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(NORD DE LA FRANCE)

VOLUME 2

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PARTIE I

DÉFINITIONS ET CLASSIFICATIONS

DEFINITIONS ET CLASSIFICATIONS

I- DEFINITIONS DES MICROFACIES

1- Oolithites : calcaires constitués d'oolithes cimentés. Leur taille est variable. Les oolithites sont généralement des grainstones. La cassure est grossière et la couleur est souvent gris moyen.

2- Bioclastites : calcaires formés essentiellement de bioclastes. Si les fossiles sont entiers et de grande taille (coquilles de Brachiopodes, Lamellibranches, Gastéropodes, ...), ce sont des bioclastites grossières. Si les fossiles sont des débris de coquilles non identifiables, ce sont des bioclastites fines. Leur couleur est variable.

3- Biolithites : calcaires finement lités, comportant des lamines parallèles, parfois ondulantes. Ce sont généralement des calcaires stromatolithiques. Leur couleur est variable (beige ou gris-noir). Parfois ce sont des algues buissonnantes.

4- Micrite : calcaire de couleur noire, à cassure esquilleuse ne montrant presque pas d'éléments figurés.

5- Lithoclastites ou brèches : calcaires composés de fragments de roches cimentés. Elles sont synsédimentaires ou tectoniques. La couleur des éléments est gris clair à gris foncé, la matrice peut être grise ou rouge.

6- Les carbonates cristallins : ce sont des calcaires recristallisés et des dolomies ou de l'anhydrite remplacées par de la calcite. Leur couleur est variable : grise (dolomie, calcaire), beige (surtout les dolomies) ou violacée (anhydrite).

II- DEFINITION DES ELEMENTS FIGURES ET DE LA MATRICE

A- Les éléments figurés

1- Les Oolites : grains à cortex à laminations concentriques, régulières, d'épaisseur assez constante. La nature du nucleus est variable. Plusieurs types sont distingués en fonction de leur morphologie. Ce sont les classifications de Purser (1975 et 1983) qui sont employées. Le milieu de dépôt est déduit de leur morphologie.

2- Pellétoïdes : grains de taille variable (de 250 à 1650 μm), sphériques ou allongés pouvant former un sable. Ils sont issus de la micritisation de bioclastes, d'oolithes ou d'agrégats. (Synonyme : gravelles).

3- Pellets : ils sont subsphériques ou légèrement allongés. Leur origine peut être fécale mais ils sont souvent le résultat d'une micritisation de petits débris de bioclastes. Leur taille dépasse rarement 100 μm .

4- Bioclastes : leur taille et leur nature sont très variables. Ils sont soit animaux (Brachiopodes, Ostracodes, Gastéropodes, Foraminifères, Echinodermes, Serpulidés, Lamellibranches, Trilobites, ...), soit végétaux (Dasycladacées, Calcisphères, Algues stromatolithiques). Leur identification est parfois difficile du fait de la diagenèse.

5- Intraclastes : éléments plus ou moins anguleux provenant de la désintégration de sédiments sous-jacents. Leur taille peut être importante. Ils ont différentes origines : galets mous, copeaux de dessiccation, éléments durcis.

6- Agrégats : tous les éléments décrits précédemment peuvent s'agglomérer pour constituer des agrégats. Ceci est fréquent avec les oolithes. Il existe deux types d'agrégats (Purser, 1975) :

- agrégats de boue : boue accumulée dans la concavité d'une coquille ;
- agrégats granulaires : grains (oolithes, bioclastes, ...) agrégés, liés de la micrite ou de la sparite.

B- La matrice (Elf Aquitaine, 1975)

Micrite : son origine peut être terrigène, biogène ou chimique. La taille des grains est inférieure à 10 μm .

Microsparite : sa cristallinité est comprise entre 10 et 80 μm .

Sparite : elle remplit les pores de la roche. La taille des cristaux est supérieure à 80 μm . Elle est translucide en lame mince.

III- LES CLASSIFICATIONS EMPLOYEES

Ci-dessous figurent les deux classifications utilisées dans ce travail pour l'étude microscopique :

- Classification de Folk (1959) : basée sur la proportion des allochèmes (précipitation chimique ou biochimique) et des orthochèmes (matrice et ciment) (fig. 1).

| | | Calcaires, calcaires en partie dolomités et dolomies primaires | | | | | | Dolomies formées par substitution (type 5) | | | | |
|---|----------------------|---|--|---|--|--|------------|--|--|-------------------------------------|--|---|
| | | > 10 % d'allochems roches allochimiques (type 1 et 2) | | | < 10 % d'allochems roches microcristallines (type 3) | | | Calcaires construits (type 4) | Fantômes d'allochems | Pas de fantômes d'allochems | | |
| | | Ciment de calcite spathique > matrice de boue microcristal- line - | | Matrice de boue microcristalline > ciment de calcite spathique | | 1-10 % d'allochems | | | | | | |
| | | Roches allochimiques spathiques (type 1) | | Roches allochimiques microcristallines (type 2) | | | | | | | | |
| Contribution "volumétrique" des allochems | > 25 % d'intraclasts | Intrasparrudite Intrasparite | Intramicrorudite Intramicrocristite | Allochem le plus abondant | Intraclasts : micrite à intraclasts | Micrite Si hétérogène : domicrocrite Si dolomite primaire : dolomicrocrite | Bialithite | Allochem identifiable | Dolomite intraclastique finement cristalline... | Dolomite moyennement cristalline | | |
| | < 25 % d'intraclasts | > 25 % d'oolithes | | | Oosparrudite Oosparite | | | | Oomicrocristite Oomicrocrite | | Oolithes : micrite à oolithes | Dolomite oolithique grossièrement cristalline... |
| | | Rapport volumétrique oolithes/pellets | | | Biosparrudite Biosparite | | | | Bromicrocristite Bromicrocrite | | Fossiles : micrite fossilifère | Dolomite biogénique aphanocristalline.... |
| | < 1:1 | | Biopelsparite | | Biopelmicrocristite | | | | Pellets : micrite à pellets | | Dolomite pelletoidale très finement cristalline... | |
| | < 1:3 | | Pelsparite | | Pelmicrocristite | | | | | | | etc .. |

Fig. 1 : Classification de Folk (1959) tirée de Elf-Aquitaine (1975).

- Classification de Dunham (1962) basée sur la présence ou l'absence de boue carbonatée, la proportion des grains et la disposition de ceux-ci (jointifs ou non) (fig. 2).

| Grains | | Avec boue | Sans boue |
|--------------|--------|------------|------------|
| Jointifs | > 10 % | PACKSTONE | GRAINSTONE |
| non Jointifs | | WACKESTONE | |
| | < 10 % | MUDSTONE | |

Fig. 2 : Classification de Dunham (1962) tirée de Elf-Aquitaine (1975).

IV- LES CALICHES : DEFINITIONS ET MODE DE FORMATION

1- Définition

Un dépôt de caliche ("caliche deposits") est un corps résultant d'une accumulation épigénétique de carbonate de calcium (calcite) dans un sédiment non consolidé sous des conditions dérivées de processus pédologiques en climat où l'humidité est déficiente durant toutes les saisons (Aristarain, 1970).

Lorsque ce dépôt de caliche est induré, on parle de calcrète. En terminologie des sols, il s'agit d'une succession des horizons Cca aux horizons K (Gile *et al.*, 1966).

Reeves (1970) a classé ces dépôts selon leur degré de maturité, on appelle :

- *caliche jeune*, les masses de matériel parent renfermant des carbonates blancs, friables ;
- *caliche mature*, la croûte supérieure, et les veinules horizontales accessoires de carbonate, entourée par une profusion de petits nodules et relativement bien cimentée de carbonate ;
- *vieille caliche*, un horizon complètement induré.

Cette succession n'est observable que si le profil reste couvert par un sol car, une fois exposée, il est rapidement lithifié (James, 1972).

2- Les croûtes calcaires récentes et actuelles

Les trois principales études sur les croûtes calcaires récentes ou actuelles sont celles de Multer et Hoffmeister (1968), James (1972) et Harrison (1977) menées respectivement en Floride (Actuel), au Yucatan (Holocène et Pléistocène) et à La Barbade (Actuel).

Dans ces trois cas, les périodes d'évaporation intense alternent avec des périodes d'humidité.

Le tableau ci-contre (fig. 3) rassemble les caractéristiques de chacune de ces croûtes calcaires, et les conditions nécessaires à leur formation.

| PARAMETRES | MULTER et HOFFMEISTER (1968) Floride-Actuel | JAMES (1972) Yucatan-Holo-Pléistocène | HARRISON (1977) Barbados-Actuel |
|-------------------------------------|---|--|---|
| CLIMAT | | | |
| Températures annuelles | non précisées | 16,6 à 32°C | 24 à 28°C |
| Pluies | non précisées | 110 à 145 cm/an | 110 à 125 cm/an |
| Période de pluie | 75% de Juin à Octobre | 75% de Juillet à Décembre | |
| SOURCES DU Ca CO₃ | algues marines ou d'eau douce origine subaérienne | source externe : loess du désert poussières apportées par le vent sols embruns de sels par le vent | dissolution suivie d'une précipitation |
| FORME(S) DE LA CROUTE | | | |
| Epaisseur totale | 2 à 5 cm ou plus | 0,5 à 6 cm | quelques millimètres à 2 à 3 cm |
| Type de croûte | Croûtes laminées poreuses (a) Croûtes laminées denses (b) écorce microcristalline non laminée (c) | variation dans le profil selon l'âge et la position par rapport à la côte | laminations (lamines de quelques mm à quelques cm) interstratifiées avec des sables squelettiques croûtes de surface : 1-2 cm à 10 cm veinules micritiques de subsurface visibles jusqu'à 2 ou 3 m |
| FACTEURS DE CONTROLE | Controle organique controle inorganique climat changement de pH local | controle inorganique climat cinétique des fluides chimie des fluides controle organique | climat couverture du sol substrat temps d'exposition* |
| FORMATION DES PROFILS | (a) sous couverture forestière tropicale alluvionnante assez épaisse (b) beaucoup de constituants détritiques sous un sol peu épais ou une roche exposée avec des mouillages et séchages plus fréquents (c) sur une surface de roche exposée ou couverte (activité microbienne), la précipitation locale est plus importante que la dissolution. | 1 Altération par bréchification, recristallisation, micritisation et perforation 2 Précipitation de calcite | Stade 1 : initiation Stade 2 : développement d'un barrage étanche Stade 3 : accumulation alluvionnante de carbonate Stade 4 : destruction du profil original |

(*) sur sédiments carbonatés, exposés de façon subaérienne, il faut environ 100 000 ans pour quelques centimètres.

Fig. 3 : Ensemble des paramètres influençant la formation d'une calcrète

PARTIE II

PLANCHES PHOTOGRAPHIQUES

PLANCHE I

Photo I-1 : Packstone à pelétoïdes.

Les pelétoïdes sont de taille variable, de forme quelconque et à structure cryptocristalline.

Echant. BM40 - Formation de Neffe - Carrière Malakoff - Lumière polarisée.

Photo I-2 : Packstone à agrégats (Ag) et ooïdes (Oo).

La micritisation masque la nature exacte des éléments constitutifs des agrégats

Echant. BM48 - Formation de Neffe - Carrière Malakoff - Lumière polarisée.

Photo I-3 : Grainstone à ooïdes micritiques.

Echant. BM87 - Formation de Neffe - Carrière Malakoff - Lumière polarisée.

PLANCHE I

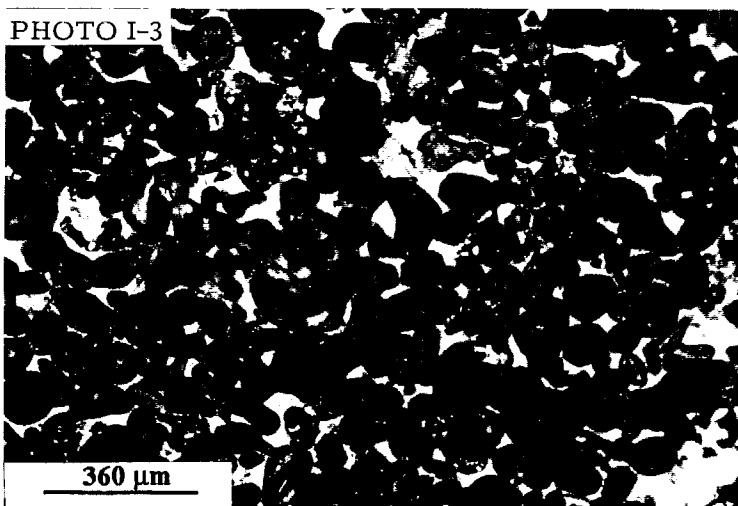
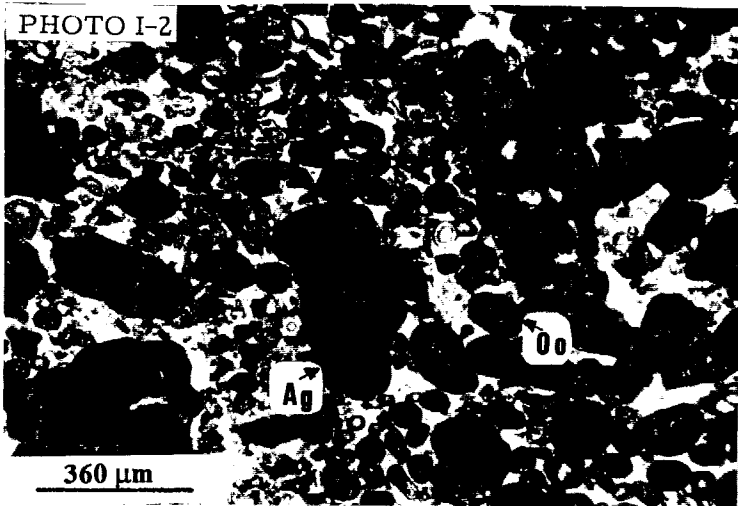
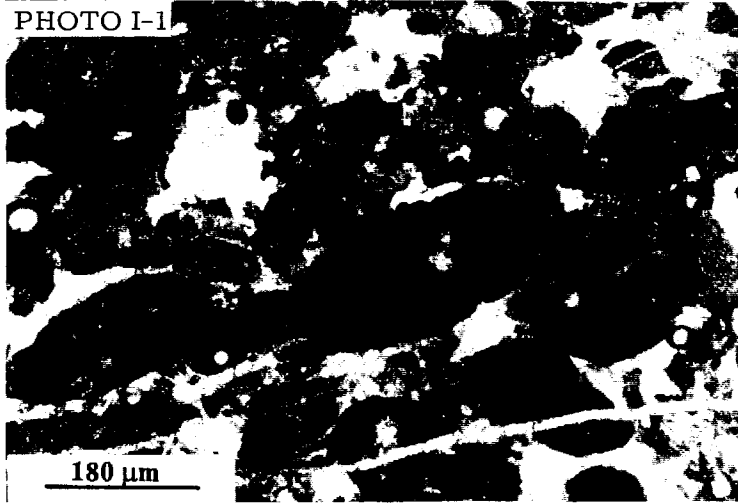


PLANCHE II

Photo II-1 : Calcaire à structure de type alvéolaire (de Wright, 1982).

Les cloisons arquées de micrite (de 25 à 50 μm d'épaisseur) constituent un enduit micritique qui délimite des fenestrees irrégulières issues de la dissolution de grands pelétoïdes.

Echant. BH8 - Pédoderme de Bachant (ex-Banc d'Or) - Carrière de l'Horipette - Lumière polarisée.

Photo II-2 : Calcaire à fenestreae tubulaires.

Elles se distinguent des précédentes par leur forme concentrique (flèches) et représentent des rhizoconcrétions.

Echant. BH8 - Pédoderme de Bachant (ex-Banc d'Or) - Carrière de l'Horipette - Lumière polarisée.

Photo II-3 : Intraclastes de micrite à débris de bioclastes dans une matrice micritique à microsparitique.

Echant. BH11 - Pédoderme de Bachant (ex-Banc d'Or) - Carrière de l'Horipette - Lumière polarisée.

PLANCHE II

PHOTO II-1

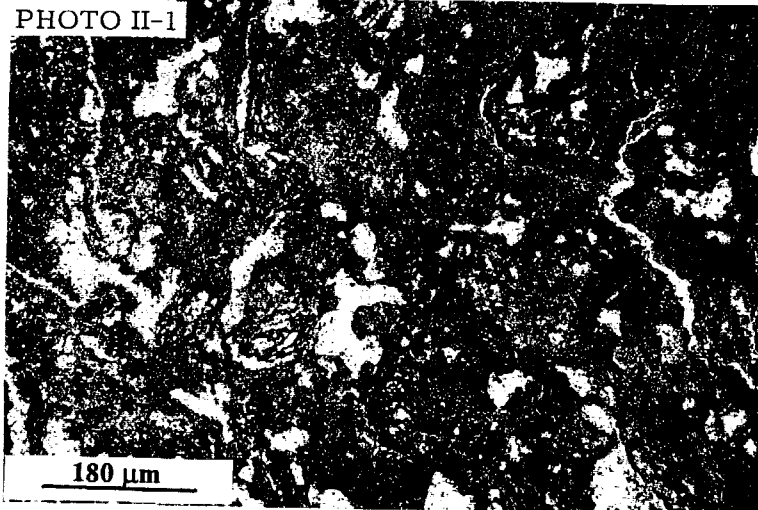


PHOTO II-2

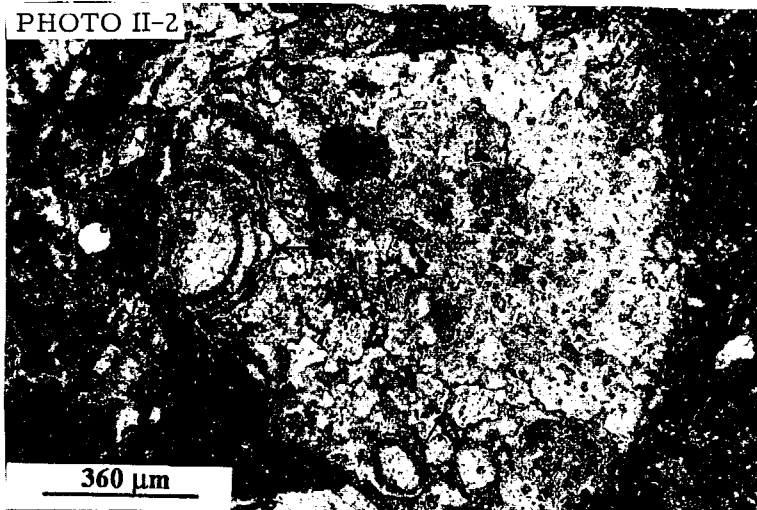


PHOTO II-3

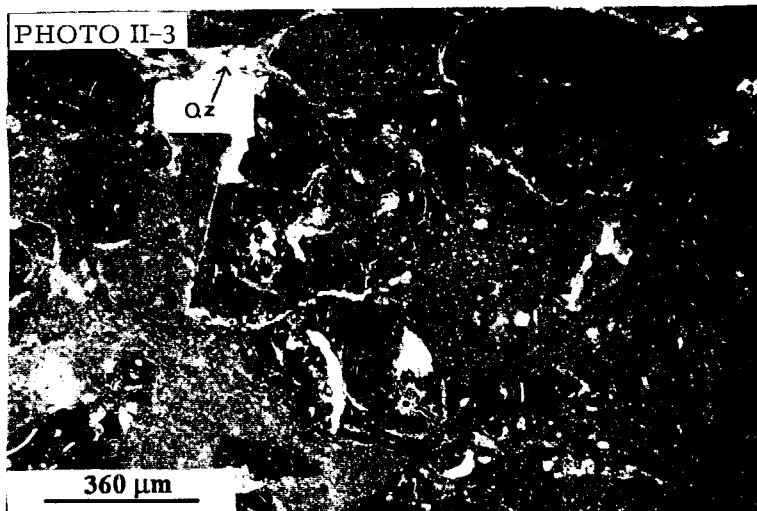


PLANCHE III

Photo III-1 : Intraclaste recristallisé par de la sparite fine (dans la matrice microsparitique) contenant des fantômes de nodules (centre de la photo)
Echant. BM25 - Pédoderme de Bachant (ex-Banc d'Or) - Carrière Malakoff - Lumière polarisée.

Photo III-2 : Reliques d'une micrite montrant des pseudomorphoses de gypse.
Echant. BM26 - Pédoderme de Bachant (ex-Banc d'Or) - Carrière Malakoff - Lumière polarisée.

Photo III-3 : Calcaire à intraclastes de micrite et biomicrite
Les fentes courbes qui délimitent les intraclastes sont des fentes de dessiccation. La matrice est microsparitique.
Echant. BM27 - Pédoderme de Bachant (ex-Banc d'Or) - Carrière Malakoff - Lumière polarisée.

PLANCHE III

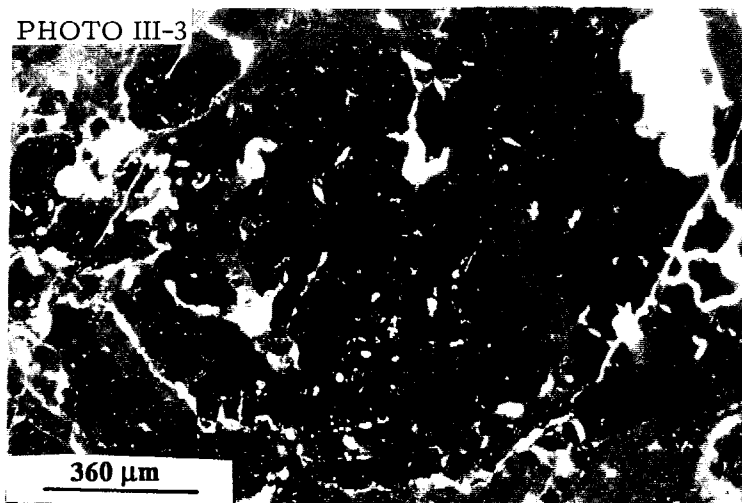
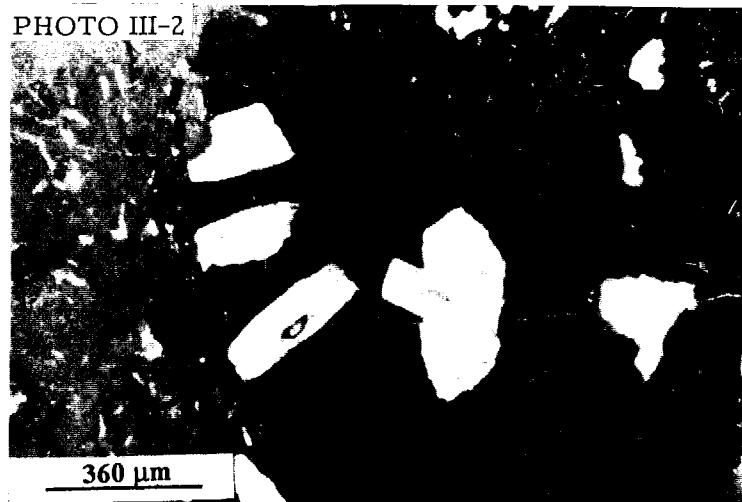
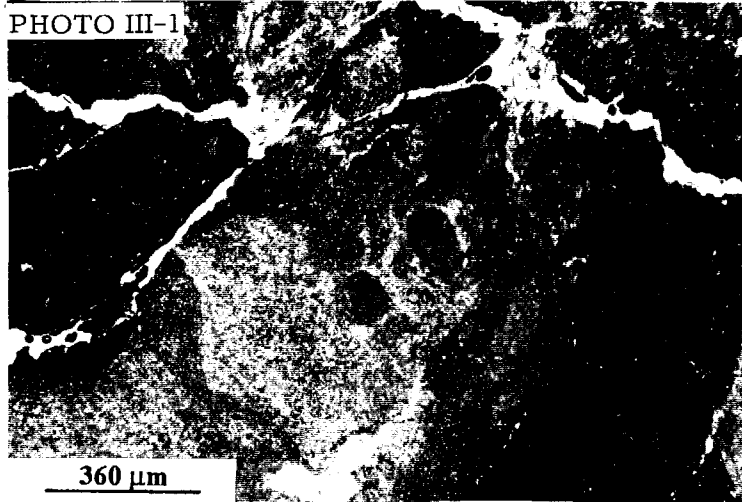


PLANCHE IV

Photo IV-1 : Intrasparite - Grainstone (MF1).

