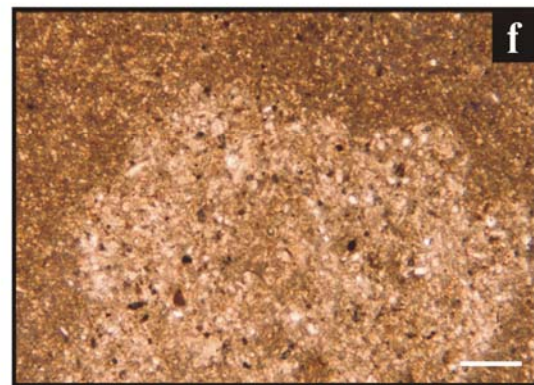
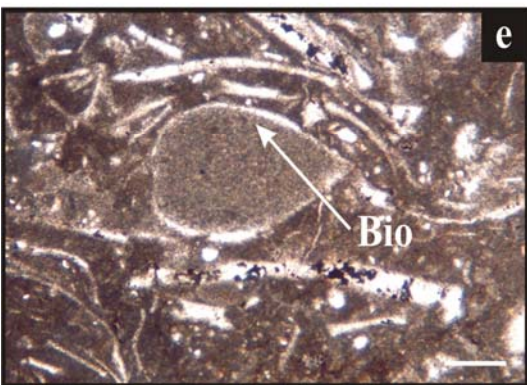
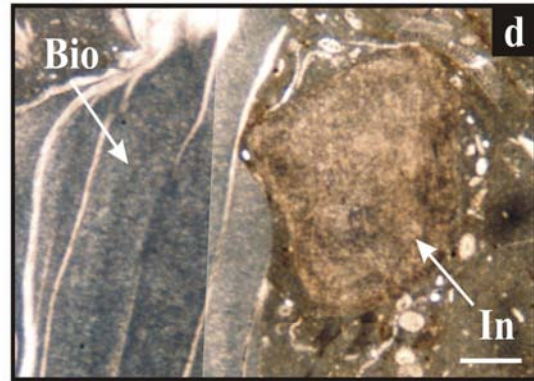
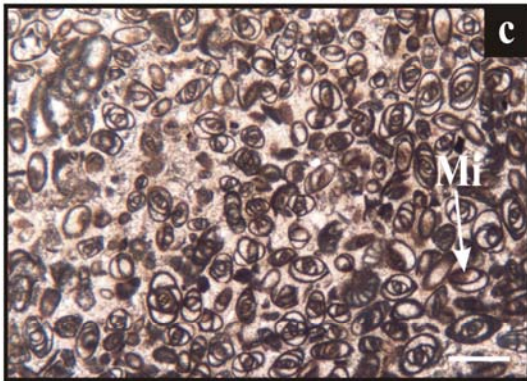
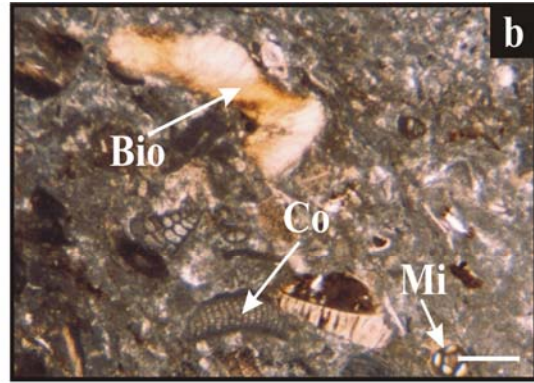
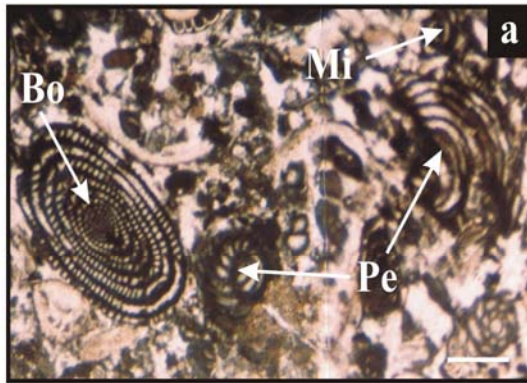
:L7

wackestone/packstone)





a- Planktonic foraminifera mudstone/wackestone (Ba1), b- Bioclast planktonic foraminifera wackestone/packstone (Ba2), c- Planktonic foraminifera Heterostegina packstone (O1), d- Bioclast Miogypsina corallinacea packstone (O2), e- Coral and corallinacea floatstone (B1), f- Rotalia wackestone/packstone (L1), g- Rotalia miliolid wackestone/packstone (L2), h- Foraminifera (Rotalia, Archaias, Lepidocyclina) miliolid packstone/grainstone (L3). [D: Ditrupa, P: Planktonic foraminifera, Mio: Miogypsina, Bio: Bioclast, Co: Corallinacea, Het: Heterostegina, C: Coral, Ro: Rotalia, Mi: Miliolid, L: Lepidocyclina, Ar: Archaias; All scale bars are 0.25 mm in length]



a- Foraminifera (Borelis, Peneroplis) miliolid packstone/grainstone (L3), b- Bioclast Corallinacea miliolid packstone (L4), c- Miliolid grainstone (L5), d- Intraclast bioclast packstone (L6), e- Bioclast wackestone/packstone (L7), f- quartz mudstone (L8) [Bo: Borelis, Bio: Bioclast, Mi: Miliolid, Pe: Peneroplis, Co: Corallinacea, In: Intraclast; All scale bars are 0.25 mm in length/