Echant. Li4g - Formation de Lives - Carrière Bocahut - Lumière polarisée.

Photo IV-2 : Biomicrite- Packstone/wackestone (MF2).

Echant. BH103 - Formation de Lives - Carrière de l'Horipette - Lumière polarisée.

Photo IV-3 : Pelsparite - Packstone (MF3).

Echant. BH85 - Formation de Lives - Carrière de l'Horipette - Lumière polarisée.

PLANCHE IV

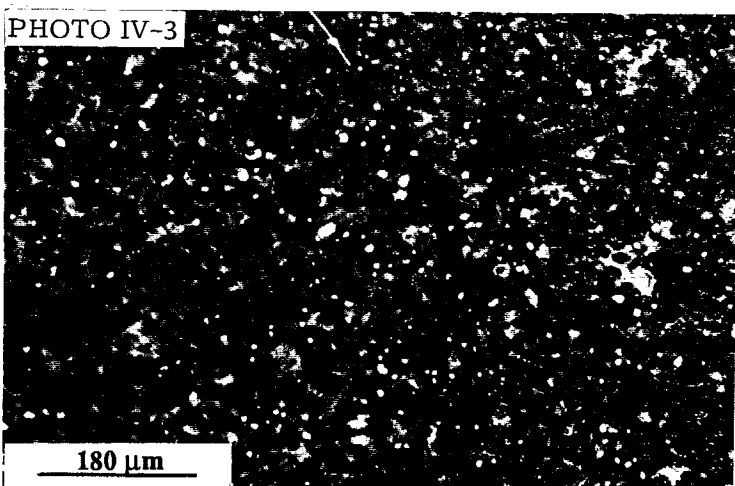
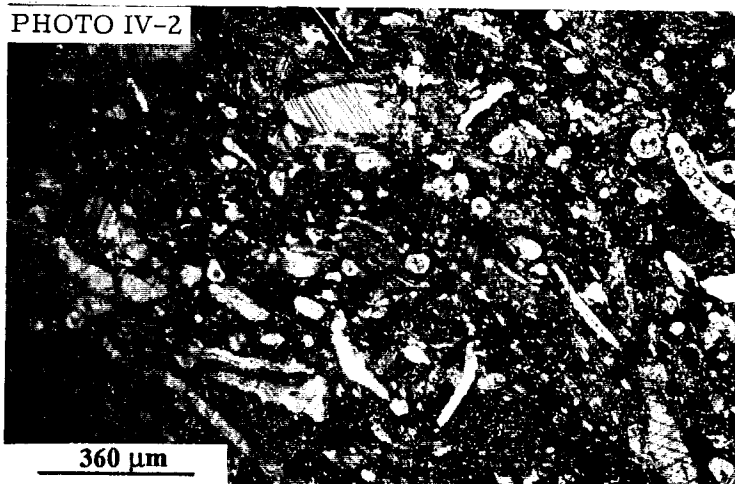
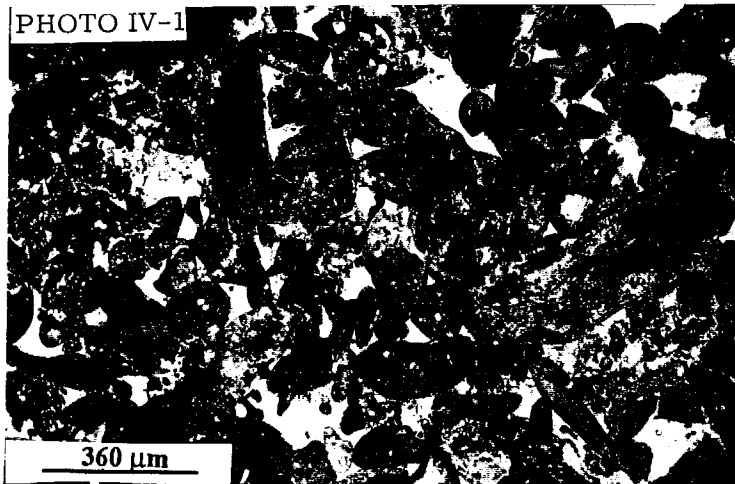


PLANCHE V

Photo V-1 : Oosparite - Grainstone / packstone (MF4).

Echant. BH24 - Formation de Lives - Carrière de l'Horipette - Lumière polarisée.

Photo V-2 : Biomicrite à Paléobérésellinés (*Exvotarisella* et *palaeoberesella*) - Packstone (MF5).

Echant. bc 66 - Formation de Lives - Carrière de l'Horipette - Lumière polarisée.

Photo V-3 : Micrite à bioclastes (valves d'Ostracodes) - Wackestone (MF6).

Echant. bc44 - Formation de Lives - Carrière de l'Horipette - Lumière polarisée.

PLANCHE V

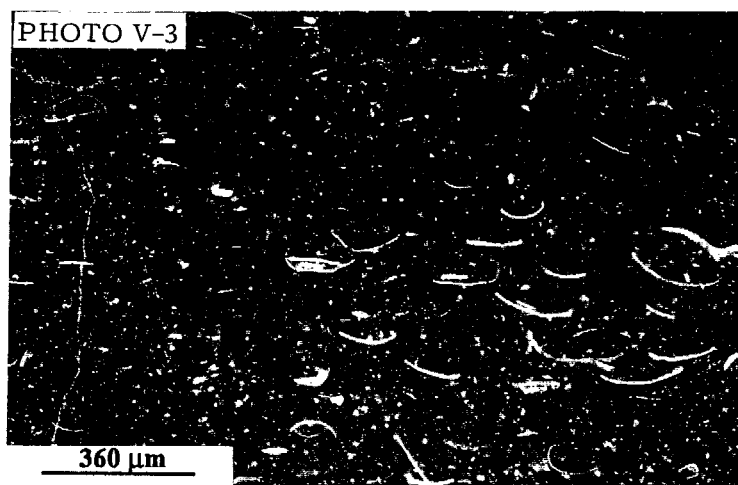
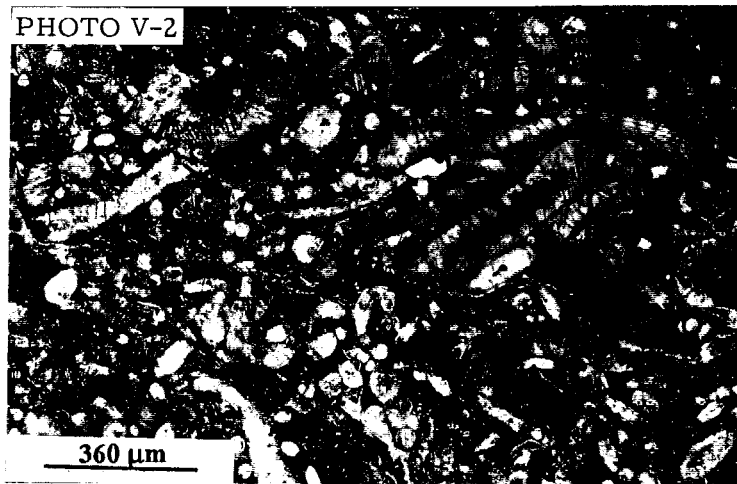
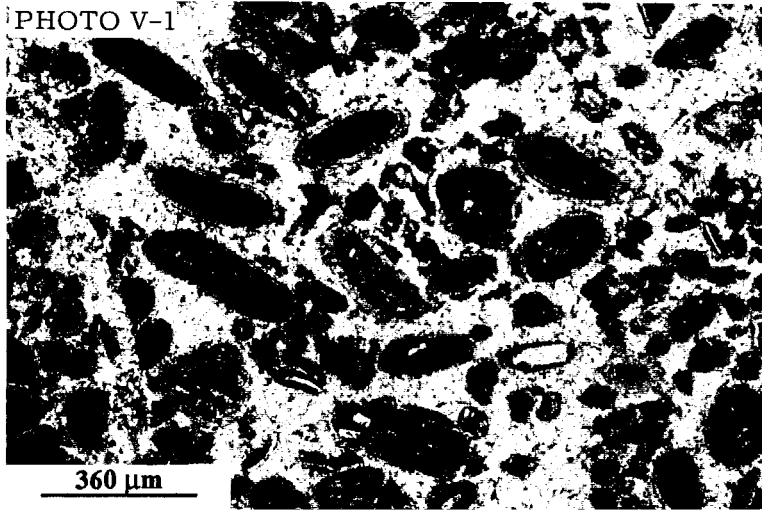


PLANCHE VI

Photo VI-1 : Biolithite - Boundstone à Spongiostromides (MF7).
Echant. Li4a- Formation de Lives - Carrière Bocahut - Lumière polarisée.

Photo VI-2 : Micrite - Mudstone (MF8).
Echant. BH1 - Formation de Lives - Carrière de l'Horipette - Lumière polarisée.

Photo VI-3 : *Microcodium* dans un calcaire algaire (MF7).
Sa présence implique émergence et une certaine évolution pédologique du sédiment.
Echant. BM22 - Formation de Lives - Carrière Malakoff - Lumière polarisée.

PLANCHE VI

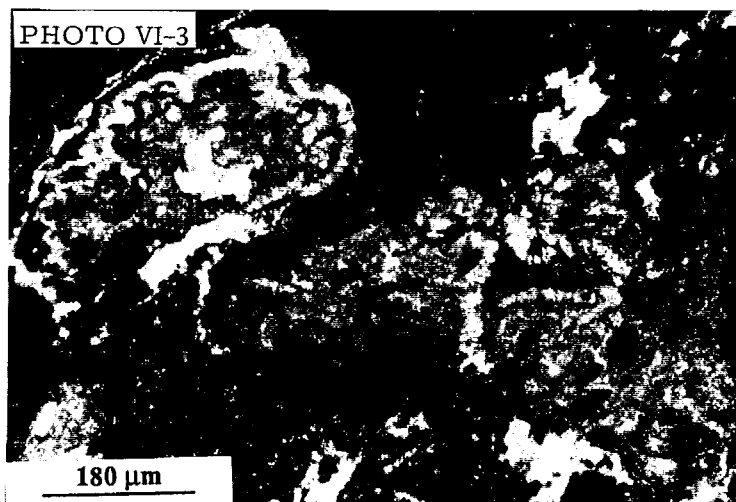
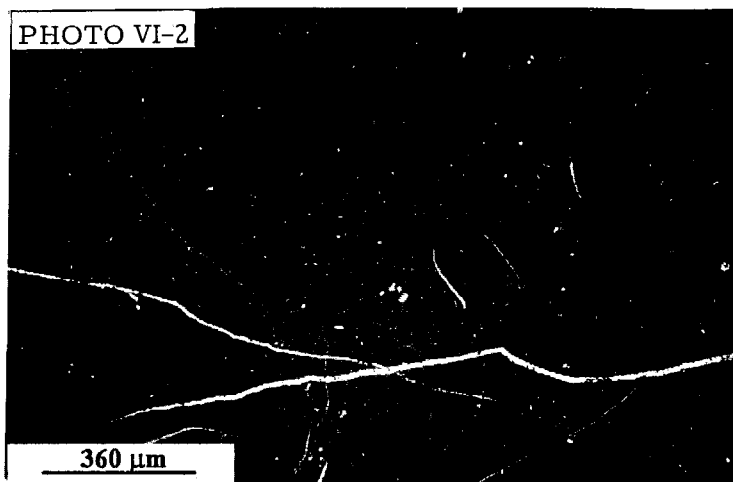
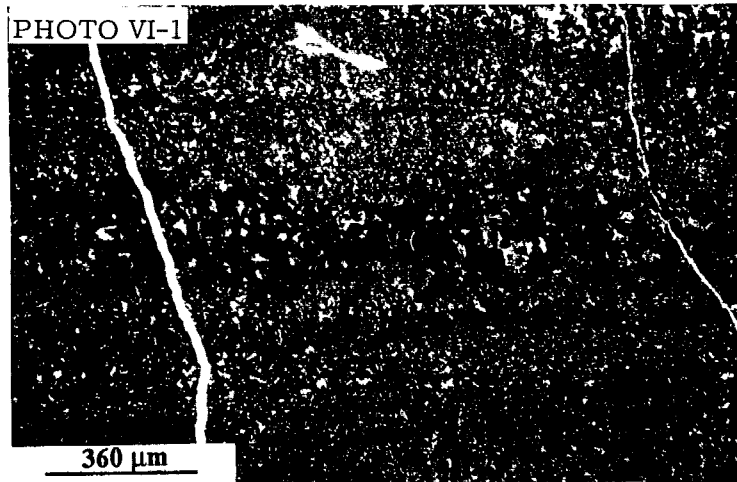


PLANCHE VII

Photo VII-1 : Brèche polygénique à ciment sparitique.

L'élément situé en bas de la photo présente des fissures, d'origine tectonique, qui ne se retrouvent ni dans le sédiment, ni dans les autres blocs à microfaciès différents.

Echant. BM21 - Formation de Lives - Carrière Malakoff - Lumière polarisée.

Photo VII-2 : Calcaire stromatolithique (MF7) contenant un galet mou de kaolinite (kao).

Echant. BM3 - Formation de Lives - Carrière Malakoff - Lumière polarisée

Photo VII-3 : Packstone à pelloïdes montrant un ciment pendant fibreux caractéristique d'une cimentation en vadose marine.

Echant. LF42' - Formation de Neffe - Carrière C.B.S. - Lumière polarisée.

PLANCHE VII

PHOTO VII-1

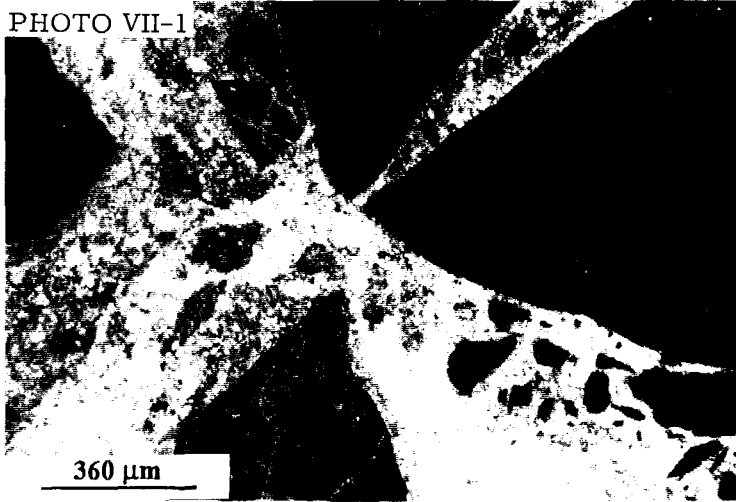


PHOTO VII-2

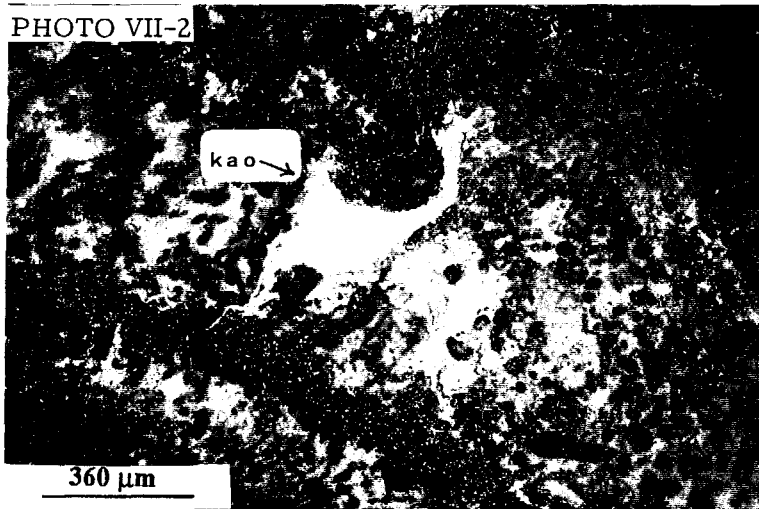


PHOTO VII-3

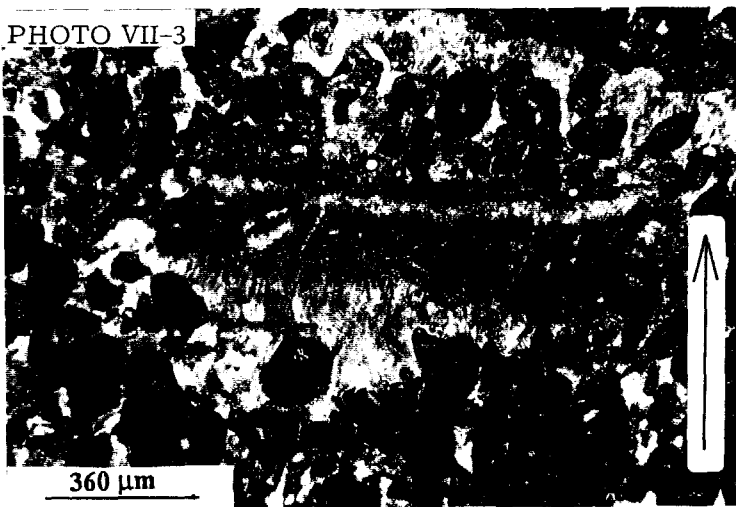


PLANCHE VIII

Photo VIII-1 : Microstalactites et microstalagmites dans les fenestrées. Ils représenteraient une cimentation dans un milieu proche de l'émersion.

Echant. LF61 - Pédoderme de Bachant (ex-Banc d'Or) - Lumière polarisée analysée.

Photo VIII-2 : Microcodium en rosettes.

Echant. QNJ 33 - Formation de Lives - Carrière de la Queue-Noir-Jean - Lumière polarisée analysée.

Photo VIII-3 : Oosparite - Grainstone.

La micritisation est importante mais quelques ooïdes sont néanmoins reconnaissables.

Echant. Ne18c - Formation de Neffe - Carrière Bocahut - Lumière polarisée.

PLANCHE VIII

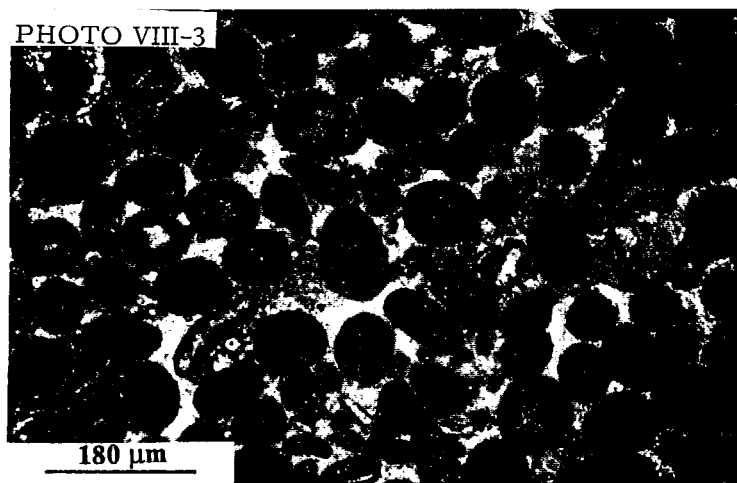
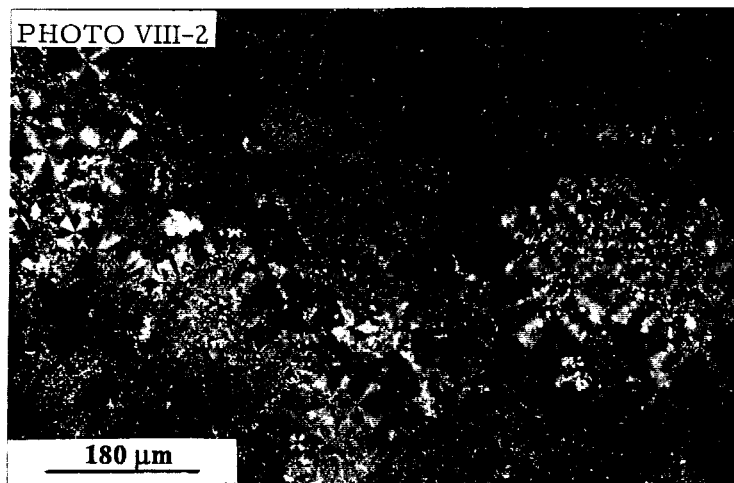
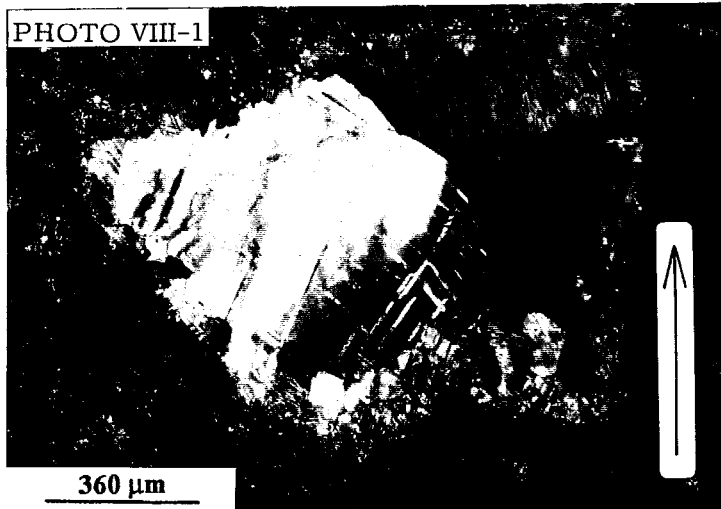


PLANCHE IX

Photo IX-1 : Pseudomorphose calcitique de gypse lenticulaire.

Echant. QNJ 79 - V3a - Carrière de la Queue-Noir-Jean - Lumière polarisée.

Photo IX-2 : Cristaux euhédraux d'anhydrite à section carrée.

Echant. QNJ79 - V3a - Carrière de la Queue-Noir-Jean - Lumière polarisée.

Photo IX-3 : Plage monocristalline aux contours en dominos.

Echant. QNJ79 - V3a - Carrière de la Queue-Noir-Jean - Lumière polarisée analysée.

PLANCHE IX

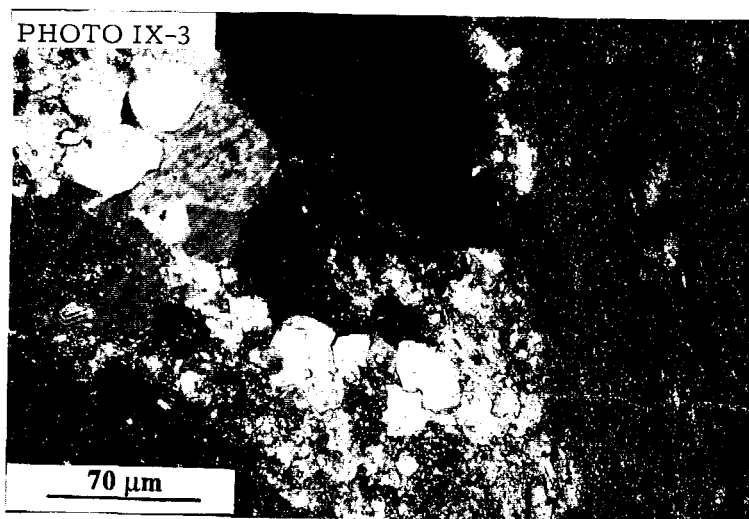
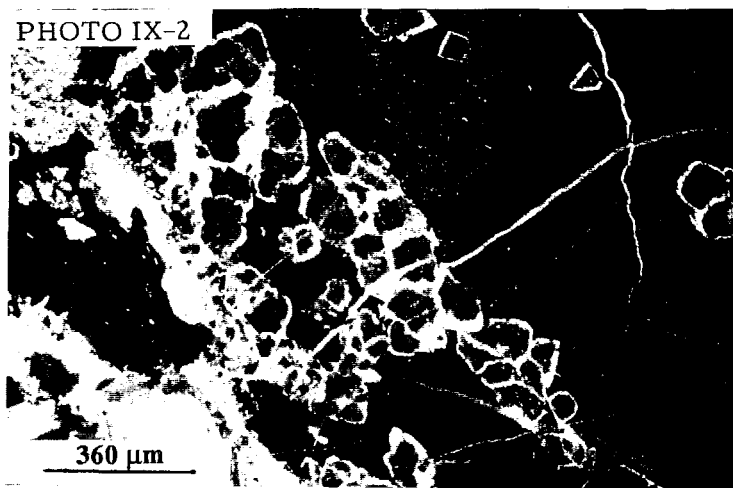
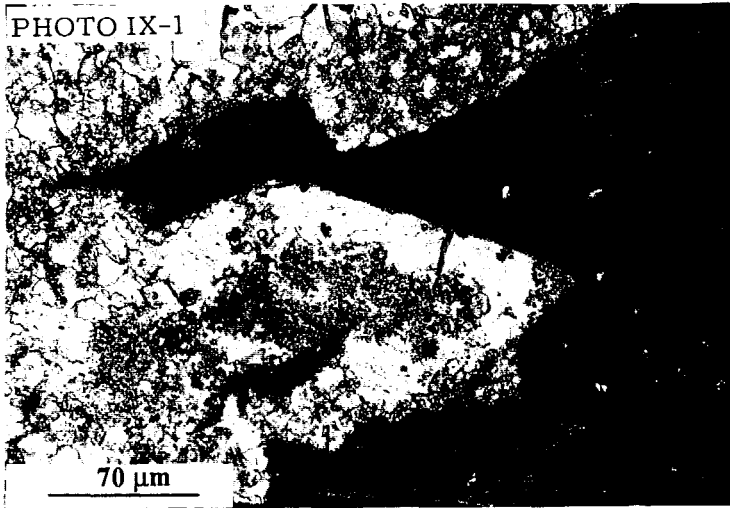


PLANCHE X

Photo X-1 : Veinules "gainées" d'un manchon micritique.

Echant. QNJ69 - V3a - Carrière de la Queue-Noir-Jean - Lumière polarisée.

Photo X-2 : Fissures à remplissage de cristaux perpendiculaires aux épontes.

Echant. QNJ80 - V3a - Carrière de la Queue-Noir-Jean - Lumière polarisée.

Photo X-3 : Pseudomorphoses siliceuses de gypse

Echant. QNJ80 - V3a - Carrière de la Queue-Noir-Jean - Lumière polarisée.

PLANCHE X

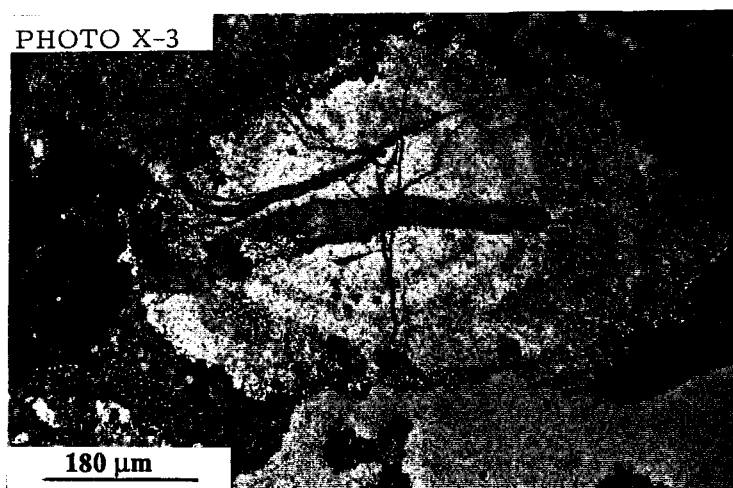
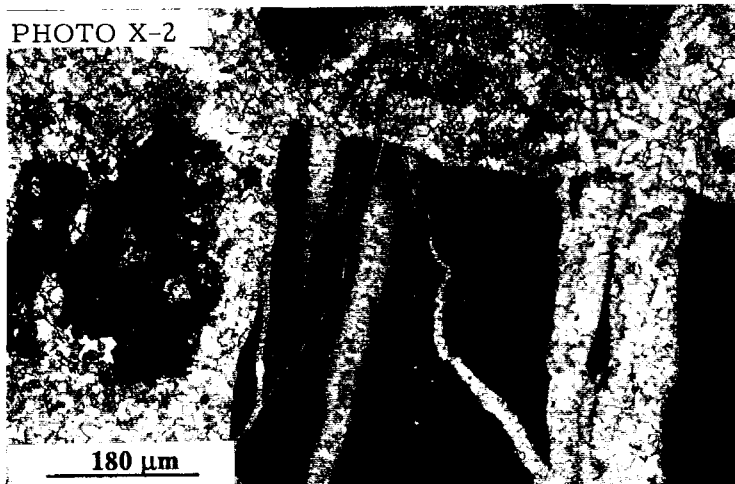
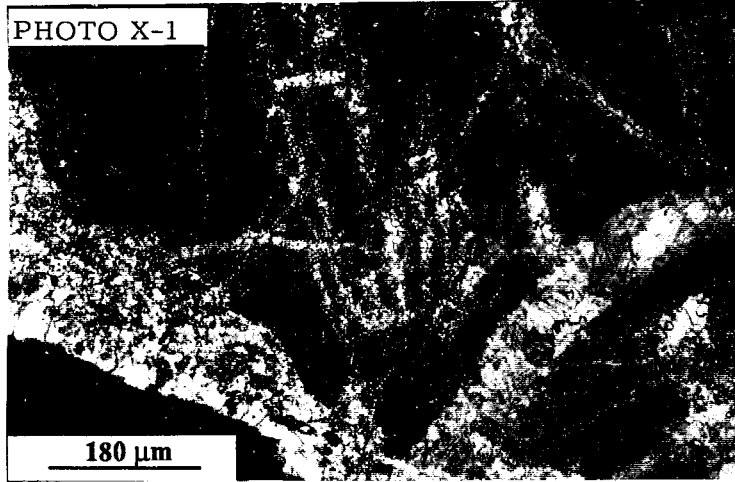


PLANCHE XI

Photo XI-1 : Microfaciès composé uniquement d'anhydrite de remplacement. Les cristaux ont des contours en dominos. En lumière polarisée, ils ont un aspect sale. En lumière polarisée analysée, ils présentent une biréfringence anormale (couleur vive du 2^{ème} ordre).
Echant. BH47 - Formation de Lives - Carrière de l'Horipette - Lumière polarisée analysée.

Photo XI-2 : Cristal d'anhydrite préservé dans une fracture.
Echant. PL27 - Formation de Neffe - Carrière du Pont des Loups - Lumière polarisée.

Photo XI-3 : Dolomite type-1
Echant. BM130 - Formation de Neffe - Carrière Malakoff - Lumière polarisée

PLANCHE XI

PHOTO XI-1

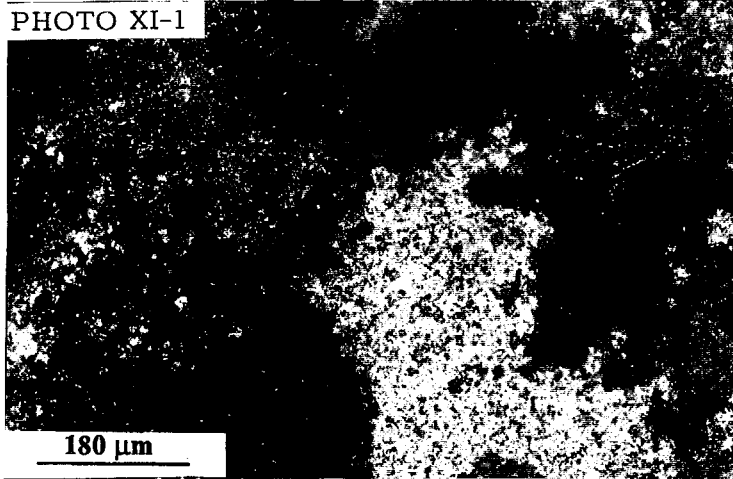


PHOTO XI-2

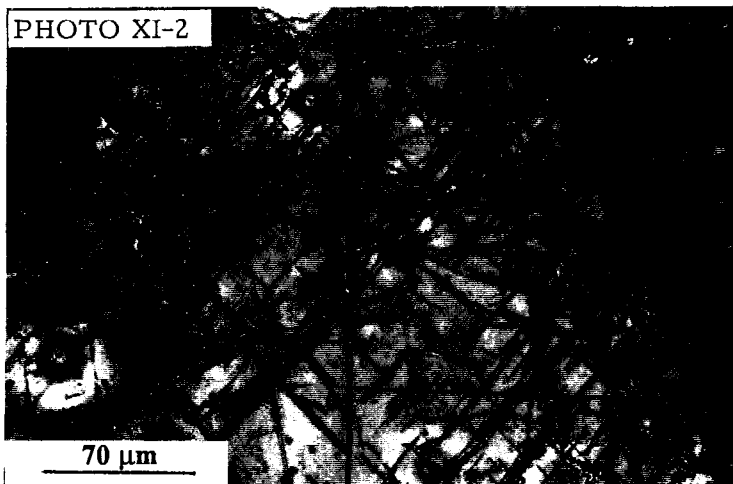


PHOTO XI-3

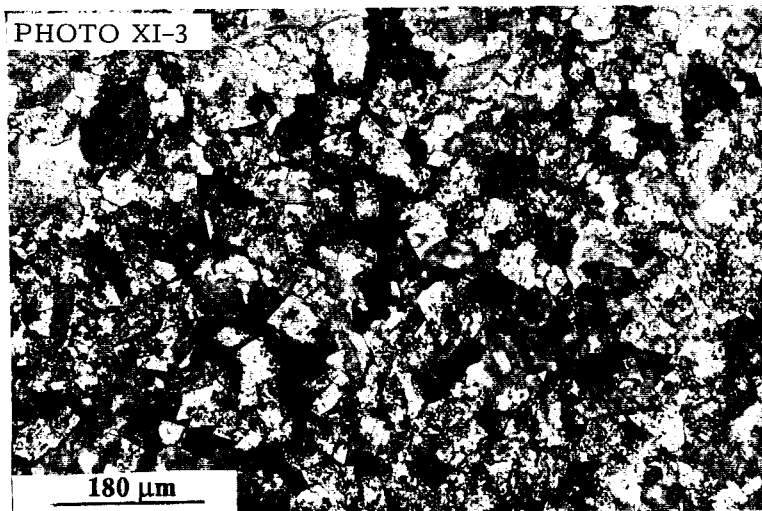


PLANCHE XII

Photo XII-1 : Dolomite type-2.

Echant. Li4m - Formation de Lives - Carrière Bocahut - Lumière polarisée.

Photo XII-2 : Dolomite type-3.

Echant. Ne14e - Formation de Lives - Carrière Bocahut - Lumière polarisée
analysée.

Photo XII-3 : Dolomite type-4.

Echant. QNJ63 . V3a. Lumière polarisée.

PLANCHE XII

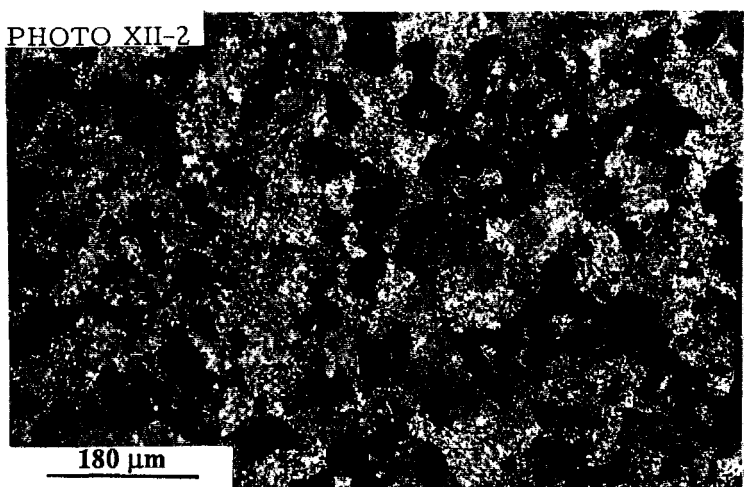
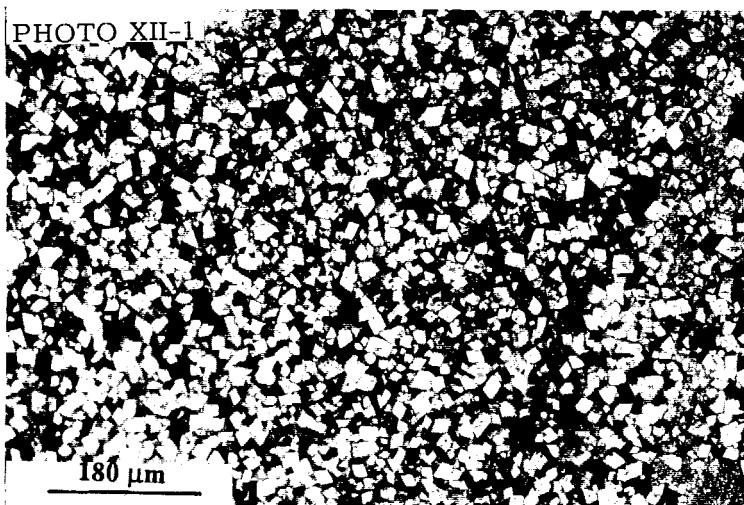
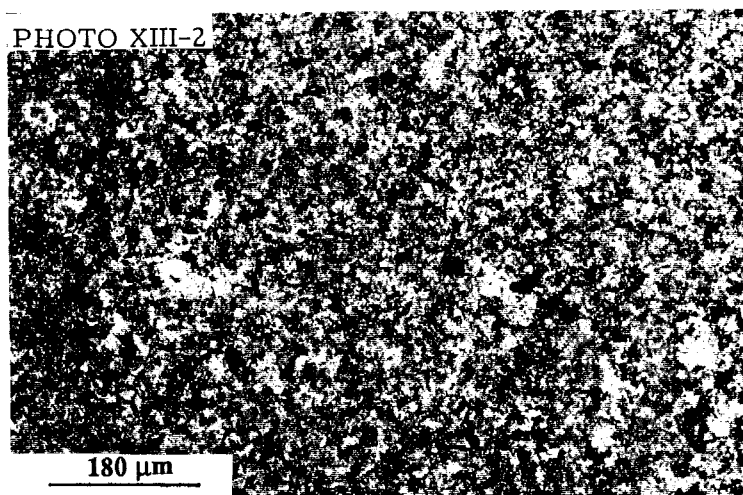
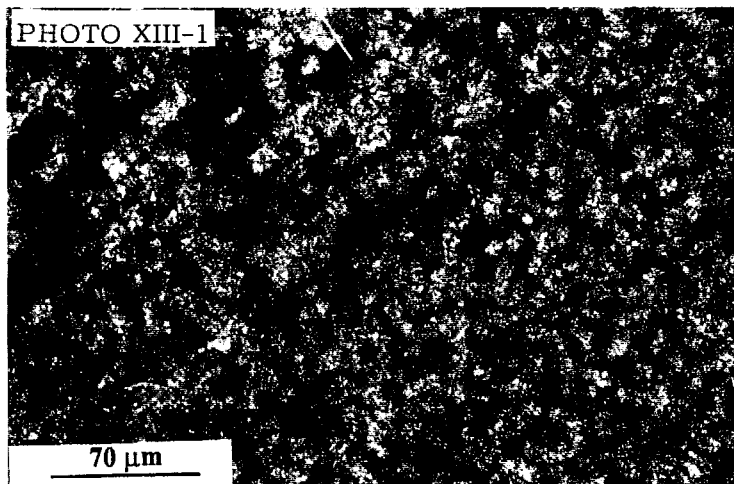


PLANCHE XIII

Photo XIII-1 : Dédolomite associée aux microfaciès MF6 à MF8.
Echant. BH63 - Formation de Lives - Carrière de l'Horipette - Lumière polarisée.

Photo XIII-2 : Mosaïque épicristalline représentant une dédolomite qui oblitère toutes les structures de la roche.
Echant. QNJ58 - V3a - Carrière de la Queue-Noir-Jean - Lumière polarisée analysée.

PLANCHE XIII



PARTIE III

PLANCHES DES LOGS DÉTAILLÉS

LISTE DES PLANCHES DE LOGS DÉTAILLÉS**CARRIÈRE DE L'HORIPETTE (Bachant)**

| | |
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| PLANCHE XIV-2 | p. 38 |
| PLANCHE XIV-3 | p. 39 |

CARRIÈRE MALAKOFF (Bachant)

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| PLANCHE XV-1 | p. 40 |
| PLANCHE XV-2 | p. 41 |
| PLANCHE XV-3 | p. 42 |
| PLANCHE XV-4 | p. 43 |

CARRIÈRE C.B.S. (Limont-Fontaine)

| | |
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| PLANCHE XVI-1 | p. 44 |
| PLANCHE XVI-2 | p. 45 |
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| PLANCHE XVI-4 | p. 47 |

CARRIÈRE DU PONT DES LOUPS (Saint-Aubin)

| | |
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| PLANCHE XVII-1 | p. 48 |
| PLANCHE XVII-2 | p. 49 |

CARRIÈRE DE LA QUEUE-NOIR-JEAN (Saint-Aubin)















| | |
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| PLANCHE XVIII-2 | p. 51 |
| PLANCHE XVIII-3 | p. 52 |
| PLANCHE XVIII-4 | p. 53 |
| PLANCHE XVIII-5 | p. 54 |

CARRIÈRE BOCAHUT (Avesnes)











| | |
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| PLANCHE XIX-3 | p. 57 |

LÉGENDE DES LOGS DÉTAILLÉS

LIVIEN-WARNANTIEN

| | | | |
|---|----------------------|---|------------------|
|  | Calcaire |  | Dolomie |
|  | Calcaire dolomitique |  | Dolomie calcaire |
|  | Algues |  | Bioclastes |
|  | Brèche |  | Oolithes |
|  | Niveau argileux |  | Paléosol |
|  | Chailles |  | Phtanites |
|  | Charbon |  | |

MOLINIACIEN

| | | | |
|---|---------------|---|----------------------|
|  | Calcaire |  | Calcaire dolomitique |
|  | Dolomie |  | Dolomie calcaire |
|  | Macrofossiles |  | Pellétoïdes |
|  | Algues |  | Ooïdes |
|  | Microfossiles |  | Lumachelle |

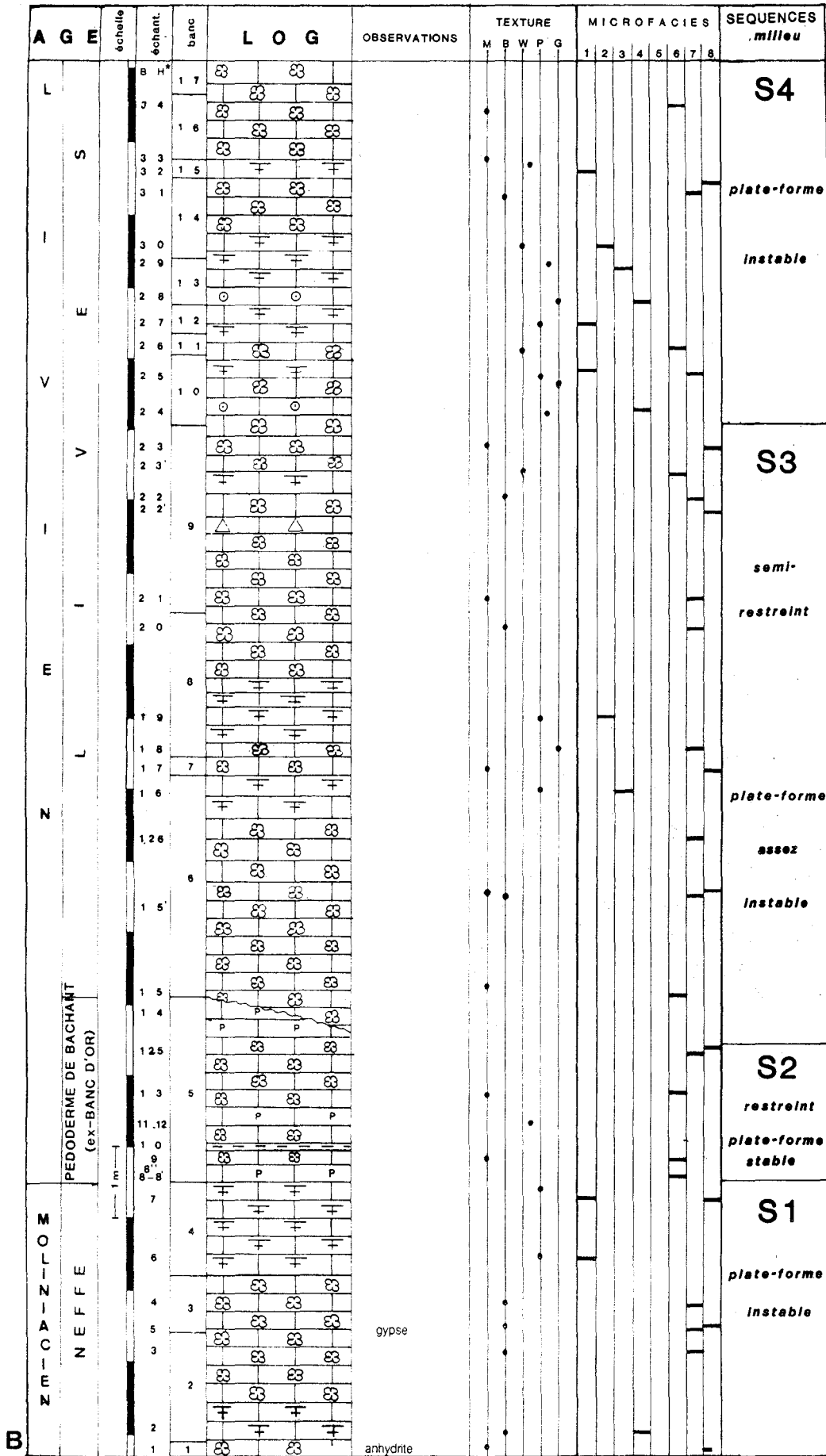


PLANCHE XIV-1

| AGE | échelle | échant. | banc | LOG | OBSERVATIONS | TEXTURE | | | | | MICROFACIES | | | | | | | | SEQUENCES milieu | | | | | | | | | | | |
|--|-------------|---------|------|-----|--------------|---------|-----------|---|---|---|-------------|---|---|---|---|---|---|---|---------------------|--|--|--|--|--|----|--|--|--|--|--|
| | | | | | | M | B | W | P | G | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | |
| L S I E V V I E L N | T I E | 8 2 | 5 4 | | | | | | | | | | | | | | | | | | | | | | S6 | | | | | |
| | | 8 1 | 5 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 8 0 | 5 2 | | | | anhydrite | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7 9 | 5 1 | | | | anhydrite | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7 8 | 5 0 | | | | anhydrite | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