()

Amphistegina

(O2)

Miogypsina

)

(

(L8 L1)

Borelis Peneroplis Archaia)

(miliolid

(Operculina Heterostegina)

(O1)

Operculina

(Allen et al.,

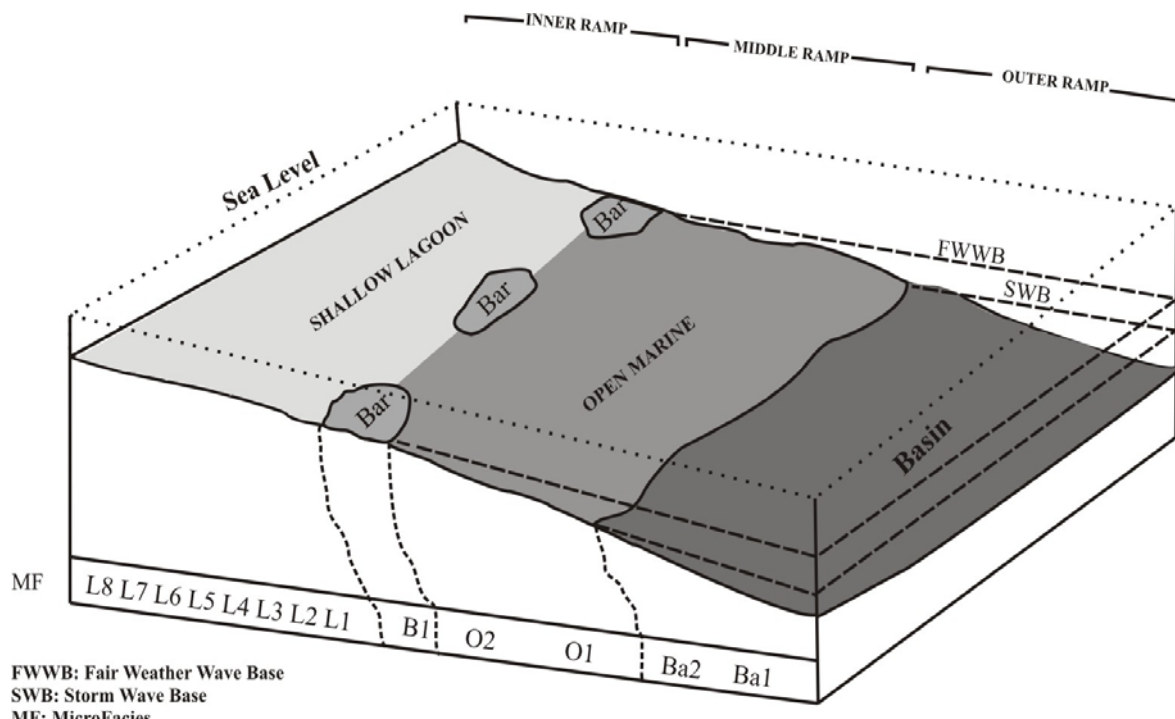
.2001)

)

(

Ba1)

(Ba2



(Geel, 2000)

(Rasser et al., 2005)

()

()

(Beavington-penney & Racey,

.2004)

()

(Beavington-penney & Racey,

.2004)

(Rasser

.et al., 2005)

Amphistegina

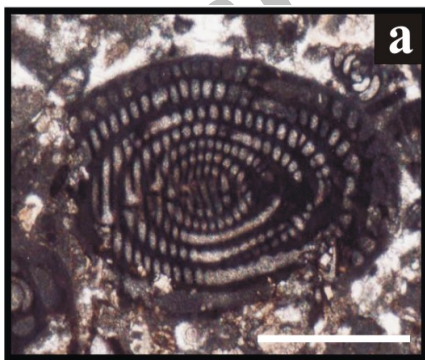
Borelis pygmaea)

Borelis

()

(

Heterostegina



(Sample no. H50, X40)

(Sample no.

Amphistegina (a

Borelis (b

S94, X40)

Amphistegina

()



افزایش نور و انرژى

Amphistegina

(Sample no. H21, X40)

(a)

(Sample no. S93, X40)

(b)

Heterostegina

(Meandropsina)

(Miliolid Borelis)

(Amphistegina)

)

(Operculina Heterostegina



Heterostegina

(Sample no.S91, X40)

Heterostegina

(a

(Sample no.H21, X25)

Heterostegina

(b

()

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