PLANCHE XIV-2

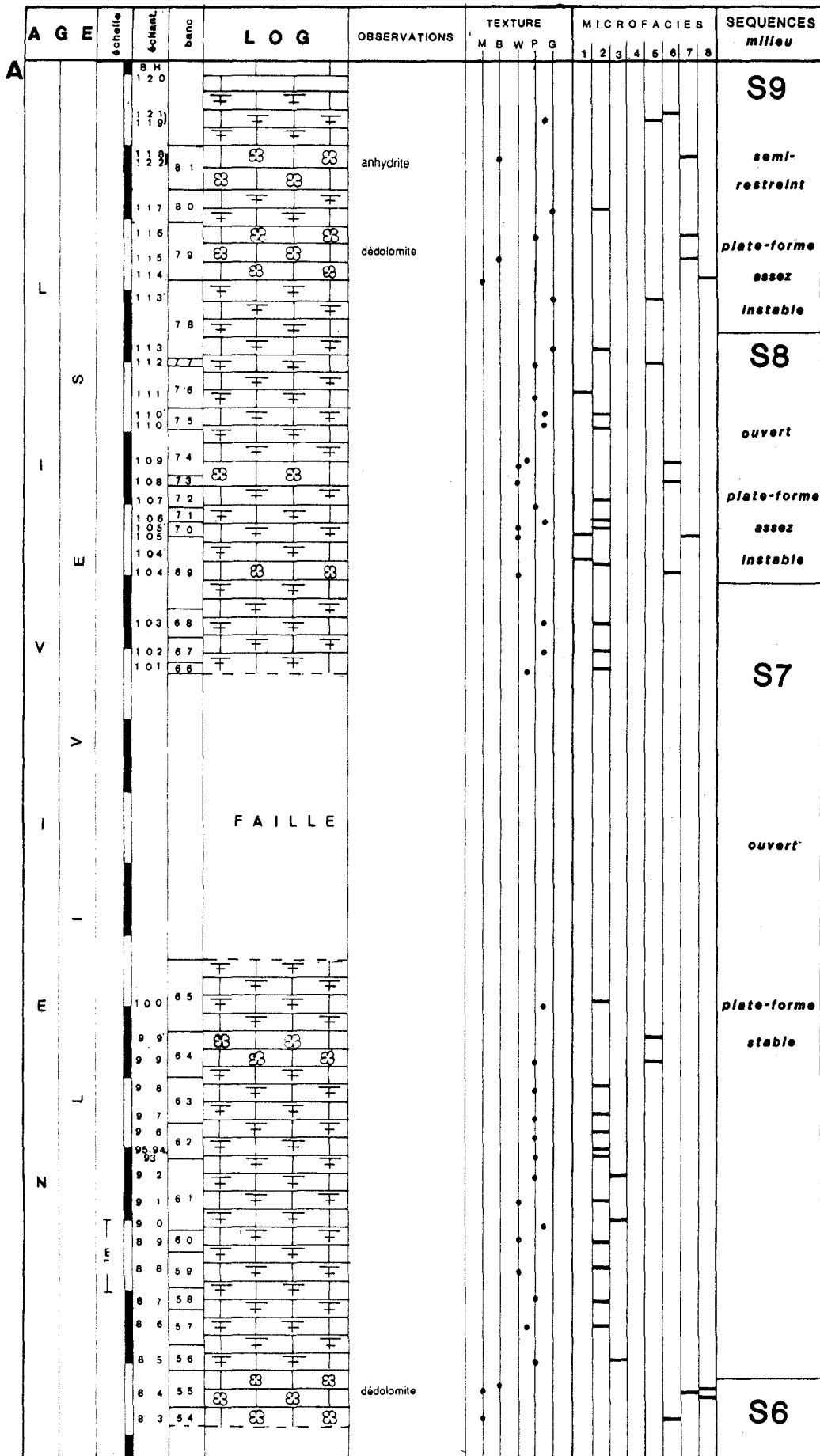


PLANCHE XIV-3

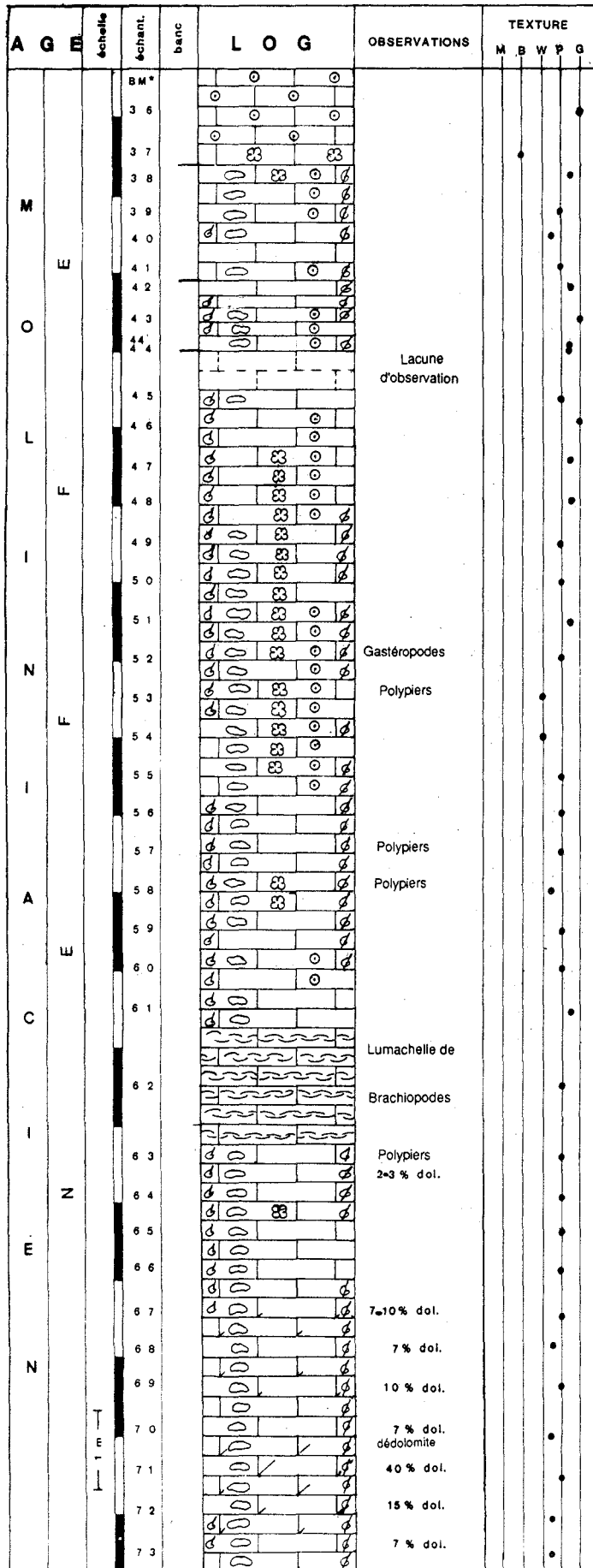


PLANCHE XV-2

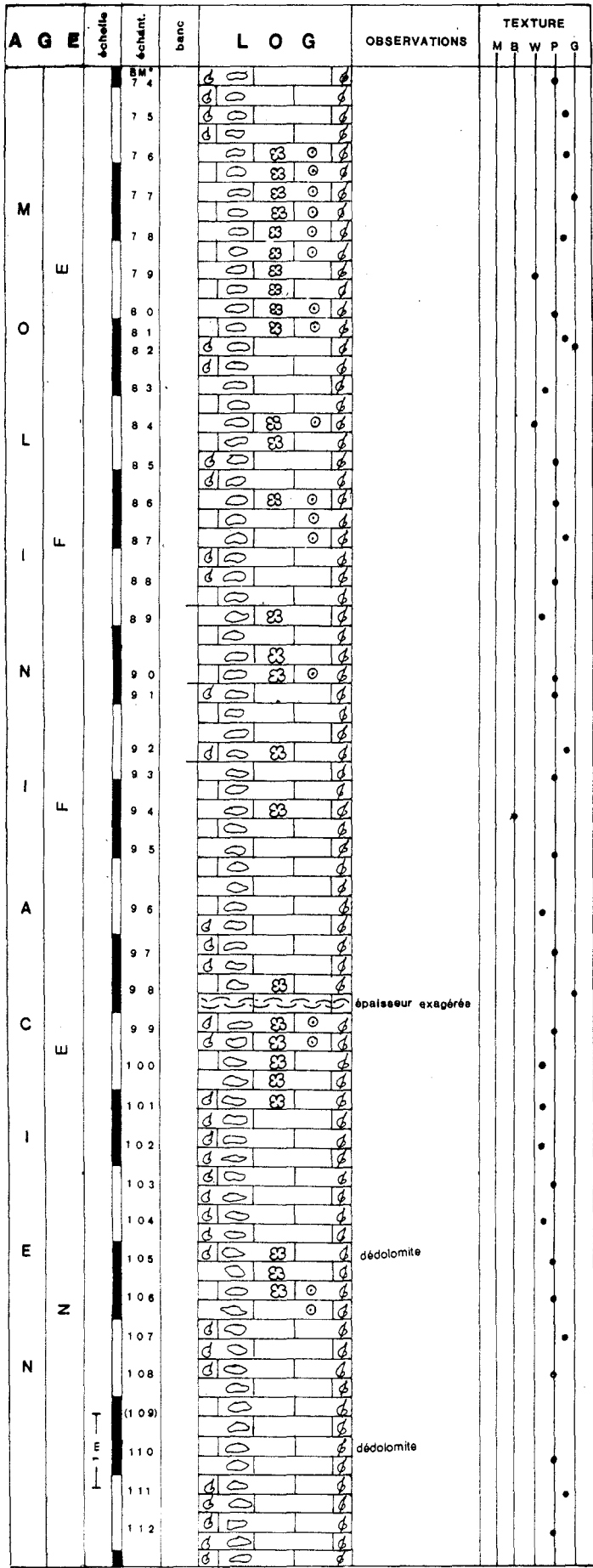


PLANCHE XV-3

D

| A G E | | échelle | échant. | banc | L O G | OBSERVATIONS | TEXTURE | | | | | | |
|---|-----------------------|---------|-----------------|------|--------------|--------------|-----------|-------------------------|---|---|---|--|--|
| | | | BM ⁿ | | | | M | B | W | P | G | | |
| M O L I N I A C I E N | N E F E I | I | 113 | | 6 | | 10 % dol. | | | | | | |
| | | | 114 | | 6 | | | | | | | | |
| | | | 115 | | 6 | | | | | | | | |
| | | | 116 | | 6 | | | | | | | | |
| | | | 117 | | 6 | | | | | | | | |
| | | | 118 | | 6 | | | 10 % dol. dédolomite | | | | | |
| | | | 119 | | 6 | | | 15 % dol. | | | | | |
| | | | 120 | | 6 | | | | | | | | |
| | | | 121/22 | | 6 | | | 15 % dol. | | | | | |
| | | | 123 | | 6 | | | | | | | | |
| | | | 124 | | 6 | | | | | | | | |
| | | | 125 | | 6 | | | dédolomite | | | | | |
| | | | 126 | | 6 | | | 15 % dol. | | | | | |
| | | | 127 | | 6 | | | 25-30 % dol. | | | | | |
| | | | 128 | | 6 | | | 10 % dol. | | | | | |
| | | | 129 | | 6 | | | | | | | | |
| 130 | | 6 | | | 25-40 % dol. | | | | | | | | |

PLANCHE XV-4

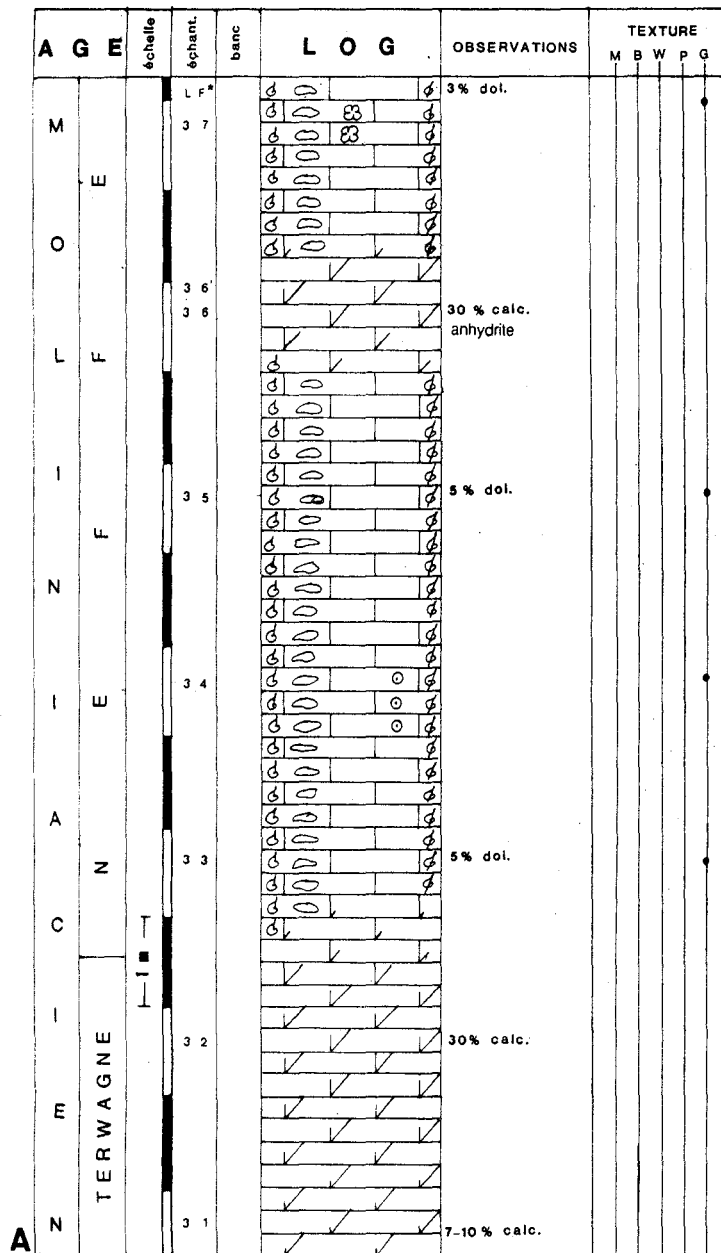


PLANCHE XVI-1

| AGE | | échelle | échant. | banc | LOG | OBSERVATIONS | TEXTURE | | | | |
|--|-----|---------|---------|------|-----|--------------|-----------|---|---|---|---|
| | | L | F | | | | M | B | W | P | G |
| M O L I F I F I C E I N E N | | | | | | | | | | | |
| | 4 7 | | | | | | | | | | |
| | | | | | | | | | | | |
| | 4 6 | | | | | | | | | | |
| | | | | | | | | | | | |
| | 4 5 | | | | | | | | | | |
| | | | | | | | | | | | |
| | 4 4 | | | | | | | | | | |
| | | | | | | | | | | | |
| | 4 3 | | | | | | | | | | |
| | 4 2 | | | | | | | | | | |
| | | | | | | | | | | | |
| | 4 2 | | | | | | | | | | |
| | 4 1 | | | | | | anhydrite | | | | |
| | | | | | | | | | | | |
| | 4 1 | | | | | | 7% dol. | | | | |
| | 4 1 | | | | | | 15% dol. | | | | |
| | | | | | | | | | | | |
| | 4 0 | | | | | | 1.2% dol. | | | | |
| | | | | | | | | | | | |
| 3 9 | | | | | | | | | | | |
| | | | | | | | | | | | |
| 3 8 | | | | | | | | | | | |

PLANCHE XVI-2

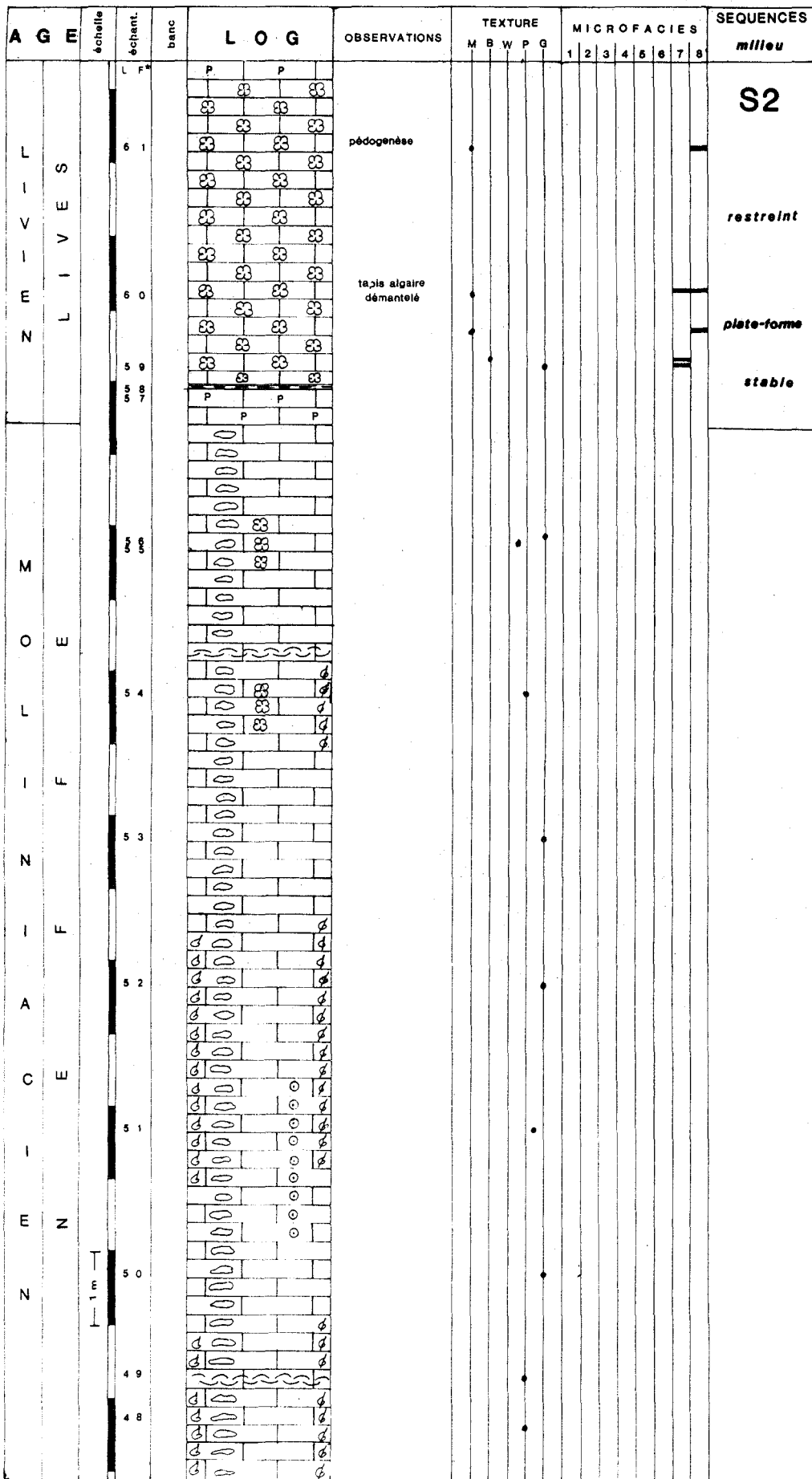


PLANCHE XVI-3

| A G M | | échelle | échant. | base | LOG | OBSERVATIONS | TEXTURE | | | | |
|-----------|---|---------|-----------|------|---------------------------|--------------|---------|---|---|---|---|
| L | S | | | | | | M | B | W | P | G |
| L I V I E | | | | | Absence d'affleurement | | | | | | |
| | | | PL 3 0 | | ⊗ ⊗ | | | | | | |
| | | | 2 9 | | ⊗ ⊗ | | | | | | |
| | | | 2 8 | | + + | | | | | | |
| | | | 2 7 | | ⊗ ⊗ | | | | | | |
| | | | 2 6 | | ⊗ ⊗ ⊗ ⊗ | | | | | | |
| | | | 2 5 | | ⊗ ⊗ ⊗ ⊗ | 20-25 % dol. | | | | | |
| | | | 2 4 | | ⊗ ⊗ | 50 % dol. | | | | | |
| | | | 2 3 | | ⊗ ⊗ ⊗ ⊗ | | | | | | |
| | | | 2 2 | | ⊗ ⊗ ⊗ ⊗ | dédolomite | | | | | |
| | | | 2 1 | | ⊗ ⊗ ⊗ ⊗ | dédolomite | | | | | |
| | | | 2 0 | | ⊗ ⊗ ⊗ ⊗ | dédolomite | | | | | |
| | | | 1 9 | | ⊗ ⊗ ⊗ ⊗ | dédolomite | | | | | |
| | | | 1 8 | | ⊗ ⊗ ⊗ ⊗ | dédolomite | | | | | |
| | | | 1 7 | | ⊗ ⊗ ⊗ ⊗ | dédolomite | | | | | |
| | | | 1 6 | | | | | | | | |
| | | | 1 5 | | | | | | | | |
| | | | 1 4 | | | | | | | | |
| | | | 1 3 | | | | | | | | |
| | | | | | ? | | | | | | |

4 m

PLANCHE XVII-1

| A G E | échelle | échant. | banc | L O G | OBSERVATIONS | TEXTURE | | | |
|---|---------|----------------|-------|-------|--------------|-----------|---|---|-----|
| | | | | | | M | B | W | P G |
| L S I E V V I I E L N | 1-4 | PL 41 | | 83 83 | | | | | |
| | | 40 | | 83 83 | anhydrite | | | | |
| | | 39 | | 83 83 | | | | | |
| | | 38 | | 83 83 | | | | | |
| | | 37 | | | | | | | |
| | | L a c u n e | | | | | | | |
| | | d'observations | | | | | | | |
| | | 36 | | | | anhydrite | | | |
| | | 35 | | | 83 83 | | | | |
| | | 34 | | | 83 83 | | | | |
| 33 | | | | | | | | | |
| 32 | | | | | | | | | |
| 31 | | | 83 83 | | | | | | |
| A b s e n s e | | | | | | | | | |
| d'affleurement | | | | | | | | | |

PLANCHE XVII-2

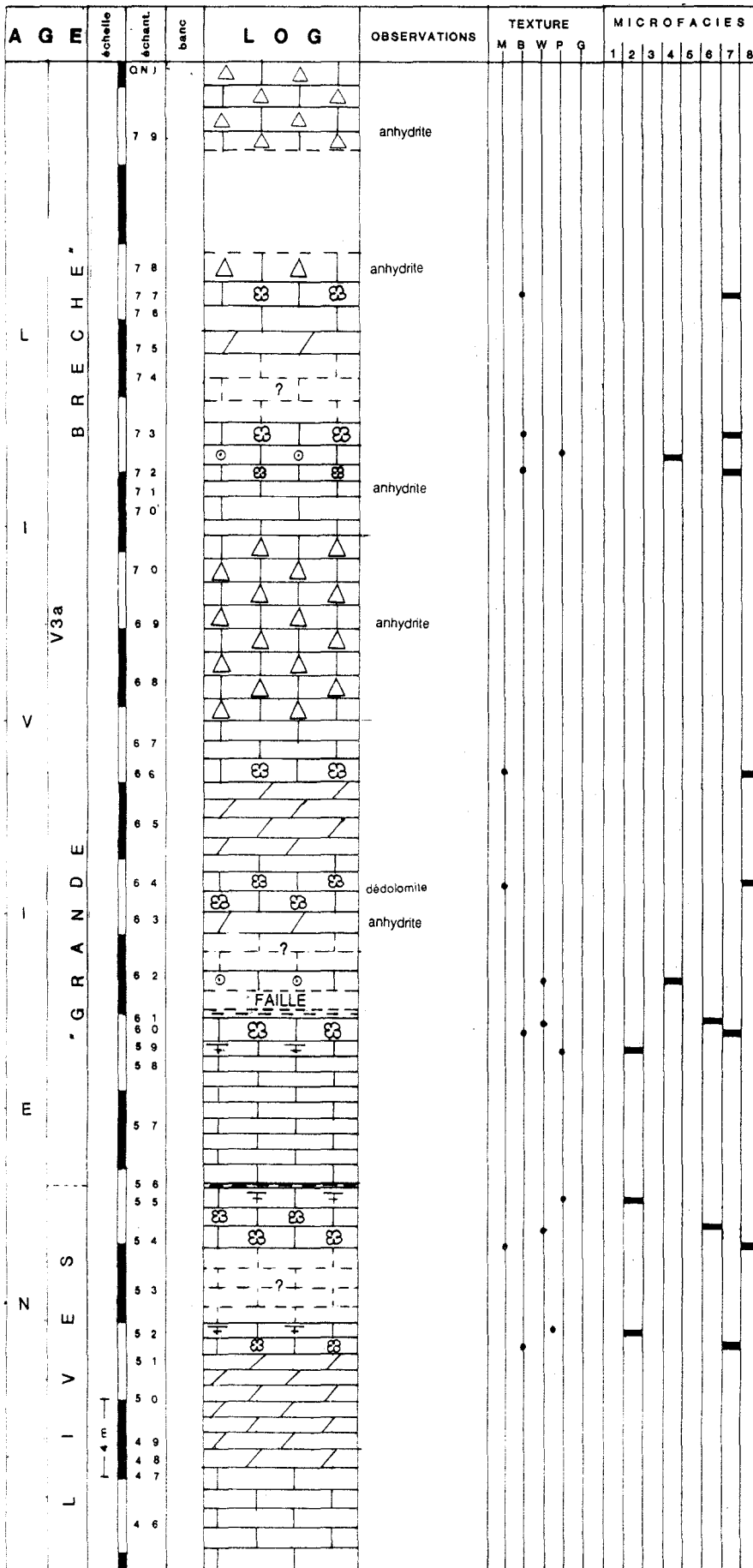


PLANCHE XVIII-3

| A G E | | échelle | banc | L O G | OBSERVATIONS | M | B | W | P | G | MICROFACIES | | | | | | | | | | | | | | |
|-------|---|---------|------|-------|--------------|---|---|---|---|---|-------------|---|---|---|---|---|---|---|--|--|--|--|--|--|--|
| W | A | | | | | | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | |
| W | A | V3c | GNJ | | | | | | | | | | | | | | | | | | | | | | |
| | | | 115 | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 114 | | | | | | | | | | | | | | | | | | | | | | |
| | | | 113 | | | | | | | | | | | | | | | | | | | | | | |
| | | | 112 | | | | | | | | | | | | | | | | | | | | | | |
| | | | 111 | | | | | | | | | | | | | | | | | | | | | | |

PLANCHE XVIII-5

PARTIE IV

TABLEAUX ANALYTIQUES
DES LAMES MINCES

LISTE DES TABLEAUX**B a c h a n t**

| | |
|---------------------------|-------|
| Carrière de l'Horipette-1 | p. 61 |
| Carrière de l'Horipette-2 | p. 62 |
| Carrière de l'Horipette-3 | p. 63 |
| Carrière Malakoff-1 | p. 64 |
| Carrière Malakoff-2 | p. 65 |
| Carrière Malakoff-3 | p. 66 |

L i m o n t - F o n t a i n e

| | |
|-------------------|-------|
| Carrière C.B.S.-1 | p. 67 |
| Carrière C.B.S.-2 | p. 68 |

S a i n t - A u b i n

| | |
|----------------------------------|-------|
| Carrière du Pont-des-Loups | p. 69 |
| Carrière de la Queue-Noir-Jean-1 | p. 70 |
| Carrière de la Queue-Noir-Jean-2 | p. 71 |
| Carrière de la Queue-Noir-Jean-3 | p. 72 |
| Carrière de la Queue-Noir-Jean-4 | p. 73 |

A v e s n e s

| | |
|--------------------|-------|
| Carrière Bocahut-1 | p. 74 |
| Carrière Bocahut-2 | p. 75 |

LEGENDE DES TABLEAUX ANALYTIQUES DES LAMES MINCES

| | | | | |
|-------------|------------------------|--------------|--------------------------|------------------|
| Ic | Intraclastes | | | |
| Pt | Pellets | | | |
| Pel | Pellets | | | |
| Oo | Oolithes | | | |
| Ag | Agrégats | | | |
| Cl | Classement | A : bon | B : moyen | C : mauvais |
| Ar | Arrondi | A : bon | B : moyen | C : mauvais |
| A.F. | Abondance fossilifère | A : abondant | B : moyennement abondant | C : peu abondant |
| Oc | Ostracodes | | | |
| Bp | Brachiopodes | | | |
| Gp | Gastéropodes | | | |
| Ed | Echinodermes | | | |
| Sp | Serpulidés | | | |
| Cal | Calcisphères | | | |
| Alg | Algues | | | |
| For | Foraminifères | | | |
| | | | | |
| C.F. | Complexité fossilifère | A : complexe | B : moyennement complexe | C : simple |

Figures Séd.

Figures sédimentaires

| | |
|------------------|--------------------------|
| C. Dunham | Classification de Dunham |
| C. Folk | Classification de Folk |
| MF | Microfaciès |

Autres abréviations utilisées dans les tableaux

| | | |
|-----------------------------|-----------------------------|----------------------------|
| Qz : quartz | LB : Lamellibranches | dessic. : dessiccation |
| Cc : calcite | Tb : Trilobites | pseudom. : pseudomorphoses |
| Dol. : dolomite | anhydr. : anhydrite | |
| biot. : bioturbation | c. : ciment | |

CARRIERE DE L'HORIPETTE-1

| | lc | Pel | Ag | Op | Cl | Ar | A. F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Séd. | C. Dunham | C. Folk | MF | Remarques |
|-------|------|------|----|-----|----|----|-------|-----|-----|----|----|----|-----|-----|-----|--------|------|------------------|----------------------|--------------|-----------------|-----|---|
| BH1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | Dess., Biot., Fenest | M | Micrite | 8 | lattes de calcite et quartz |
| BH2 | • | •• | — | — | B | A | C | — | — | — | — | — | •• | • | (•) | — | B | microspar à spar | — | P | pelbiosparite | 3 | — |
| BH3 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8 | — |
| BH4 | — | •alg | — | — | B | A | A | — | — | — | — | — | • | •• | — | — | B | — | — | B | biolithite | 7 | — |
| BH5 | — | — | — | — | A | C | A | — | — | — | — | — | •• | — | — | — | C | micrite | faille de tassement | B | biolithite | 7 | pseudomorphoses |
| BH6 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | — |
| BH7 | •• | • | — | — | — | — | — | — | • | — | — | — | • | — | • | — | A | microspar à spar | — | P | intra-biospar | 8;1 | haché de calcite |
| BH8 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | calcaire bréchique |
| BH8' | — | — | — | — | A | B | C | • | — | — | — | — | — | — | — | — | C | micrite | dessiccation | M | micrite à Oc | 6 | — |
| BH8'' | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| BH9 | — | — | — | — | A | B | B | • | — | — | — | — | • | — | — | — | B | micrite | fenestras | W à M | micrite à Oc | 6 | — |
| BH10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | C I N E R I T E | — | — | — | — | — |
| BH11 | • | — | — | — | C | B | — | — | — | — | — | — | — | — | — | — | — | micrite | — | W | — | — | paléosol |
| BH12 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| BH13 | — | — | — | — | — | — | C | • | — | — | — | — | — | — | — | — | C | micrite | fenestras | M | micrite à Oc | 6 | bloc de brèche; pseu dom.de calc.+ quartz |
| BH14 | • | — | — | — | C | B | — | — | — | — | — | — | — | — | — | — | — | micrite | — | W | — | — | paléosol |
| BH15 | — | — | — | — | B | C | C | •• | — | — | — | — | — | — | — | — | C | micrite | fenestras | M | micrite à Oc | 6 | — |
| BH15' | — | •• | — | — | C | B | — | — | — | — | — | — | — | — | — | — | — | sparite | — | — | — | 7 | — |
| BH16 | •alg | •alg | — | — | C | B | C | — | (•) | — | — | — | • | — | — | — | C | sparite | — | P | pelsparite | 3 | — |
| BH17 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | dessiccation | M | micrite | 8 | — |
| BH18 | — | •alg | — | — | B | B | C | — | — | — | — | — | • | — | — | — | C | microspar à spar | dessiccation | P à G | pelbiosparite | 7 | — |
| BH19 | — | — | — | — | — | A | — | — | — | — | • | — | • | • | — | — | A | micrite | — | P | biomicrite | 2 | nombreuses fissures |
| BH20 | — | — | — | — | A | A | — | — | — | — | — | — | •• | — | — | — | C | — | — | B | biolithite | 7 | — |
| BH21 | — | (•) | — | — | A | A | — | — | — | — | — | — | — | — | — | — | — | micrite | dessiccation | B | biolithite | 7 | — |
| BH22 | — | •alg | — | — | C | — | A | — | — | — | — | — | •• | — | — | — | C | sparite | — | B à G | biolithite | 7 | — |
| BH22' | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | calcaire | recristallisé | — | ancien mF1 ? |
| BH23 | — | — | — | — | C | C | C | • | — | — | — | — | — | — | — | — | C | micrite | dessiccation | M, parfois W | micrite à Oc | 8 | passées d' Ostracodes quartz fibreux |
| BH23* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | dessiccation | W | biomicrite | 2 | — |
| BH24 | — | • | • | •• | C | A | C | — | — | — | — | — | • | — | — | — | B | sparite | — | P à G | oobiosparite | 4 | quelques oncolithes |
| BH25 | • | •• | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | sparite | — | G | pelsparite | 7 | G à stercomes |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | dessiccation | M | micrite | 8 | — |
| | — | • | — | (•) | C | B | B | — | • | — | • | — | • | — | — | — | B | sparite | — | G | biosparite | 1 | mF7 intercalé |
| BH26 | — | — | — | — | B | A | C | — | • | — | • | — | • | — | — | — | C | micrite | terriers, dessic. | W | biomicrite | 6 | dédolomicrosparite |
| BH27 | •alg | — | — | • | C | A | A | • | — | — | — | — | • | — | • | — | A | spar à microspar | — | P | biointrasparite | 1 | — |
| BH28 | — | — | — | • | B | A | B | — | • | — | — | — | • | — | — | — | B | sparite | — | G | oobiosparite | 4 | oolithes micritisées |
| BH29 | (•) | • | — | • | C | A | B | • | — | • | — | • | — | (•) | — | — | A | sparite | — | G | biopelsparite | 3 | ciment micritique phréatique vadose |
| BH30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| BH31 | — | — | — | — | B | B | A | — | — | — | — | — | •• | — | — | — | C | micrite | dessiccation | B, parfois M | biolithite | 7 | dédolopar, qz rare |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | dessiccation | M | dismicrite | 8 | — |
| BH33 | — | — | — | — | B | A | A | • | — | — | • | — | • | — | • | — | A | micrite | — | P | intrasparite | 1 | — |
| BH34 | — | •alg | — | — | A | A | C | • | — | — | — | — | — | — | — | — | C | micrite | (dessiccation) | M | dismicrite à Oc | 6 | — |
| BH35 | — | — | — | — | — | — | A | — | — | — | — | — | •• | — | — | — | C | sparite | — | B | biolithite | 7 | +/- recristallisé |
| BH36 | •• | — | — | — | C | C | — | — | — | — | — | — | — | — | — | — | — | sparite | — | brèche intra | formationnelle | — | — |
| BH37 | — | — | — | — | — | — | A | — | — | — | — | — | •• | — | — | — | C | — | dessiccation | B | biolithite | 7 | — |
| BH37' | — | — | — | — | C | A | A | — | • | — | — | — | • | — | • | — | A | micrite | — | P | biomicrite | 2 | — |
| BH38 | •alg | — | — | — | B | B | A | • | — | — | • | — | — | — | • | Tb | A | micrite | faille de tassement | P | biomicrite | 2 | dédolomite |
| BH39 | — | • | — | — | A | A | A | — | • | — | — | — | • | — | •• | — | A | sparite | — | P | intrasparite | 1 | — |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | C | sparite | — | P | pelsparite | 3 | — |
| BH40 | — | — | — | — | B | C | C | • | — | — | — | — | — | — | — | — | C | micrite | dessiccation | M | micrite à Oc | 6 | — |
| BH41 | — | — | — | — | A | B | C | (•) | — | — | — | — | — | — | — | — | C | micrite | dessiccation | M | micrite à Oc | 6 | pseudomorphoses |
| BH41' | — | • | — | — | A | A | C | — | — | — | — | — | — | — | — | — | C | sparite | — | P | pelsparite | 3 | — |
| BH42 | — | — | — | — | B | A | A | — | — | — | — | — | •• | — | — | — | C | sparite | — | B | biolithite | 7 | (Cc)-quartz |
| BH43 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | sparite | — | calcaire | recristallisé | — | — |
| BH44 | — | •alg | — | — | B | C | B | • | — | — | — | — | •• | — | — | — | C | sparite | dessiccation | B | biolithite | 7 | — |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | dessiccation | M | micrite à Oc | 6 | — |
| BH45 | — | •alg | — | — | B | B | A | (•) | — | — | — | — | •• | — | — | — | B | sparite | dessiccation | B | biolithite | 7 | quartz, anhydrite |

CARRIERE DE L'HORIPETTE-2

| | lc | Pel | Ag | Oo | Cl | Ar | A. F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Séd. | C. Dunham | C. Folk | MF | Remarques | |
|-------|--|-----|----|-----|----|----|-------|----|-----|-----|-----|----|-----|-----|-----|---------------|------|------------------|--------------|------------|-----------------|------------|------------------------|-----------|
| BH46 | — | • | — | (•) | C | A | A | — | — | — | • | — | • | • | • | Tb | A | sparte | — | G | biotrasparite | 1 | — | |
| | — | — | — | — | B | A | B | — | — | — | • | — | • | • | • | Tb | A | micrite | — | P | biomicrite | 6 | — | |
| BH47 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | sparte | — | calcaire | recristallisé | — | anhydrite | |
| BH48 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | •• | (*) fantômes | B | microsparite | — | calcaire | recristallisé | — | — | |
| BH49 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | — | — | — | — | |
| BH50 | — | — | — | — | A | C | B | • | — | — | • | — | • | • | • | — | B | micrite | — | W | biomicrite | 2 | — | |
| BH51 | — | — | — | — | A | A | B | • | — | — | • | — | • | • | • | — | B | micrite | — | W | micrite à Oc | 6 | quartz, anhydrite | |
| BH52 | — | (•) | — | — | B | B | B | • | — | — | • | — | • | • | • | — | B | micrite | — | W à P | micrite à Oc | 6 | fissures I à la strati | |
| BH53 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | calcaire | recristallisé | — | anhydrite | |
| BH54 | — | — | — | — | B | — | — | • | — | — | • | — | — | — | — | — | — | — | — | W | micrite à Oc | 6 | — | |
| BH55 | — | — | — | — | B | — | — | • | — | — | • | — | — | — | — | — | — | — | — | W | micrite à Oc | 6 | — | |
| BH56 | — | — | — | — | C | C | B | • | — | — | • | — | — | — | — | divers débris | B | micrite | — | W | micrite à Oc | 6 | — | |
| | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | H | micrite | 8 | allure bréchique | |
| BH59 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | — | — | — | — | |
| BH60 | alg | • | — | — | C | A | B | — | — | — | • | — | — | • | • | — | C | — | — | B | biolithite | 7 | — | |
| | — | — | — | — | C | A | C | • | — | — | • | — | — | • | • | — | C | micrite | — | M | micrite | 8 | — | |
| BH61 | — | — | — | — | C | B | C | • | — | — | • | — | — | • | • | — | C | micrite | dessiccation | M, local W | micrite à Oc | 6 | quartz, dédolomite | |
| | — | — | — | — | — | — | — | — | — | — | • | — | — | • | • | — | — | — | — | — | M | micrite | 8 | anhydrite |
| BH62 | intercalation de Spongiostromides et de micrite | | | | | | | | | | | | | | | | | | | | | | | |
| | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | — | — | — | — | |
| | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | — | — | — | — | |
| BH63 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | M | micrite | 8 | décolomite, anhydrite | |
| BH64 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | M | micrite | 8 | quartz + dédolomite | |
| BH65 | — | — | — | — | C | C | C | • | — | — | (•) | — | — | • | • | — | C | micrite | — | M | dismicrite à Oc | 6 | décolomite | |
| BH66 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | M | micrite | 6 | quartz + dédolomite | |
| BH67 | — | — | — | — | C | C | B | • | — | — | • | — | — | — | — | — | C | micrite | — | M | micrite à Oc | 6 | passées d'Ostracodes | |
| | — | — | — | — | B | C | A | •• | — | — | • | — | — | — | — | — | C | micrite | — | W à P | micrite à Oc | 6 | — | |
| BH68 | — | — | — | — | C | B | C | • | — | — | • | — | — | — | — | — | C | micrite | — | M | micrite à Oc | 6 | rhombo à contour flou | |
| BH68' | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | calcaire | recristallisé | — | ancienne dolomie | |
| BH69 | alg | — | — | — | B | C | B | — | — | — | • | — | — | • | • | — | C | micrite | — | B | biolithite et | 7 | quartz, remplacement | |
| | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | M | micrite | 8 | d'anhydrite | |
| BH69' | dédolomie masquant peut-être une ancienne biomicrite | | | | | | | | | | | | | | | | | | | | | | | |
| BH70 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | M | micrite | 8 | Cc fibreuse (veinules) | |
| BH71 | — | — | — | — | C | C | A | •• | — | — | • | — | — | — | — | — | C | micrite | — | M | micrite à Oc | 6 | passées à Oc | |
| | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | M | micrite | 8 | quartz + dédolomite | |
| BH71' | micrite à Ostracodes (MF6) puis micrite (MF8) | | | | | | | | | | | | | | | | | | | | | | | |
| BH72 | — | — | — | — | A | B | A | — | — | — | • | — | — | •• | •• | — | B | micrite | — | W à P | micrite | 6 | idem BH71 | |
| | — | — | — | — | — | A | — | — | — | — | • | — | — | •• | •• | — | C | — | — | B | biolithite | 7 | — | |
| | — | — | — | — | — | A | — | — | — | — | • | — | — | •• | •• | — | C | — | dessiccation | B | biolithite | 7 | gypse et | |
| | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | — | — | — | anhydrite + qz | |
| BH73 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | M | dismicrite | 8 | décolomite + (quartz) | |
| BH74 | — | — | — | — | C | B | C | • | — | — | • | — | — | — | — | — | C | micrite | — | M | micrite à Oc | 6 | quartz + dédolomite | |
| BH75 | — | — | — | — | A | C | B | • | — | — | • | — | — | — | — | — | C | micrite | — | W | micrite à Oc | 6 | quartz | |
| BH74 | — | — | — | — | C | B | C | • | — | — | • | — | — | — | — | — | C | micrite | — | W | micrite à Oc | 6 | quartz + dédolomite | |
| BH75 | — | — | — | — | A | C | B | • | — | — | • | — | — | — | — | — | C | micrite | — | M | micrite | 8 | quartz | |
| | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | — | — | — | évaporites + quartz | |
| BH76 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | calcaire | recristallisé | — | — | |
| BH77 | — | — | — | — | B | B | A | • | (•) | — | • | — | — | (•) | • | — | B | micrite | — | W | biomicrite | 2 | évaporites | |
| BH78 | — | — | — | — | A | A | A | — | — | (•) | • | — | — | • | •• | — | A | micrite | — | P | biomicrite | 2 | décolomite | |
| BH79 | — | — | — | — | B | C | A | • | — | — | • | — | — | • | • | — | A | micrite | — | W à P | biomicrite | 2 | rhomboédres, | |
| | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | — | — | — | anhydrite, (quartz) | |
| BH80 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | microspar à spar | — | calcaire | recristallisé | — | évaporites | |
| | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | — | — | — | mF1 recristallisé ? | |
| BH81 | — | — | — | — | B | B | C | • | — | — | • | — | — | — | — | — | C | micrite | — | M | micrite | 8 | (dédolomite) | |
| BH83 | — | — | — | — | B | B | C | • | — | — | • | — | — | — | — | — | C | micrite | — | M | micrite à Oc | 6 | (dédolomite) | |
| BH84 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | M | micrite | 8 | dédolomite | |
| | avec intercalation de | | | | A | B | A | — | — | — | • | — | — | •• | •• | — | C | sparte | — | B | biolithite | 7 | quartz | |
| BH85 | — | •• | — | — | A | A | A | • | — | — | • | — | — | •• | •• | — | B | micrite | — | G | pelsparite | 3 | dissolution import. | |
| BH86 | — | — | — | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | — | — | — | — | |
| BH87 | — | — | — | — | A | A | A | • | • | — | • | — | • | • | • | — | Tb | A | micrite | — | P | biomicrite | 2 | — |

CARRIERE DE L'HORIPETTE-3

| | lc | Pei | Ag | Oo | Cl | Ar | A. F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Séd. | C. Dunham | C. Folk | MF | Remarques |
|--------|--|-----|-----|----|----|----|-------|----|----|----|----|----|-----|-----|-----|------------------|------|--------------------|----------------|-----------|---------------|----|---|
| BH88 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | biomicrite | 2 | — |
| BH89 | — | — | — | — | A | A | B | • | — | — | • | — | •• | — | • | — | A | micrite | — | W | biomicrite | 2 | — |
| BH90 | •• | •• | — | — | B | B | B | • | — | — | • | — | •• | — | • | — | B | sparite | — | P à G | pelspanite | 3 | quartz; schistosité |
| BH91 | — | — | — | — | A | B | B | • | — | — | • | — | — | • | • | fossiles micrit. | B | micrite | — | W | biomicrite | 2 | nodules de Cc + (Qz) |
| BH91' | — | — | — | — | B | C | B | • | — | — | • | — | — | • | • | — | C | micrite | — | W | micrite à Oc | 6 | — |
| BH92 | •• | •• | — | — | B | B | B | • | — | — | • | — | •• | — | • | — | B | sparite | — | P à G | pelspanite | 3 | quartz; schistosité |
| BH93 | — | — | (•) | — | C | B | A | • | • | — | • | — | • | (•) | • | Tb | A | microsparite | — | G | biosparite | 2 | — |
| BH94 | — | — | (•) | — | C | B | A | • | • | — | • | — | • | (•) | • | Tb | A | microsparite | — | G | biosparite | 2 | — |
| BH95 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| BH96 | — | — | (•) | — | B | B | A | • | • | — | • | — | • | (•) | • | Tb | A | microsparite | — | G | biosparite | 2 | — |
| BH97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| BH98 | — | — | — | — | B | C | A | • | • | — | • | — | •• | • | • | • | A | microsparite | — | G | biomicrospar. | 2 | — |
| BH99 | — | — | — | — | B | C | A | • | • | — | • | — | •• | • | • | • | A | microsparite | — | G | biomicrospar. | 2 | — |
| BH99' | — | — | — | — | B | B | A | • | • | — | • | — | • | • | • | Tb | A | micr à microspar | — | P | biomicrite | 5 | — |
| BH100 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2 | — |
| BH101 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2 | — |
| BH102 | — | — | — | — | B | A | A | • | — | — | • | — | • | • | •• | — | A | sparite | — | G à P | biomicrite | 2 | quartz fibreux schistosité (dédolomite) |
| BH103 | — | — | — | — | C | A | A | • | — | — | • | — | • | • | • | Tb | A | micrite | — | G à P | biomicrite | 2 | — |
| BH104 | — | — | — | — | A | A | B | • | — | — | • | — | • | — | • | — | B | micrite | — | W | micrite à Oc | 6 | quartz |
| BH104' | biomicrite (MF2) puis intrasparite (MF1) | | | | | | | | | | | | | | | | | | | | | | |
| BH105 | biolithite (MF7) puis intrasparite (MF1) | | | | | | | | | | | | | | | | | | | | | | |
| BH105' | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2 | — |
| BH106 | — | — | — | — | B | A | A | • | • | — | • | — | • | — | • | — | B | micrite | — | G à P | biomicrite | 2 | — |
| BH107 | — | — | — | — | B | A | A | • | • | — | • | — | • | — | • | — | B | micrite | — | P | biomicrite | 2 | — |
| BH108 | — | — | — | — | B | C | B | • | — | — | • | — | • | — | • | — | C | micrite | — | W | micrite à Oc | 6 | — |
| BH109 | — | — | — | — | B | A | B | • | — | — | • | — | • | — | • | — | B | micrite | bioturbation | W | micrite à Oc | 6 | quartz, dédolomite |
| BH110 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2 | — |
| BH110' | — | — | — | — | B | B | A | • | • | — | • | — | • | • | • | Tb | A | micrite | — | P à G | biomicrite | 2 | — |
| BH111 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2 | — |
| BH112 | — | — | — | — | B | B | A | • | • | — | • | — | • | • | • | Tb | A | micr à microspar | — | P | biomicrite | 5 | — |
| BH113 | — | — | — | — | B | B | A | • | • | — | • | — | • | — | • | Tb, polypiers ? | A | micrite | — | G | biomicrite | 2 | — |
| BH113' | — | — | — | — | B | B | A | • | • | — | • | — | • | — | • | Tb, polypiers ? | A | micrite | — | G | biomicrite | 5 | — |
| BH114 | — | — | — | — | A | A | C | • | — | — | — | — | — | (•) | — | — | C | micrite | — | M | micrite | 8 | — |
| BH115 | — | — | — | — | — | — | B | — | — | — | — | — | — | •• | — | — | C | — | dessiccation | B | biolithite | 7 | quartz; dédolomite |
| BH116 | •• | — | — | — | C | B | C | — | — | — | — | — | — | (•) | — | — | C | sparite | — | calcaire | recristallisé | — | — |
| BH117 | — | — | — | — | B | C | A | • | • | — | • | — | • | — | •• | polypiers? | A | micrite | — | G | biomicrite | 2 | — |
| BH118 | — | — | — | — | C | C | A | — | — | — | — | — | — | •• | • | — | C | microsparite | (dessiccation) | B | biolithite | 7 | localement brisé |
| BH119 | — | — | — | — | A | B | A | — | • | — | • | — | — | • | — | — | B | micrite et sparite | — | G | biomicrite | 5 | +/- recristallisée |
| BH120 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | calcaire | recristallisé | — | — |
| BH121 | • | — | — | — | B | B | A | — | — | — | • | — | — | — | — | — | B | micr à microspar | — | W | biomicrite | 6 | dolomitisé |
| BH122 | — | — | — | — | B | A | A | — | — | — | — | — | •• | — | — | — | C | micrite | dessiccation | B | biolithite | 7 | quartz, évaporites |
| BH123 | niveau argileux | | | | | | | | | | | | | | | | | | | | | | |
| BH124 | matrice argileuse | | | | | | | | | | | | | | | | | | | | | | |
| BH125 | calcaire stromatolithique (MF7) | | | | | | | | | | | | | | | | | | | | | | |
| BH126 | biolithite (MF7) | | | | | | | | | | | | | | | | | | | | | | |
| BH127 | biolithite (MF7) | | | | | | | | | | | | | | | | | | | | | | |
| BH128 | biomicrite (MF2) | | | | | | | | | | | | | | | | | | | | | | |
| BH129 | pelspanite (MF3) | | | | | | | | | | | | | | | | | | | | | | |
| bc43 | micrite à Ostracodes (MF6) | | | | | | | | | | | | | | | | | | | | | | |
| bc44 | micrite (MF8) | | | | | | | | | | | | | | | | | | | | | | |

CARRIERE MALAKOFF-1

| | lc | Pal | Ag | Oo | Q | Ar | A. F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Séd. | Classif. Dunham | Classif. Folk | Microfaciès | Remarques |
|--|-----|-------|------------|--------|---|----|-------|-----|-----|----|-----|----|-----|-----|-----|--------------|------|------------------|------------------|-----------------|------------------|-------------|----------------------------------|
| BM1 | | * alg | | | A | B | A | | | | | * | ** | | | oncolithes | B | microsparite | | B | biolithite | mF3 | dédolomicrosparite |
| BM2 | | D O U | B L | E T | B | A | A | B A | N C | | D O | R | | | | | | | | | | | |
| BM3 | | *alg | | | B | A | A | | | | | ** | | | | | B | sparite | | B | biolithite | mF3 | beaucoup de quartz |
| BM4 | | *alg | | | B | A | A | | | | | ** | | | | | C | spar à microspar | dessiccation | B | biolithite | mF3 | quartz associé au plan de strat. |
| BM5 | | | (*) | ** (B) | C | B | B | | * | * | * | | | | | | C | sparite | | G & P | oosparite | mF10 | un peu de quartz |
| | | | | | | | | | | | | | | | | | | | | | | | c. fibreux, contact ra |
| | | | | | | | | | | | | | | | | | | | | | | | vinant, c. circumgran |
| BM6 | | | | | | | | | | | | | | | | | | | | | | | |
| BM7 | | | | | | | | | | | | | | | | | | micrite | | M | micrite | mF1 | |
| BM17 | | ** | | | | | B | * | | | * | * | * | * | * | | B | micrite | | P | pelbiomicrite | mF6 | |
| | | | | | A | B | A | * | | | * | * | * | * | * | | B | sparite | | P | biointrasparite | mF9 | |
| puis sédiment démantelé alors qu'il n'était pas encore consolidé | | | | | | | | | | | | | | | | | | | | | | | |
| BM8 | (*) | ** | | | C | A | A | * | * | | * | * | * | * | * | | A | sparite | | G | biopelsparite | mF9 | élémt. à c. colonnaire |
| BM9 | * | * | | | B | A | A | * | * | | * | * | * | * | (*) | | B | microspar à spar | | P & G | biosparite | mF4 | |
| BM10 | * | * | ** | | B | B | B | * | * | | * | * | * | (*) | * | | B | sparite | | P | intrabiosparite | mF7 | c. pelloïdal à micrit. |
| BM11 | | | | | A | B | B | * | * | | * | * | * | * | * | | C | micrite | | M | micrite à Oc | mF2 | |
| | | | | | | | A | * | * | | * | * | ** | | | | A | | | B | biolithite | mF3 | |
| | | | | | | | A | A | B | * | * | * | * | * | * | | B | micrite | | W & P | biomicrite | mF4 | |
| BM12 | * | | | | C | B | A | (*) | * | | * | * | ** | | | | B | | | B | biolithite | mF3 | |
| BM13 | | | | | C | A | A | | * | | * | * | ** | | | | A | (sparite) | dessiccation | B | biolithite | mF3a | |
| BM14 | | | | | C | B | A | * | * | | * | * | ** | | | | A | sparite | dessiccation | B | biolithite | mF3a | |
| BM15 | | | | | | | A | * | * | | * | * | * | | | | C | | dessiccation | B | biolithite | mF3b | dédolomitisation |
| | | | | | | | | | | | | | | | | | | micrite | dessiccation | M | micrite | mF1 | pseudom. d'évaporites |
| | | | | | | | | | | | | | | | | | | | | | | | c. microstalagmitique |
| BM16 | | | | | | | A | * | * | | * | * | ** | | | | C | | | B | biolithite | mF3a | |
| BM17 | | * | | | | | B | * | * | | * | * | * | * | * | | B | microsparite | | P | pelbiomicrosp. | mF6 | |
| BM18 | | | | | | | A | * | * | | * | * | ** | | | | C | | | B | biolithite | mF3a | |
| BM19 | | | | | B | C | A | * | * | | * | * | * | | | | C | micrite | | W & P | micrite à | mF2 | |
| | | | | | | | A | C | C | * | * | * | * | | | | C | micrite | | M & W | micrite à Oc | mF2 | |
| BM20 | | *alg | | | B | B | A | * | * | | * | * | ** | | | | C | (sparite) | dessiccation | B | biolithite | mF3ab | |
| BM21 | ** | | | | C | C | | | | | | | | | | | | sparite | | | | mF11 | |
| BM22 | | | | | B | B | A | * | * | | * | * | ** | | | polypiers | C | micrite | dessiccation | B | biolithite | mF3a | pseudom ? |
| BM23 | | | | | | | C | * | * | | * | * | * | | (*) | | C | micrite | dessiccation | W | biomicrite | mF4 ou 5 | |
| BM24 | | | | | C | C | B | ** | * | | * | * | * | | | copeaux alg. | B | micrite | dessiccation | W | micrite à Oc | mF2 | |
| BM25 | | | | | | | | | | | | | | | | | | micrite | dessiccation | M | micrite | paléosols | nodules, quartz |
| BM26 | * | | | | | | | | | | | | | | | | | micrite | dessiccation | M | micrite | paléosols | nodules, halmos |
| BM27 | | | equivalent | | | | | | | | | | | | | | | | | | | | nodules, rhizocrétions? |
| BM28 | | | | | B | A | N | C | D | O | E | | | | | | | | | | | | |
| BM29 | | * | * | ** | B | A | C | | * | | * | * | * | | | | C | sparite | | P & G | oointrasparite | mF8 | oolithes micritisées |
| BM30 | * | * | | (*bah) | C | A | C | * | * | | * | * | * | | | | B | sparite | | P | intrabiosparite | mF7 | |
| BM31 | * | | | | A | A | B | | * | | * | * | * | | | | C | microsparite | | P | pelbiomicrosp. | mF6 | intercalation de micrite |
| BM32 | ** | | | | A | A | C | | * | | * | * | * | | | | C | micrite | tenest., dessic. | G | brèche de dessic | mF2 ou 1 | pression-dissolution |
| BM33 | | *alg | | | A | A | C | | * | | * | * | * | | | | C | microspar à spar | dessiccation | B | biolithite | mF3b, mF6 | pseudom. d'évaporites |
| | | | | | | | | | | | | | | | | | | | | | | | à pelbiomicrosp |
| BM34 | ** | | | | C | B | C | | (*) | | * | * | * | | | | C | microspar à spar | brèche | | micrite | mF1 | |
| BM35 | | | | ** | B | A | C | | * | | * | * | * | | | | C | sparite | | G | oosparite | mF10 | pression-dissolution |
| | | | | | | | | | | | | | | | | | | | | | | | oolithes micritisées |
| BM36 | | | ** | | A | B | — | | * | | * | * | * | | | | | sparite | | G | oosparite | mF8 | |
| | | * | * | | C | C | C | | * | | * | * | * | | | | C | sparite | | G | intrasparite | mF7 ou 1 | |
| BM37 | | | | | | | | | * | | * | * | * | | | | C | micrite | dessiccation | B | biolithite | mF3b | lamines perturbées |
| BM38 | ** | | | * | B | A | C | | * | | * | * | * | | | | C | microsparite | | P & G | intrasparite | | étirement, micritisation |
| | | | | | | | | | | | | | | | | | | | | | | | intense, pression-diss. |

CARRIERE MALAKOFF-2

65

| | lc | Pal | Ag | Ob | Cl | Ar | A. F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Séd. | Classif. Dunham | Classif. Folk | Microfaciès | Remarques |
|-------|-----|-----|-----|-----|----|----|-------|----|-----|----|-----|----|-----|-----|-----|---------------|------|------------------|--------------|-----------------|---------------------|-------------|---|
| BM39 | * | * | * | * | B | A | C | | | | | | * | | (*) | | C | sparite | | G | oosparsite | | Pression-dissol. 2 ciments oolithes micrit. |
| BM40 | * | * | * | * | C | C | B | | * | * | | | * | * | * | | A | spar à microspar | | P | intrabiosparite | | 2 ph. de ciment. |
| BM41 | * | (*) | | * | C | B | B | | (*) | | | | * | * | * | | B | sparite | | P | intrabiosparite | | recrist. partielle |
| BM42 | * | ** | * | (*) | C | B | C | | * | | | | * | * | * | Tb | B | spar à microspar | | P à G | pelintrasparite | | étirement, micrit. intense |
| BM43 | * | * | * | * | | | B | | * | | * | | * | * | * | | A | sparite | | G | intrapelbiosparite | | |
| BM44 | * | | * | * | C | C | C | | | | | | * | * | * | | C | sparite | | P à G | oolintrasparite | | oolithes brisées c. circumgranul. |
| BM44' | * | | * | * | C | B | C | | | | | | * | * | * | | C | sparite | | P à G | intrasparite | | |
| BM45 | * | ** | | | B | A | B | | | | | | ** | * | * | | B | microspar à spar | | P | pelbiospar | | |
| BM46 | * | * | * | * | B | A | C | | | | | | * | * | * | | C | sparite | | G | oosparsite | | |
| BM47 | * | * | * | * | C | B | C | | | | | | * | * | * | | B | sparite | | P à G | oosparite | | |
| BM48 | * | * | ** | * | C | C | C | | * | | | | * | * | * | | B | sparite | | P à G | oosparite | | |
| BM49 | * | * | * | (*) | C | B | C | | | | | | * | * | * | | B | sparite | | P | intrasparite | | |
| BM50 | * | * | * | * | C | B | B | | * | | | | * | * | * | Lb | B | sparite | | P | intraoosparite | | |
| BM51 | * | * | * | * | C | A | A | | ** | | | | * | * | * | | B | sparite | | P à G | biointrasparite | | lumachelle de Bp |
| BM52 | * | * | * | * | C | A | C | | ** | * | * | | * | * | * | | B | sparite | | P | intraoosparite | | pression-dissol. pseudom. d'évaporites |
| BM53 | * | * | * | * | C | C | A | | * | | | | * | * | * | polypiers | A | sparite | | W à P | biointrasparite | | |
| BM54 | * | * | * | * | B | A | A | | * | | | | ** | * | * | | B | sparite | | W | biointrasparite | | |
| BM55 | * | * | * | * | B | A | — | | * | | | | * | * | * | | A | sparite | | P | intrabiosparite | | ciment micritique |
| BM56 | * | * | * | * | B | A | C | | * | | (*) | | * | * | * | | C | sparite | | P | intrasparite | | étirement; pression-dissol. |
| BM57 | * | * | * | (*) | B | B | A | | * | | | | * | * | * | polypiers, Tb | A | sparite | | P | biointrasparite | | |
| BM58 | * | * | * | (*) | B | B | A | | * | | | | * | * | * | polypiers, Tb | A | sparite | | W à P | biointrasparite | | |
| BM59 | * | * | * | * | C | B | B | | * | | | | * | * | * | Tb | A | microspar à spar | | P | biointramicospar | | |
| BM60 | * | * | * | * | B | A | B | | * | | | | * | * | * | | A | microspar à spar | | P | intraobiosparite | | c. circumgranul. |
| puis | * | * | * | * | C | A | A | | ** | | | | * | * | * | | B | sparite | | P | biointrasparite | | |
| BM61 | * | * | (*) | * | B | A | C | | * | | | | * | * | * | | B | sparite | | P à G | intrabiosparite | | |
| BM62 | * | * | * | * | B | A | C | | * | | | | * | * | * | Tb | B | sparite | | P | intrabiosparite | | |
| BM63 | * | * | * | * | C | B | A | | ** | | | | * | * | * | Tb, polypiers | A | microspar à spar | | P | biointrasparite | | lumachelle de Bp |
| BM64 | * | * | * | * | B | A | B | | * | | | | * | * | * | | A | sparite | | P | intrabiosparite | | 2-3% dolomite |
| BM65 | * | * | * | * | C | A | A | | * | | | | * | * | * | | B | microspar à spar | | P | biointrasparite | | |
| BM66 | * | * | * | * | B | A | B | | * | | | | * | * | * | Tb | A | microspar à spar | | P | intrabiosparite | | |
| BM67 | * | * | * | * | C | A | A | | * | | | | * | * | * | Tb | A | sparite | | P | biosparite | | 7-10% dolomite |
| BM68 | * | * | * | * | A | B | A | | * | | | | * | * | * | | A | microsparite | | W à P | biointramicospar | | |
| | * | * | * | * | B | B | B | | * | | | | * | * | * | | A | microsparite | | W à P | biointramicospar | | 7% dolomite |
| BM69 | * | * | * | * | B | A | B | | * | | | | * | * | * | | B | microsparite | | P | biointramicospar | | 10% dolomite |
| BM70 | * | * | * | * | B | A | B | | * | | | | * | * | * | Tb | A | microsparite | | W à P | intraobiosparite | | 7% dolomite recristallisée |
| BM71 | * | * | * | * | B | A | B | | * | | | | * | * | * | | A | microsparite | | P | intraobiosparite | | 40% dol. diss. partiellement |
| BM72 | * | * | * | * | C | A | B | | * | | | | * | * | * | | B | microsparite | | W à P | biointramicospar | | 15% dolomite |
| BM73 | * | * | * | * | C | A | A | | * | | | | * | * | * | | A | microspar à spar | | P | biointramicospar | | 7% dolomite |
| BM74 | * | * | * | (*) | C | A | B | | * | | | | * | * | * | polypiers | A | microsparite | | P | intraobiosparite | | 10% dolomite |
| BM75 | * | * | * | * | B | A | B | | * | | | | * | * | * | | B | microsparite | | G à P | intraobiosparite | | 7% dédolomite |
| BM76 | * | * | * | * | B | C | B | | * | | | | * | * | * | polypiers | A | sparite | | P à G | intraobiosparite | | ciment microstalagmitique |
| BM77 | * | * | * | * | B | C | B | | * | | | | * | * | * | | A | sparite | | G | oobiosparite | | |
| BM78 | * | * | * | * | B | C | B | | * | | | | * | * | * | | B | sparite | | G à P | oolintraobiosparite | | pressio-dissolution |
| BM79 | * | * | * | * | C | B | B | | * | | | | * | * | * | | B | microspar à micr | fenestrae | W | biopelmicrite | | |
| BM80 | * | (*) | * | * | B | A | B | | * | | | | * | (*) | * | | C | sparite | | P | oobiosparite | | éléments roulés |
| BM81 | * | * | * | (*) | C | A | B | | (*) | | | | * | * | * | | B | sparite | | P | intrabiosparite | | |
| | (*) | ** | * | (*) | A | A | B | | * | | | | * | * | * | | B | microsparite | | P à G | pelbiomicospar. | | |
| BM82 | * | * | * | (*) | C | A | B | | * | | | | * | * | * | bryozoaires | B | sparite | | G | intrabiosparite | | |
| BM83 | * | * | * | * | B | A | B | | (*) | | | | * | * | * | | B | microspar à spar | | W à P | pelbiomicospar. | | 7% dolomite |

CARRIERE MALAKOFF-3

| | lo | Pal | Ag | Oo | Cl | Ar | A. F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Séd. | Classif. Durham | Classif. Folk | Microfaciès | Remarques | | |
|-------|-----|-----|----|-----|--|----|-------|-----|-----|-----|-----|----|-----|-----|-----|---------------|------|------------------|--------------|-----------------|----------------------|-------------|------------------------------------|------------------|--|
| BM84 | . | . | | . | B | C | A | . | | | | | . | . | . | | B | sparite | | W | bioosparite | | | | |
| BM85 | . | | | (.) | A | C | A | . | | . | | | . | . | . | | B | sparite | | P | bioosparite | | c. circumgran. | | |
| BM86 | . | | . | . | B | A | A | | | | | | . | . | . | | B | microspar à spar | | P | biointrasparite | | | | |
| BM87 | . | | . | . | | C | | | | | | | . | . | . | | | sparite | | P à G | oobiosparite | | | | |
| BM88 | . | | | | A | B | C | (.) | . | | (.) | | . | . | . | | A | sparite | | P | Intrabiosparite | | | | |
| BM89 | . | | | | B | B | A | . | | | | | . | . | . | | B | microspar à spar | | P à W | Intrabiointrasparite | | | | |
| BM90 | . | | . | . | B | A | B | . | | (.) | | | . | . | . | Bryozoaires | A | sparite | | P | Intrabioosparite | | | | |
| BM91 | . | | | (.) | C | A | B | . | | | | | . | . | . | | B | sparite | | P | Intrabiosparite | | | | |
| BM92 | . | | | | B | A | B | | . | | | | (.) | . | . | F. micritisés | B | sparite | | P à G | Intrabiosparite | | | | |
| BM93 | . | | | | B | B | B | | | | (.) | | . | . | . | | B | microspar à spar | | P | Intrabiosparite | | | | |
| BM94 | . | | | | A | A | A | . | | | | | .. | .. | | | B | microsparite | | P | biosparite | | | | |
| BM95 | . | | | | A | A | B | | | | | | . | . | . | | B | microspar à spar | | P | Intrabiointrasparite | | | | |
| BM96 | . | | | | B | A | B | | | | (.) | | . | . | . | F. micritisés | B | microspar à spar | | W à P | Intrabiointrasparite | | | | |
| BM97 | . | | | | B | A | B | | (.) | . | | | . | . | . | | B | microspar à spar | | P | Intrabiointrasparite | | | | |
| BM98 | . | | | | A | B | . | | | | | | . | . | . | | | microspar à spar | | G | Intrabiosparite | | | | |
| puis | | | | | lumachelle de Brachiopodes avec calcaire recristallisé contenant des poches de | | | | | | | | | | | | | | | | | | | | |
| | | | | | B | A | B | . | | | | | . | . | . | | | sparite | | W | Intrabiosparite | | | | |
| puis | . | | | | A | B | . | | | | | | . | . | . | | | microspar à spar | | G | Intrabiosparite | | | | |
| BM99 | . | (.) | . | . | C | A | B | . | . | . | . | | . | . | . | | A | microsparite | | P | Intrabiointrasparite | | | | |
| | | | | | poches avec Calcisphères et pellets | | | | | | | | | | | | | | | | | | | | |
| BM100 | . | . | | | C | A | B | | | | | | . | . | . | | B | microspar à spar | | P à W | Intrabiointrasparite | | | | |
| BM101 | . | | | | C | B | A | . | . | | | | . | . | . | Trilobites | A | microspar à spar | | W à P | biointrasparite | | | | |
| BM102 | . | . | | | C | A | B | . | . | | | | . | . | . | | B | microsparite | | W à P | Intrabiointrasparite | | | | |
| BM103 | . | | | | A | A | A | . | . | | | | . | . | . | | A | sparite | | P | biointrasparite | | | | |
| BM104 | . | | | | B | A | B | | | | | | . | . | . | | B | microsparite | | P à W | Intrabiointrasparite | | lumachelle | | |
| BM105 | . | | | (.) | A | B | A | . | | | | | . | . | . | | A | sparite | | P | biointrasparite | | 3% dol à la base dédol. (vides) | | |
| BM106 | . | | | . | B | C | B | (.) | . | | (.) | | . | . | . | | B | sparite | | P | Intrabioosparite | | 2% dol | | |
| BM107 | . | | | (.) | B | C | B | . | . | | (.) | | . | . | . | Polyptères | B | sparite | | P à G | Intrabiosparite | | 3% dol + dédol | | |
| BM108 | . | | | | B | B | B | . | | | | | . | . | . | | B | sparite | | P | Intrabiosparite | | dédol | | |
| BM110 | . | | | (.) | B | B | B | (.) | . | | (.) | | . | . | . | | C | sparite | | P | Intrabiosparite | | 5 à 7% dol+dédol | | |
| BM111 | . | | | | B | B | A | . | . | | | | . | . | . | Trilobites | A | microspar à spar | | P à G | biointrasparite | | 10 % dol + dédol | | |
| BM112 | . | | | | A | A | A | . | . | | | | . | . | . | | B | microsparite | | P | biointrasparite | | 15% dol | | |
| BM113 | . | | | | B | A | A | . | . | | | | . | . | . | Trilobites | A | microsparite | | P | biointrasparite | | 10% dol | | |
| BM114 | . | | | | C | B | A | . | . | | | | . | . | . | Oncholites | A | microsparite | | P | biointrasparite | | dédol | | |
| BM115 | . | . | | | A | A | B | . | . | | | | . | (.) | . | | B | microspar à spar | | P à W | Intrabiointrasparite | | 5% dol | | |
| BM116 | . | | | | B | A | A | . | . | | | | . | (.) | . | Trilobites | B | sparite | | P | biointrasparite | | dédol (10%) | | |
| BM117 | . | | | | B | A | A | . | . | | | | . | (.) | . | Trilobites | B | sparite | | P | biointrasparite | | dédol (10%) | | |
| BM118 | . | | | | C | C | A | . | . | | | | . | . | . | oncholites | B | microsparite | | P | biointrasparite | | 10% dol | | |
| BM119 | . | . | | | A | B | A | . | . | | | | . | (.) | . | | C | microsparite | | G | Intrabiointrasparite | | 15% dol + dédol | | |
| | . | . | | | A | A | B | . | . | | | | . | (.) | . | | B | microspar à spar | | G à P | Intrabiointrasparite | | 5% dol | | |
| BM120 | . | | | | B | B | B | . | . | | | | . | (.) | . | | B | microsparite | | P | biointrasparite | | 7% dol | | |
| BM121 | . | | | | B | A | B | . | . | | | | . | . | . | F. micritisés | B | microsparite | | P | biointrasparite | | | | |
| puis | | | | | idem mais dolomitisé et séparé par une fissure parallèle à la stratification | | | | | | | | | | | | | | | | | | | 15% dol | |
| BM122 | . | | | (.) | B | A | A | . | . | | | | . | . | . | | A | microsparite | | P à G | Intrabiosparite | | 12% dol | | |
| BM123 | . | . | | (.) | A | C | B | . | . | | | | . | . | . | | A | sparite | | G | biointrasparite | | | | |
| BM124 | (.) | | | | A | A | B | . | . | | | | . | (.) | . | | B | microsparite | | P | Intrabiosparite | | 7% dol | | |
| BM125 | . | | | | C | B | A | . | . | | | | . | . | . | Trilobites | A | microsparite | | P | biointrasparite | | 7,5% dédol(vides) | | |
| BM126 | . | | | | A | B | B | . | . | | | | . | . | . | | A | microspar à spar | | G à P | Intrabiosparite | | 15% dol | | |
| BM127 | . | | | | ? | ? | ? | | | | | | . | . | . | Polyptères | B | sparite | | P | Intrabiosparite | | très altéré | | |
| | | | | | | | | | | | | | | | | | | | | | | | | 25,30% dol+dédol | |
| BM128 | . | . | | | C | A | B | . | . | | | | . | . | . | | A | microsparite | | P | biointrasparite | | 10% dol | | |
| BM129 | . | | | | C | B | A | . | . | | | | . | . | . | Polyptères | A | microsparite | | G à P | biointrasparite | | 7% dol | | |
| BM130 | . | | | | C | A | A | . | . | | | | . | . | . | | A | microsparite | | G | biointrasparite | | 25% à 40% dol | | |

| | le | pel | Ag | Oo | Cl | Ar | A. F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Séd. | C. Dunham | C. Folk | MF | Remarques |
|--------|-----|-----|-----|----|---|----|-------|-----|-----|-----|---------|-----|-----|-----|-----|-----------------|------|--------------------|---|-----------|------------------------------------|----|---|
| LF31 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | dolomite | — | — | dol sparite | — | 7/10% Calcite |
| LF32 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | dolomite | — | — | dol sparite | — | 30% Calcite |
| LF33 | — | • ? | • | — | A | C | A | • | • | — | — | — | • | — | •• | — | B | spartite | — | G | dol sparite | — | 5% Dolomite, quelques éléments figurés brisés |
| LF34 | • | • | • | • | B | C | B | • | • | — | • | • | • | • | • | débris de LB | A | spartite | — | G | biol sparite | — | 15% dolomite |
| LF35 | • | • | • | • | B | A | B | • | • | — | • | • | • | • | • | Oc et Bp brisés | A | microspar à spar | — | G | biol intraspar | — | 5% Dolomite |
| LF36 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | dolomite | — | — | dol sparite | — | 30% Cc à la base |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0/1% dol au sommet |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| LF36' | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | dolomite | — | — | dol sparite | — | 30% Cc à la base |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0/1% dol au sommet |
| LF37 | •• | • | • | — | B | C | B | — | • | — | • | • | • | • | • | — | B | microspar à spar | — | G | pel biosparite | — | 3% Dolomite |
| LF38 | •• | • | (•) | — | B | C | B | — | • | — | • | • | • | • | • | LB brisés | B | microspar (à spar) | localement, ciment fibreux | P | pel biol microsparite | — | — |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| LF39 | •• | (•) | • | — | B | A | B | — | • | — | • | • | (•) | • | • | — | B | spartite | — | G | pel biosparite | — | micritisation intense |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Pression-Dissolution |
| LF40 | •• | (•) | • | — | C | C | B | — | • | — | — | • | • | • | • | — | B | microspar à spar | — | P | pel sparite | — | 1/2% dolomite |
| LF41 | — | • | • | — | B | A | A | • | • | — | — | — | •• | (•) | — | bryozoaires | B | spartite | agrégats de boue des fousseurs ont déplacé des éléments | P | biol sparite | — | — |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| puis | — | — | — | — | A | C | C | • | • | — | — | — | — | — | — | débris divers | C | micrite | terriers vides dolomités (1/2%) | M | micrite | — | — |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| puis | • | • | • ? | — | A | A | B | — | • | — | — | • | • | • | • | débris divers | B | spartite | — | P | pel biosparite | — | 0/1% dolomite |
| LF41' | (•) | • | • ? | — | C | B | B | — | • | — | — | • | • | • | • | — | A | spartite | — | P | pel biosparite | — | 15% dolomite |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| puis | — | — | — | — | un niveau de sparite dans lequel se trouvent quelques lithoclastes de micrite | | | | | | | | | | | | — | — | — | — | — | — | — |
| puis | •• | • | • | — | B | C | C | — | • | — | — | — | — | (•) | — | — | C | spartite | terriers? | P à G | pel sparite | — | 7% dolomite |
| LF41'' | — | — | — | — | — | — | A | (•) | — | — | — | • | — | •• | — | — | B | — | terriers? | B | biolithite | — | — |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| puis | — | — | — | — | •• | B | B | C | — | • | (•) | — | (•) | — | — | — | B | spartite | fentes de dessiccation | P à G | oosparite | — | Anhydrite de remplac. Pression-Dissolution |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| puis | — | — | — | — | retour aux aigues avec plus d'Ostracodes | | | | | | | | | | | | — | — | — | — | — | — | — |
| LF42 | • | — | • | — | B | A | B | — | — | — | •roulés | — | • | — | (•) | — | C | spartite | — | G | oosparite | — | Pression-dissolution micritisation +/- forte |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| LF42' | •• | — | (•) | • | C | A | C | • | • | (•) | •roulés | — | • | — | (•) | — | C | spartite | ciment fibreux sous les éléments figurés | G | intrasparite | — | niveau pédologique? |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| LF44 | • | (•) | — | — | C | A | A | — | • | — | •• | — | • | — | • | — | A | microspar à spar | — | P | biol sparite | — | — |
| LF45 | •• | — | — | — | C | A | A | — | • | — | •• | — | • | — | • | — | A | microspar à spar | — | P | biol sparite | — | Pression-Dissolution |
| LF46 | • | • | — | — | B | B | B | • | • | — | • | — | • | — | • | LB | B | microspar à spar | — | P | pel biosparite | — | — |
| LF47 | • | • | — | — | C | B | A | — | •• | — | • | — | • | — | (•) | LB | B | microspar à spar | — | P | biol sparite | — | — |
| LF48 | •• | — | (•) | — | B | B | B | — | • | — | • | — | • | — | (•) | LB | C | spartite | — | P | pel biosparite | — | — |
| LF49 | — | • | — | — | C | C | A | — | •• | — | — | (•) | — | (•) | — | LB | C | spartite | — | P | biol sparite | — | lumachelle |
| LF50 | •• | — | — | — | A | A | C | — | — | — | — | — | — | — | — | — | — | spartite | — | G | pel sparite | — | — |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| LF51 | •• | — | — | — | B | A | — | — | (•) | — | • | — | • | — | — | bryozoaires | — | spartite | — | P à G | pel sparite | — | Pression-Dissolution micritisation intense |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| LF52 | •• | — | — | — | C | A | — | — | (•) | — | • | — | • | — | — | bryozoaires | — | spartite | — | P à G | pel sparite | — | Pression-Dissolution micritisation intense |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| LF53 | •• | — | — | — | B | A | C | — | — | — | — | — | — | — | — | — | — | spartite | — | G | pel sparite | — | déformation tectonique Pression-Dissolution micritisation intense |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | déformation tectonique |
| LF54 | • | • | — | — | C | B | B | — | — | — | — | • | (•) | — | — | — | C | spartite | — | P | pel biosparite | — | Pression-Dissolution micritisation intense |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| LF56 | • | (•) | — | — | C | A | C | — | — | — | — | — | (•) | • | — | débris divers | C | microsparite | — | P à W | pel microsparite à biol microspar | — | Pression-Dissolution micritisation intense |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| puis | — | •• | — | — | B | A | C | — | — | — | — | — | — | — | — | — | — | spartite | — | G | pel sparite | — | Pression-Dissolution |
| LF57 | — | — | — | — | B | B | C | • | — | — | — | — | (•) | — | — | — | C | micrite | fenestras | W | micrite avec invaduals, de nodules | — | pédogenèse |

CARRIERE C.B.S.-2

| | lc | Pei | Ag | Oo | Cl | Ar | A. F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Séd. | C. Dunham | C. Folk | MF | Remarques | |
|-------|--|-------|-----|----|----|----|-------|----|----|----|----|----|-----|-----|-----|---------------|------|------------------|------------------------|-----------|----------------------|---------------|------------------------|--|
| LF58 | | | | | | | | | | | | | | | | | | | | | | | | |
| | niveau argileux | | | | | | | | | | | | | | | | | | | | | | | |
| LF59 | calcaire micritique avec fentes de dessiccation; puis celui-ci est démantelé alors qu'il n'est pas encore bien lithifié | | | | | | | | | | | | | | | | | | | | | | | |
| LF60 | • | ••alg | — | — | C | A | C | • | — | — | — | — | — | — | — | (•) | — | — | — | — | — | — | — | |
| | | | | | A | C | C | • | | | | | | | | | | | | | | | | |
| LF61 | •alg | •alg | — | — | C | B | C | • | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| LF62 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| LF63 | la microsparite a presque tout envahi; fantômes de nodules | | | | | | | | | | | | | | | | | | | | | | | |
| LF64 | — | — | — | — | A | C | B | • | — | — | — | — | • | — | — | débris divers | C | micrite | | W | micrite à Ostracodes | 6 | stylolithes | |
| LF65 | — | ••alg | — | — | A | A | C | • | — | — | — | — | — | — | — | ? | C | micrite | fentes de dessiccation | ? | ? | | déformation tectonique | |
| LF68 | — | •• | — | — | B | A | C | — | — | — | — | — | — | — | — | — | C | sparite | | G | pelsparite | 3 | micritisation intense | |
| | | | | | | | | | | | | | | | | | | | | | | | Pression-Dissolution | |
| LF 67 | • | • | — | • | C | C | — | — | — | — | — | — | — | — | — | — | — | — | — | G | oopelsparite | 4 | | |
| | puis calcaire algaire ; puis oosparite (oolithes très micritisées). | | | | | | | | | | | | | | | | | | | | | | | |
| LF68 | Brèche de calcaire micritique et de biomicrite ; évaporites | | | | | | | | | | | | | | | | | | | | | | | |
| LF69 | Brèche de calcaire micritique et de biomicrite ; évaporites | | | | | | | | | | | | | | | | | | | | | | | |
| LF70 | Brèche calcaire | | | | | | | | | | | | | | | | | | | | | | | |
| LF70' | niveau argileux | | | | | | | | | | | | | | | | | | | | | | | |
| LF 71 | Pelmicrosparite; pseudomorphoses d'évaporites ? | | | | | | | | | | | | | | | | | | | | | | | |
| LF 72 | Calcaire algaire avec poches contenant des éléments encroûtés. | | | | | | | | | | | | | | | | | | | | | | | |
| LF 73 | • | • | — | — | C | B | B | • | — | • | — | — | — | — | — | — | LB | C | microsparite | | G localement P | pelbiosparite | 3 | |
| LF 74 | Brèche (calcaire micritique et calcaire à pelletoides et éléments encroûtés) - très nombreux oxydes de fer. | | | | | | | | | | | | | | | | | | | | | | | |
| LF 75 | •• | — | (•) | — | C | A | C | — | • | — | — | — | — | — | — | — | C | microsparite | | G | intrasparite | 1 | | |
| | fissure remplie de sédiment à intraclastes oxydés; fissuration génétiquement interc. entre 2 autres phases de fissuration. | | | | | | | | | | | | | | | | | | | | | | | |
| LF 76 | — | — | — | — | — | — | — | • | — | — | — | — | — | — | — | — | — | — | — | M | micrite à quelques | 6 | débris d'OC | |
| | contient des poches de pelsparite | | | | | | | | | | | | | | | | | | | | | | | |
| LF 77 | Pelsparite à GP et OC et microbrèche dolomitisée; dolomie dans la partie sparitique uniquement. | | | | | | | | | | | | | | | | | | | | | | | |
| LF 78 | Micrite avec nombreuses fentes de dessiccation bréchifiées | | | | | | | | | | | | | | | | | | | | | | | |

PONT DES LOUPS

| | Pt | Pe | Ag | Oo | Cl | Ar | A. F. | Oo | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Séd. | C. Dunham | C. Folk | MF | Remarques | |
|-------|---|-----|----|----|----|----|-------|-----|----|-----|----|----|-----|-----|-----|--------|------|------------------|------------------------|-------------------------------|-------------------------|-------|---|------------------------------|
| PL 41 | — | — | — | — | — | — | — | — | — | — | — | — | — | .. | — | — | — | — | terniers ou racines | B | biolithite | 7 | lamines stromalithiques | |
| | <i>Traces d'émerison (évolution vers des nodules); lacy fabric</i> | | | | | | | | | | | | | | | | | | | | | | | |
| PL 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | fentes de dessiccation | M | micrite | 8 | évaaporites ; proche de l'émerison | |
| PL 39 | — | — | — | — | — | — | — | — | — | — | — | — | — | .. | — | — | — | — | fentes de dessiccation | B | biolithite | 7 | lamines stromalithiques puis algues | |
| PL 38 | — | — | — | — | — | — | — | — | — | — | — | — | — | .. | — | — | — | — | — | B | biolithite | 7 | lamines stromalithiques et évaaporites | |
| PL 38 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | sparte | ? | calc. recristallisé rougeâtre | calc. recristallisé | | ancien paléosol ? avec évaaporites ?? | |
| PL 35 | <i>Lamines stromalithiques avec dédolomite ou évaaporites (Cc)?</i> | | | | | | | | | | | | | | | | | | | | | | | |
| PL 34 | <i>Ancien calcaire algaire recristallisé (évolution pédologique ?)- évaaporites</i> | | | | | | | | | | | | | | | | | | | | | | | |
| PL 31 | — | — | — | — | — | — | C | — | — | (.) | — | — | — | — | — | — | — | micrite | — | M | micrite | 8 | un peu de quartz authigène | |
| PL 30 | — | — | — | — | — | — | A | — | — | — | — | — | — | .. | — | — | — | — | — | B | biolithite | 7 | quartz authigène | |
| PL 29 | — | alg | — | — | — | — | — | — | — | — | — | — | — | (.) | — | — | — | — | fentes de dessiccation | M et G | micrite et G à Stercome | 7 / 8 | | |
| PL 28 | . | .. | — | — | A | A | A | — | — | — | . | — | . | — | . | LB | B | micrite | — | G | pelbiomicrite | 3 | alternance avec de la micrite à rares fossiles 1/2% quartz détritique | |
| PL 27 | — | — | — | — | — | — | — | — | — | — | — | — | — | .. | — | — | — | — | — | B | biolithite | 7 | | |
| PL 26 | . | — | . | . | B | B | C | (.) | — | — | — | — | . | — | — | — | — | C | sparte | — | G à P | | oo-intrasparite | |
| PL 25 | . | — | . | . | B | ? | B | — | . | — | — | — | . | . | — | — | — | B | sparte | — | G | | 20 à 25% de dolomite | |
| PL 24 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | calcaire cristallin | | | 50% de dolomite | |
| PL 23 | . | — | . | . | C | B | B | — | — | (.) | — | — | . | . | . | — | — | B | sparte | — | P | | intrasparite | |
| PL 22 | . | — | . | . | B | A | B | — | — | — | — | — | — | (.) | — | LB | C | sparte | — | Pa G | | | intrasparite | |
| PL 21 | <i>idem PL22</i> | | | | | | | | | | | | | | | | | | | | | | | |
| PL 19 | . | — | . | — | B | A | C | — | — | — | — | — | (.) | . | — | — | C | sparte | — | P | | | intrasparite très micritisée | |
| PL 17 | . | — | — | — | B | A | C | — | — | — | . | — | . | — | . | — | — | C | microsparte | — | P | | | intrasparite très micritisée |
| PL 15 | — | .. | — | — | B | A | C | — | — | — | — | — | . | — | — | — | — | C | sparte | — | P | | pelsparte | |
| | <i>en dehors de l'organisme :</i> | | | | | | | | | | | | | | | | | | | | | | | |
| PL 13 | — | . | — | — | B | A | C | — | — | — | — | — | . | — | . | — | — | C | sparte | — | Pa G | | | intrasparite |
| PL 11 | <i>très dolomitisé; (dolomie partiellement dissoute : 25 %)</i> | | | | | | | | | | | | | | | | | | | | | | | |

CARRIÈRE DE LA QUEUE-NOIR-JEAN-1

| | Ic | PeI | Ag | Oo | Cl | Ar | A.F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Séd. | Classif. Dunham | Classif. Folk | MF | Remarques |
|--|--|------|----|-----|----|----|------|-----|-----|----|----|-----|-----|-----|-----|----------------------------|------|------------------|-----------------|-----------------|---------------------|----|---------------------------------------|
| ONJ1 | . | — | — | — | — | C | C | — | — | — | — | — | — | — | — | — | C | micrite | fentes dessicc. | (M) | — | 8 | M démantelé oxydes de fer |
| ONJ2 | — | — | — | (—) | C | B | C | — | — | — | — | — | — | — | — | débris | C | micrite | fentes vertic. | W | micrite | 8 | proche de l'émerison oxydes de fer |
| puis | . | — | — | — | B | A | C | — | — | — | — | — | — | — | — | débris | C | sparite | — | G | intrasparite | 1 | |
| ONJ3 | — | alg. | — | — | A | A | C | — | — | — | — | — | — | (.) | — | — | C | sparite | — | G | — | 7 | G à Stercomes |
| puis | — | — | — | — | — | — | A | — | — | — | — | — | — | (.) | — | — | C | — | — | B | biolithite | 7 | 1 % dolomie |
| puis | — | alg. | — | — | A | A | C | — | — | — | — | — | — | (.) | — | — | C | sparite | — | G | — | 7 | G à Stercomes |
| puis | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | — | M | micrite | 8 | 75 à 80 % dolomie |
| ONJ4 | — | — | — | — | — | — | A | — | — | — | — | — | — | (.) | — | — | C | — | — | B | biolithite | 7 | |
| puis | . | — | — | — | C | C | C | — | — | — | — | — | — | — | — | débris | C | microsparite | — | P | intramicrite | 1 | |
| puis | — | — | — | — | — | — | A | — | — | — | — | — | — | (.) | — | — | C | — | — | B | biolithite | 7 | |
| ONJ5 | — | alg. | — | — | — | — | — | — | — | — | — | — | — | (.) | — | — | C | sparite | fentes dessicc. | B | biolithite | 7 | pseudomorphose d' anhydrite |
| puis | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | fentes dessicc. | M | micrite | 8 | anhydrite |
| ONJ6 | . | — | — | — | C | B | B | (.) | — | — | — | — | — | (.) | — | — | C | micrite | fentes dessicc. | M | micrite | 8 | terriers—émersion |
| et | — | — | — | — | — | — | A | — | — | — | — | — | — | (.) | — | — | C | — | — | B | biolithite | 7 | |
| ONJ7 | — | — | — | — | — | — | A | — | — | — | — | (.) | — | (.) | — | — | C | — | — | B | biolithite | 7 | |
| puis | :brèche avec intraclastes de calcaire algaire et de micrite - matrice sparitique - oxydes de fer | | | | | | | | | | | | | | | | | | | | | | |
| ONJ8 | . | — | — | — | C | B | — | — | — | — | — | — | — | — | — | — | — | micrite | terriers | M | micrite | 8 | |
| ONJ9 | — | (.) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | fentes dessicc. | M | micrite | 8 | |
| ONJ10 | — | — | — | — | — | — | A | — | — | — | — | — | — | (.) | — | — | C | — | — | B | biolithite | 7 | anhydrite de remplacement |
| puis | (contact stylolithique) : | | | | | | | | | | | | | | | | | | | | | | |
| ONJ11 | . | — | — | — | C | B | B | . | — | — | — | — | — | — | — | débris indé. | C | micrite | fentes dessicc. | W | micrite | 6 | |
| ONJ12B | — | (.) | — | — | B | A | B | . | — | — | . | — | — | (.) | . | LB, Bryozoaires | B | microsparite | — | P | intrasparite | 1 | anhydrite en nodules |
| puis | — | — | — | — | B | B | C | . | — | — | — | — | — | (.) | . | — | C | micrite | bioturbations | M / W | micrite à OC | 6 | dédolomitisation |
| puis | (contact ravinant) : | | | | | | | | | | | | | | | | | | | | | | |
| ONJ12H | — | — | — | — | B | C | B | . | (.) | — | . | (.) | — | — | — | Bryozoaires ? | B | microsparite | — | W / P | intramicrite | 1 | |
| puis | (contact ravinant) : | | | | | | | | | | | | | | | | | | | | | | |
| ONJ13 | (.) | — | — | — | C | A | A | . | . | — | . | — | . | . | . | Bryozoaires, TB | A | sparite | — | G | intrasparite | 1 | micritisation dédolomitisation |
| ONJ14 | . | — | — | — | B | — | A | — | — | — | — | — | — | (.) | — | — | C | — | — | B | biolithite | 7 | oxydes de fer |
| puis | . | — | — | — | B | B | — | — | — | — | — | — | — | — | — | — | — | sparite | — | P | intrasparite | 1 | |
| puis | . | (.) | — | — | B | C | B | . | — | . | — | . | . | . | . | — | C | microsparite | — | P | pelsparite | 3 | |
| ONJ15 | (.) | (.) | — | — | B | A | B | . | — | — | — | . | (.) | . | — | — | B | micrite | — | W | pelmicrite | 3 | |
| ONJ16 | (.) | (.) | — | — | B | A | B | . | — | — | — | . | (.) | . | — | — | B | micrite | — | W | pelmicrite | 3 | |
| ONJ17 | — | — | — | — | A | C | A | — | — | — | — | — | — | (.) | — | — | C | — | — | B | biolithite | 7 | |
| et | . | — | — | — | B | B | A | . | . | — | . | . | . | . | . | — | A | sparite | — | G | intrasparite | 1 | (biosparite) |
| puis | — | (.) | — | — | B | B | A | . | . | — | . | . | . | . | . | — | A | micrite | — | P | biomicrite | 2 | |
| ONJ18 | brèche avec éléments de micrite : Ostracodes et fentes de dessiccation | | | | | | | | | | | | | | | | | | | | | | |
| puis | . | (.) | — | — | C | A | A | . | . | — | . | . | . | (.) | . | TB | A | sparite | — | P | pelsparite | 3 | |
| ONJ19 | — | (.) | — | — | C | B | B | . | (.) | . | — | — | — | (.) | — | — | C | micrite | fentes dessicc. | M | micrite à OC | 6 | |
| puis | . | — | — | — | C | B | B | . | (.) | . | — | — | — | . | . | — | B | sparite | — | P | intrasparite | 1 | pression dissolution |
| ONJ20 | — | — | — | — | — | — | A | — | — | — | — | — | — | (.) | — | — | C | — | — | B | biolithite | 7 | |
| ONJ21 | . | (.) | — | — | B | A | A | (.) | — | . | — | (.) | (.) | (.) | (.) | Polypiers débris divers | A | micrite | bioturbations | P | biomicrite | 2 | |
| ONJ22 | — | — | — | — | A | B | C | . | — | — | — | . | — | — | — | — | C | micrite | — | W | micrite à Ostracode | 6 | |
| ONJ23 | — | — | — | — | — | — | — | — | — | — | — | — | — | (.) | — | — | C | — | — | B | biolithite | 7 | local. Stercomes; quartz authigène |
| ONJ24 | . | . | — | — | C | A | B | . | . | — | . | . | . | . | — | — | A | micrite | — | P | biomicrite | 2 | (dolomitisation) |
| ONJ25 | — | . | — | — | A | A | A | . | . | — | . | . | . | . | . | Polypiers | B | micrite | — | P | biomicrite | 2 | |
| puis | — | . | — | — | A | B | B | (.) | — | — | — | . | (.) | . | — | — | B | sparite | bioturbations | microP | pelsparite | 3 | |
| ONJ26 | — | — | — | — | — | — | A | — | — | — | — | — | — | (.) | — | — | C | — | fentes dessicc. | B | biolithite | 7 | pseudoevaporites |
| (vers le sommet, apparition de pisolithes de 2,5 mm de diamètre à enveloppe régulière) | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ27 | — | — | — | — | A | C | C | — | — | — | — | — | — | — | — | fins débris | C | micrite | — | W | micrite à débris | 6 | quartz authigène |
| ONJ28 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | — | M | micrite | 8 | |
| et | — | — | — | — | — | — | A | (.) | — | — | — | — | — | (.) | — | — | C | — | — | B | biolithite | 7 | fissures ; gypse ? |

CARRIÈRE DE LA QUEUE-NOIR-JEAN-3

| | Ic | PeI | Aq | Oo | Cl | Ar | A.F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Sed. | Classif. Dunham | Classif. Folk | MF | Remarques | |
|--------|----|-----|----|----|----|----|------|----|----|----|----|----|-----|-----|-----|-----------------------|------|------------------|--------------|-----------------|---------------|---|--|--|
| ONJ65 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ66 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ67 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ68 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ69 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ70 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ70' | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ71 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ72 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ73 | | | | | | | A | | | | | | | | | | C | | | B | biolithite | 7 | très fissuré | |
| ONJ75 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ76 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ77 | | | | | | | A | | | | | | | | | | C | | | B | biolithite | 7 | dolomitisé recristallisé anhydrite abondante | |
| ONJ78 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ79 | | | | | | | | | | | | | | | | | | micrite | | M | micrite | 8 | anhydrite postérieure à la tectonique:quartz | |
| ONJ80 | | | | | | | A | | | | | | | | | | C | | | B | biolithite | 7 | fissuré;bréchifié anhydrite | |
| ONJ81 | | | | | | | A | | | | | | | | | | C | | | B | biolithite | 7 | fissuré;bréchifié anhydrite | |
| ONJ82 | | | | | | | A | | | | | | | | | | C | | | B | biolithite | 7 | fluorine;anhydrite nodules de quartz | |
| ONJ83 | | | | | | | A | | | | | | | | | | C | | | B | biolithite | 7 | Stromatolithes G à Stercomes | |
| ONJ84 | | | | | C | A | C | | | | | | | | | débris divers | C | micrite | M | micrite | 8 | Microcodium évolution pédologique fissures,stylolithes; évaporites,quartz pseudoooides cristallins | | |
| ONJ85 | | | | | B | A | C | | | | | | | | | | C | sparite | | G | intrasparite | 1 | pseudoooides cristallins | |
| ONJ86 | | | | | B | B | B | | | | | | | | | | B | micrite | | W | biomicrite | 2 | | |
| ONJ87 | | | | | | | | | | | | | | | | | | micrite | | M | micrite | 8 | évaporites | |
| ONJ87 | | | | | | | A | | | | | | | | | | C | | | B | biolithite | 7 | anhydrite | |
| ONJ88 | | | | | | | | | | | | | | | | | | micrite | | M | micrite | 8 | évaporites en nodule; microcristallins | |
| ONJ89 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ90 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ91 | | | | | B | C | B | | | | | | | | | | C | micrite | | W | micrite à OC | 6 | | |
| ONJ92 | | | | | B | C | B | | | | | | | | | débris | C | micrite | | W | micrite à OC | 6 | racine silicifiée; matière organique abondante | |
| ONJ93 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ94 | | | | | | | | | | | | | | | | | | micrite | | M | micrite | 8 | bréchifié : fractures | |
| ONJ94 | | | | | | | A | | | | | | | | | | C | | | B | biolithite | 7 | fractures;évaporites | |
| ONJ95 | | | | | | | | | | | | | | | | | | micrite | | M | micrite | 8 | laminations dues aux évaporites | |
| ONJ96 | | | | | B | B | A | | | | | | | | | | C | micrite | | P | micrite | 6 | | |
| ONJ96 | | | | | | | | | | | | | | | | | | sparite | | G | pelsparite | 3 | | |
| ONJ97 | | | | | B | C | B | | | | | | | | | | C | micrite | | W / P | micrite à OC | 6 | matière organique abondante | |
| ONJ98 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ98' | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ100 | | | | | | | | | | | | | | | | | | micrite | | M | micrite | 8 | démantelé | |
| ONJ101 | | | | | B | C | A | | | | | | | | | Bryozoaires débris | B | micrite | | P | biomicrite | 2 | | |
| ONJ101 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ101 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ101 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ101 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ101 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ101 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ101 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ101 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ101 | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ101 | | | | | | | | | | | | | | | | | | | | | | | | |
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| ONJ101 | | | | | | | | | | | | | | | | | | | | | | | | |

CARRIÈRE DE LA QUEUE-NOIR-JEAN-4

| | Ic | PeI | Ag | Oo | Cl | Ar | A. F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Sed. | Classif. Dunham | Classif. Folk | MF | Remarques | |
|-------------------------------|----------------|-----|----|----|----|----|-------|-----|----|----|----|----|-----|-----|-----|-------------|------|------------------|--------------|-----------------|----------------------|----|-------------------------------------|--|
| ONJ103 | . | — | — | — | B | B | C | . | — | — | — | — | — | — | — | — | C | sparite | — | G | intrasparite | 1 | anhydrite | |
| ONJ104 | (.) | — | — | — | B | B | A | . | . | — | . | — | . | — | .. | LB | A | micrite | — | P | biomicrite | 2 | quelques organismes siliciifiés | |
| ONJ105 | idem ONJ103 | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ106 | — | — | — | — | B | A | B | — | — | — | . | — | — | — | — | — | C | micrite | — | W | micrite à bioclastes | 6 | silicification matière organique | |
| ONJ107 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | — | M | micrite | 8 | | |
| ONJ108 | — | — | — | — | — | — | — | — | . | — | — | — | . | — | (.) | TB ; débris | — | — | — | — | — | — | — | |
| ONJ109 | — | — | — | — | B | B | B | . | — | — | . | — | — | — | . | débris | B | micrite | — | W | biomicrite | 2 | | |
| ONJ110 | — | . | — | — | C | C | B | . | — | — | . | — | . | — | . | LB ; débris | A | micrite | — | P (W) | biomicrite | 2 | | |
| CHANGEMENT DE FRONT DE TAILLE | | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ112 | (.) | (.) | — | — | C | B | A | (.) | . | . | . | — | . | — | . | débris ; LB | A | micrite | — | W | biomicrite | 2 | (anhydrite) | |
| ONJ113 | silice (chert) | | | | | | | | | | | | | | | | | | | | | | | |
| ONJ114 | (.) | (.) | — | — | B | B | B | (.) | . | . | . | — | . | — | . | débris | A | micrite | — | W | biomicrite | 2 | | |

| | Pt | PeI | Ag | Oo | Cl | Ar | A. F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Séd. | C. Dunham | C. Folk | MF | Remarques |
|----------------|--|-----|----|----|----|----|-------|-----|----|----|-----|--|-----|-----|-----|--------|----------------------|---------------------------|-----------------|-----------|----------------------|----|---|
| Ne 2 | .. | — | — | — | C | B | C | — | — | — | — | — | • | (•) | (•) | LB | C | sparite | — | P | sparite | — | micritisation intense |
| Ne 4 | • | — | — | — | B | B | B | (•) | — | — | — | — | •• | (•) | • | — | C | microsparite | — | P | biomicrosparite | — | |
| Ne 11 | idem Ne 2 | | | | | | | | | | | | | | | | | | | | | | |
| puis | .. | — | — | — | A | A | C | — | — | — | — | — | •• | (•) | • | — | C | microsparite à sparite | — | P | pelsparite | — | micritisation anhydrite |
| Ne 14 | calcaire dolomitique (40 à 50% de dolomite); faciés original masqué. | | | | | | | | | | | | | | | | | | | | | | |
| Ne 14 c | dolomie (2 à 3% de calcite); anhydrite rare, préservée et remplacée. | | | | | | | | | | | | | | | | | | | | | | |
| Ne 18 | (•) | — | — | •• | A | A | — | — | — | — | — | — | — | — | — | — | — | sparite | — | G | oosparite | — | micritisation intraclastes algaires |
| Ne 18 c | — | — | — | •• | A | A | — | — | — | — | (•) | — | (•) | — | — | LB | C | sparite | — | G | oosparite | — | très micritisé anhydrite? |
| Ne 21 | • | — | — | •• | B | B | C | — | — | — | (•) | — | (•) | (•) | • | LB | C | sparite | — | G | oosparite | — | anhydrite dans ciment et fractures |
| B.O. | début de nodulisation dans une micrite à fentes de dessiccation- | | | | | | | | | | | Septaria-anhydrite dans les fissures - | | | | | traces de pédogenèse | | | | | | |
| LI 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | dolosparite | — | — | dolomie | — | pyrite, oxydes de fer |
| LI 1 b' | — | — | — | — | — | — | A | — | — | — | — | — | — | •• | — | — | C | — | fentes dessicc. | B | biolithite | 7 | dolomie (3 à 5%) |
| LI 1 b | idem LI 1 b' | | | | | | | | | | | | | | | | | | | | | | |
| LI 2' | • | • | — | — | C | B | B | • | — | • | — | • | • | — | — | — | B | sparite | — | G | intrasparite | 1 | |
| LI 3 | • | — | — | — | C | B | B | (•) | • | — | • | — | • | — | • | LB | B | sparite | — | G | intrasparite | 1 | |
| puis | — | — | — | — | A | B | C | •• | — | — | — | — | — | — | — | — | C | micrite | — | W | micrite à OC | 6 | |
| puis | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | M | micrite | 8 | |
| LI 4 a | — | — | — | — | — | — | A | — | — | — | — | — | — | •• | — | — | C | — | fentes dessicc. | B | biolithite | 7 | |
| LI 4 b | — | — | — | — | — | — | A | • | — | — | — | • | — | •• | — | — | C | — | fentes dessicc. | B | biolithite | 7 | anhydrite dans fractures |
| LI 4 c | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | fenestrae | M | micrite à fenestrées | 8 | évolution pédogénétique |
| puis | (•) | — | — | — | — | — | A | — | — | — | — | — | — | •• | — | — | — | — | fentes dessicc. | B | biolithite | 7 | |
| LI 4 d | •• | • | — | — | C | C | B | • | — | • | — | — | •• | • | — | — | C | sparite | — | G | intrasparite | 1 | milieu assez restreint démantèlement d'un paléosol proche tempête? |
| LI 4 e | — | — | — | — | A | C | C | • | — | — | — | — | — | — | — | — | C | micrite | — | W | micrite à OC | 6 | anhydrite dans fractures |
| LI 4 f | — | — | — | — | — | — | A | — | — | — | — | • | • | •• | — | — | C | — | — | B | biolithite | 7 | Microcodium |
| LI 4 g | • | • | — | — | C | C | B | — | • | — | • | — | • | • | • | LB, TB | B | sparite | — | G | intrasparite | 1 | anhydrite? |
| LI 4 h | • | •• | — | — | B | B | B | • | — | — | — | — | • | • | • | — | B | sparite | — | P | pelsparite | 3 | Microcodium |
| puis | — | — | — | — | A | C | C | — | — | — | — | — | — | — | — | débris | — | micrite | bioturbations | W | micrite à bioclastes | 6 | |
| puis | idem 1ère ligne | | | | | | | | | | | | | | | | | | | | | | |
| LI 4 i | — | — | — | — | C | C | C | — | — | — | — | — | — | — | — | débris | — | micrite | — | W | micrite à bioclastes | 6 | contact ravinant |
| puis | — | — | — | — | C | B | A | • | — | • | — | • | • | • | — | TB | A | micrite | bioturbations | P | biomicrite | 2 | |
| puis | •• | • | — | — | C | A | B | — | • | — | • | — | (•) | (•) | • | TB, LB | A | sparite | — | G | intrasparite | 1 | |
| LI 4 j | • | — | — | — | — | — | A | — | — | — | — | — | — | •• | — | — | C | — | — | B | biolithite | 7 | (+/-) démantelé |
| LI 4 k | — | — | — | — | — | — | A | — | — | — | — | — | — | •• | — | — | C | — | — | B | biolithite | 7 | |
| puis | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | micrite | fentes dessicc. | M | micrite | 8 | débris de calcrète |

CARRIÈRE BOCAHUT-2

| | Pt | PeI | Ag | Oo | Cl | Ar | A. F. | Oc | Bp | Gp | Ed | Sp | Cal | Alg | For | Divers | C.F. | Phase de liaison | Figures Séd. | C. Dunham | C. Folk | MF | Remarques | |
|----------------|-----|-----|----|-----|----|----|-------|-----|----|-----|----|-----|-----|-----|-----|---------------|------|------------------|-----------------|-----------|----------------------|----|---|--|
| Li 4 l | | | | | | | | | | | | | | | | | | | | | | | | micrite à bioclastes(MF6);début de nodulisation;dolomitisation:3à5%;fentes de dessiccation |
| Li 4 m | — | (.) | — | — | B | C | B | . | — | — | — | — | — | — | — | débris | C | micrite | fentes dessicc. | W | micrite à bioclastes | 6 | dolomitisation 25% | |
| Li 4 n | — | — | — | — | — | — | — | — | — | — | — | — | — | .. | — | — | C | — | — | B | biolithite | 7 | | |
| puis | (.) | (.) | — | — | B | B | B | . | — | — | — | — | . | . | (.) | LB | C | micrite | — | P / W | micrite à bioclastes | 6 | | |
| puis | . | — | — | (.) | C | B | B | — | — | — | — | — | . | . | . | débris | C | sparite | — | G | intrasparite | 1 | | |
| Li 4 o | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | M | micrite | 8 | fenestrae | |
| et | — | — | — | — | — | — | A | — | — | (.) | — | (.) | — | .. | — | — | C | — | — | B | biolithite | 7 | | |
| Li 4 p | — | — | — | — | — | C | (.) | — | — | — | — | — | — | — | — | — | C | micrite | fentes dessicc. | M | micrite | 8 | nodulisation anhydrite | |
| | | | | | | | | | | | | | | | | | | | | | | | | contact ravinant |
| puis | . | (.) | — | — | C | B | B | . | — | . | — | . | . | . | — | LB | B | sparite | — | P | intrasparite | 1 | | |
| Li 4 q | . | . | — | (.) | C | C | B | . | — | — | — | — | . | . | . | LB | B | sparite | — | G | intrasparite | 1 | dépôt de tempête? dolomie : 15% | |
| Li 4 r | | | | | | | | | | | | | | | | | | | | | | | | environ 15% de dolomie masquant une biomicrite MF2 |
| Li 4 s | (.) | (.) | — | — | B | A | A | . | — | . | — | . | . | (.) | — | LB | B | micrite | bioturbations | P | biomicrite | 2 | | |
| Li 4 t | .. | (.) | — | (.) | A | A | B | — | — | — | . | — | . | . | . | TB,LB | A | sparite | — | G | intrasparite | 1 | parfois,micritisation des bioclastes | |
| Li 4 u | — | — | — | — | — | — | A | — | — | — | — | — | .. | — | — | — | C | — | fentes dessicc. | B | biolithite | 7 | | |
| puis | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | M | micrite | 8 | | |
| puis | | | | | | | | | | | | | | | | | | | | | | | | idem 1ère ligne du Li4u |
| Li 4 v | — | — | — | — | — | — | A | — | — | — | — | — | .. | — | — | — | C | — | fentes dessicc. | B | biolithite | 7 | dolomitisation (40%) pédogenèse? | |
| puis | — | — | — | — | — | C | . | — | — | — | — | — | — | — | — | débris | C | micrite | fentes dessicc. | W | micrite à bioclastes | 6 | | |
| Li 4 w | (.) | — | — | — | C | B | A | (.) | . | . | — | . | . | .. | — | LB,TB | A | micrite | bioturbations | W à P | biomicrite | 2 | | |
| Li 4 x | — | — | — | — | — | A | — | — | — | — | — | — | .. | — | — | — | C | — | — | B | biolithite | 7 | | |
| puis | (.) | — | — | — | C | B | A | (.) | . | . | — | . | . | . | — | LB | A | micrite | — | P | biomicrite | 2 | | |
| Li 4 y | (.) | — | — | — | B | B | A | (.) | . | . | — | . | . | .. | — | LB | A | micrite | — | P | biomicrite | 2 | | |
| Li 4 z | — | — | — | — | — | A | — | — | — | — | — | — | .. | — | — | — | C | — | fentes dessicc. | B | biolithite | 7 | début de pédogenèse | |
| Li 5 a | — | — | — | — | — | A | — | — | — | — | — | — | .. | — | — | — | C | — | fentes dessicc. | B | biolithite | 7 | | |
| Li 5 b | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | M | micrite | 8 | dolomitisation (70%) anhydrite | |
| Li 5 c | | | | | | | | | | | | | | | | | | | | | | | | idem Li 5 a |
| Li 5 d | | | | | | | | | | | | | | | | | | | | | | | | dolomie (3% de calcite) |
| Li 5 e | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | M | micrite | 8 | dolomite (10%) | |
| Li 5 f | | | | | | | | | | | | | | | | | | | | | | | | idem Li 5 e (20% de dolomite) |
| Li 5 g | | | | | | | | | | | | | | | | | | | | | | | | idem Li 5 e |
| Li 5 h | | | | | | | | | | | | | | | | | | | | | | | | idem Li 5 e |
| Li 5 i | — | — | — | — | C | C | C | . | — | — | — | — | — | — | — | — | C | micrite | fentes dessicc. | W | micrite à OC | 6 | dolomite (10%) | |
| Li 5 j | — | — | — | — | B | C | B | — | — | — | . | — | — | — | — | LB,oncolithes | C | micrite | — | P | biomicrite | 2 | dolomite (15à20%) | |
| Li 5 k | | | | | | | | | | | | | | | | | | | | | | | | idem Li 5 j (3% de dolomie dissoute) |
| Li 5 l | | | | | | | | | | | | | | | | | | | | | | | | idem Li 5 i |
| Li 6 a | | | | | | | | | | | | | | | | | | | | | | | | dolomie (10% de calcite);anhydrite |
| Li 6 c' | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | M | micrite | 8 | dolomite (15%) | |
| Li 6 d | | | | | | | | | | | | | | | | | | | | | | | | calcaire dolomitique (15% de dolomie);anhydrite |

PARTIE V

**DÉTERMINATIONS
MICROPALÉONTOLOGIQUES**

| |
|--|
| DÉTERMINATION PALÉONTOLOGIQUE DE CERTAINES LAMES MINCES |
|--|

BACHANT**BH4 :**

Spongiostromides

BH9 :

Spongiostromides

*-Mitcheldeania nicholsoni**-Bevocastris sp.*

Ostracodes

BH19 :*-Parathuramina suleimanovi*

Ostracodes

BH20 :

Spongiostromides

*-Bacinella sp.***BH24 :**

Brachiopodes

biopisolithes de Spongiostromides

BH27 :

- Koninckopora tenuiramosa*
- Parathurammia suleimanovi*
- Pachysphaerina pachysphaerica*
- Kamaena* sp
- Fasciella kizilia*

BH28 :

- Koninckopora tenuiramosa*
- Pachysphaerina pachysphaerica*
- Parathurammia suleimanovi*
- Kamaena* sp.
- Fasciella kizilia*
- Epistacheoides nephroformis*

BH29

- Koninckopora tenuiramosa*
- Pachysphaerina pachysphaerica*
- Parathurammia suleimanovi*
- Kamaena* sp.
- Fasciella kizilia*

BH33

- Ostracodes
- radioles d'Echinodermes
- Moravamminidés non identifiables

BH37'

- Brachiopodes
- Crinoïdes
- Parathurammia suleimanovi*
- Pachysphaerina pachysphaerica*
- Eostaffella* sp.

BH39

radioles d'Echinodermes
 Ostracodes
 Brachiopodes
 Gastéropodes

BH42

Spongiostromides

BH46

Crinoïdes
 -*Koninckopora* sp.
 -*Orthriosiphon* sp.

BH72

Spongiostromides
 -*Pachysphaerina* sp.
 -*Mediocris* sp.
 -*Koninckopora* sp.

BH97

-*"Millerella"* sensu Conil et Lys (1964) (= *Eostaffella* / *Eoparastaffella*)
 -*Brunsia irregularis*
 -*Koninckopora* sp.
 -*"Spinobrunsiina* sp.
 -*Endothyra* sp.
 -*Earlandia* sp.
 -*Pojarkovella nibelis*
 Age : peut-être V2b α - β

BH113

Brachiopodes
 -*Paleoberesella lahuseni*

BH125

-*Brunsia* sp.

bc66

Accumulation de *Kamenella* sp.

-*Exvotarisella* sp.

-*Endothyra* sp.

LIMONT-FONTAINE**LF33**

-*Dainella chomatica*

-*Endothyranopsis* sp.

Age : plutôt V1b (V2a)

LF34

Même association

+*Koninckopora* sp.

+*Luteotubulus* sp.

Age : V2a

LF35

Mêmes associations que LF34

LF44

-*Luteotubulus lisis*

Age : V2a

LF48

Idem

Age : V2a

LF52

Idem

Age : V2a

LF54

Age : V2a ou V2b

LF56

Age : V2a ou V2b

LF65*-Moravammina***PONT DES LOUPS****PL 28 :**Packstone/grainstone/mudstone à pellets, petites *Pachysphaerina* et entroques.+ fausses "*Eostaffella*" / "*Millerella*" sp. (cf. ci-dessus)

Plutôt V2b.

QUEUE-NOIR-JEAN**QNJ 12H**

Grainstone / packstone à pelétoïdes

*-Epistacheoides nephroformis**-Mediocris mediocris**-Florenella* sp.

Age : V2b

QNJ 15 :

Wackestone à passées (ou galets ?) algaires.

- "*Eostaffella*" / "*Millerella*" sp.
- *Pachysphaerina pachysphaerica*
- *Florenella* ? sp.
- *Pseudokamaena* sp.

QNJ 16 :

- Même association.
- + *Brunsia* sp.
- + *Earlandia* sp.

QNJ 17 :

- Microfaciès diversifiés.
- Mêmes associations.

QNJ 19 :

- Fausses "*Eostaffella*" / "*Millerella*" sp. toujours dominantes.
- *Bessiella* (?) sp.
- *Epistacheoides* cf. *connorensis*.

QNJ 20 :

- Microfaciès diversifiés.

QNJ 21 :

- Packstone bioclastique riche en Foraminifères et *Koninckopora*.
- *Koninckopora tenuiramosa*
- "*Eostaffella*" / "*Millerella*" sp. (assez fréquents)
- *Epistacheoides* sp.
- *Stacheoides* sp.
- *Moravammia* sp.
- *Pojarkovella nibelis*
- *Mediocris* sp.
- *Earlandia* sp.
- *Parathurammia* ex gr. *suleimanovi*
- *Endothyra* sp.

- Plectogyranopsis* sp.
 - Archaediscus koktjubensis*
 - Globoendothyra* (?) sp.
- Age : plutôt V2b.

QJN 24

- "Eostaffella"/"Millerella"* sp.
 - Pojarkovella nibelis*
 - Endothyra* spp.
 - Mediocris*
 - Stacheoides* sp.
 - Archaediscus* sp.
 - Epistacheoides* sp.
- Age : V2b.

QNJ 25 :

Grainstone fin à pellets et Pachysphérines passant à un packstone à *Stacheoides* et Foraminifères.

- Koninckopora tenuiramosa*
 - Stacheoides* sp.
 - Palaeoberesella lahuseni*
 - "Eostaffella"/"Millerella"* sp.
 - Archaediscus krestovnikovi*
- Age : V2b.

QNJ 31 :

Wackestone bioturbé à copeaux algaires, Gastéropodes, Ostracodes et Foraminifères.

- Aeolisaccus* sp.
- Cladogirvanella* sp.
- Biseriammina* (?) sp. (certaines sections de ce taxon rappellent "*Endothyra foeda* qui est V2bδ- V3aα).
- Parathurammia dagmarae*.

QNJ 39 :

Packstone bioclastique.

- "*Eostaffella*" / "*Millerella*" sp.

- *Pojarkovella nibelis*

- *Koninckopora tenuramosa*

- *Paleoberesella lahuseni*

- *Pachysphaerina pachysphaerica*

- *Archaediscus krestovnitovi*

QNJ 44 :

Wackestone dolomitisé compacté.

- *Epistacheoides* sp.

- *Omphalotis* sp.

- *Pachysphaerina* sp.

- "*Eostaffella*" / "*Millerella*" sp.

Age : indéterminé - V2b "sup." ou V3 a "inf."

QNJ 55

- *Globoendothyra* sp.

- *Forschia* sp.

- Archaediscidés

Age : peut-être V3a

QNJ 59

Wackestone bioclastique à silt calcaire

- *Tetrataxis* sp.

- *Fasciella kizilia*

- *Archaediscus* sp.

- *Diplosphaerina inaequalis*

- *Earlandia* sp.

Age : V3bα possible

QNJ 98 :

Wackestone/packstone bitumineux, à Ostracodes, et compacté.

Age : indéterminé.

QNJ 102 :

Packstone bioclastique.

-*Neoarchaediscus incertus*

-*Archaediscus gigas*

-*Endothyranopsis crassa*

-*Endostaffella* spp.

etc.

Age : V3by

QNJ 103 :

Grainstone à coprolithes.

QNJ 104 :

Packstone bioclastique très riche en *Exvotarisella* et Foraminifères.

-*Exvotarisella index*

-*Eostaffella parastruvei*

-*Endostaffella* spp.

-*Archaediscus gigas*

-*Cribrostomum lecomptei*

-*Pseudoendothyra* sp.

-*Tetrataxis* sp.

-*Archaediscus moelleri*

-*Hexaphyllia mirabilis*

-*Endothyranopsis crassa*

-*Stacheoides* sp.

-*Neoarchaediscus karreriformis*

-*Valvulinella youngi*

Age : V3by.

QNJ 105 :

Micrite à tubulures de racines (plutôt mangrove que paléosol).

Age : indéterminé.

QNJ 107 :

Wackestone très compact ("laminite")

Ostracodes, Charophytes (?) écrasées.

Milieu possible : lac ou lagune.

Age : indéterminé.

QNJ 108 :

Wackestone/packstone bioclastique bimodal.

-*Asteroarchaediscus* cf. *postrugosus*

-*Euxinita efremovi*

-*Pseudoammodiscus volgensis*

Spicules de Spongiaires, Brachiopodes,

-*Endothyra* sp.

-*Earlandia* sp.

Age : V3c.

QNJ 112 :

Wackestone bioclastique.

-*Pseudoammodiscus volgensis*

-*Endostaffella* spp.

-*Euxinita efremovi*

-*Neoarchaediscus* ex gr. *incertus*

-*Tetrataxis* sp.

-*Endothyra* aff. *phrissa*

-*Endothyranopsis crassa*

-*Loeblichia paraammonoides*

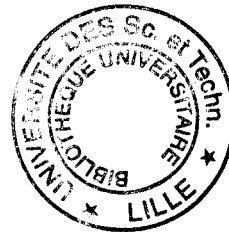
-*"Condrustella"* sp.

-*"Chomatemediocris"* sp.

-*Endothyra spira*

-*Eostaffella parastruvei*

Age : V3c.



QNJ 113 :

Chaille à fantômes d'entroques, de spicules, d'épines de Productidés.